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THE

## UNIVERSITY OF LEEDS

#### CALENDAR, 1921-22





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3

		ALMANAC, 1921-22	•
		SEPTEMBER, 1921	
1 2 3	Th F S		
4 56 78 9 10	S M Tu W Th F S		
11 12 13 14 15 16 17	S M Tu W Th F S		
18 19 20 21 22 23 24	S M Tu W Th F S	Evening Class session (First Term) begins.	
25 26 27 28 29 30	S M Tu W Th F		

		OCTOBER, 1921	
I	s		
2 3 4 5 6 7 8	S M Tu W Th F S	<b>First Term in all Faculties begins.</b> Admission of students. Admission of students. Meeting of Senate.	
9 10 11 12 13 14 15	S M Tu W Th F S	Winter course in Agriculture (First Term) begins. Meeting of Committee on Applications. Meeting of Finance Committee.	
16 17 18 19 20 21 22	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Meeting of Council.	
23 24 25 26 27 28 29	S M Tu W Th F S	Meeting of Board of Faculty of Medicine. Meeting of Board of Faculties of Science and Technology.	
30 31	S M		
	NOVEMBER, 1921		
----------------------------------------	-----------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--
1 2 3 4 5	Tu W Th F S	Meeting of Senate.	
6 7 8 9 10 11 12	S M Tu W Th F S	Meeting of Committee on Applications. Meeting of Finance Committee.	
13 14 15 16 17 18 19	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Meeting of Council. Last day of entry and payment of fees for Second and Final M.B., for D.P.H., and for Final and First Professional L.D.S. examinations.	
20 21 22 23 24 25 26	S M Tu W Th F S	Meeting of Board of Faculty of Medicine. Meeting of Board of Faculties of Science and Technology.	
27 28 29 30	S M Tu W		

	DECEMBER, 1921		
1 2 3 4 5 6 7 8 9	Th F S M Tu W Th F	Meeting of Senate.	
10 11 12 13 14 15 16 17	S M Tu W Th F S	Second and Final M.B. and D.P.H. examinations, and Final and First Professional L.D.S. begin. Meeting of Committee on Applications. Meeting of Finance Committee. Evening Class Session (First Term) ends. Winter course in Agriculture (First Term) ends.	
18 19 20 21 22 23 24	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Meeting of Council. First Term in all Faculties ends. Degree Day at School of Medicine.	
25 26 27 28 29 30 31	S M Tu W Th F S	CHRISTMAS DAV.—University closed. University closed. University closed.	



	FEBRUARY, 1922		
I 2 3 4	W Th F S	Meeting of Senate	
5 6 7 8 9 10 11	S M Tu W Th F S	Meeting of Committee on Applications. Meeting of Finance Committee.	
12 13 14 15 16 17 18	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Meeting of Council.	
19 20 21 22 23 24 25	S M Tu W Th F S	Meeting of Board of Faculty of Medicine. Meeting of Board of Faculties of Science and Technology.	
26 27 28	S M Tu	Last day of application for the 1851 Exhibition Scholarship.	

	MARCH, 1922			
1 2 3 4	W Th F S	Meeting of Senate. Last day of entry and of payment of fees for the June Degree and Diploma examinations.		
5 6 7 8 9 10	S M Tu W Th F S	Meeting of Finance Committee.		
12 13 14 15 16 17 18	S M Tu W Th F S	Meeting of Committee on Applications. Meeting of Council. Winter course in Agriculture (Second Term) ends.		
19 20 21 22 23 24 25	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Second Term in all Faculties ends. Evening Class session (Second Term) ends.		
26 27 28 29 30 31	S M Tu W Th F			

	APRIL, 1922		
I	s		
2 3 4 5 6 7 8	S M Tu W Th F S		
9 10 11 12 13 14 15	S M Tu W Th F S	Meeting of Finance Committee. GOOD FRIDAY. University closed. University closed.	
16 17 18 19	S M Tu W	EASTER DAY. University closed. University closed. Meeting of Council. Summer course in Agriculture	
20 21 22	Th F S	Third Term in all Faculties begins.	
23 24 25	S M Tu	Meeting of Board of Faculty of Medicine. Last day of	
26 27 28 29	W Th F S	Meeting of Board of Faculties of Science and Technology.	
30	S		

Ιť

	MAY, 1922		
1 2 3 4 5 6	M Tu W Th F S	Last day of entry for the Leighton and Salt Scholar- ships, and for sending in Gladstone, Ripon and Lucy Whitmell Prize Essays. Meeting of Senate.	
7 8 9 10 11 12 13	S M Tu W Th F S	Meeting of Committee on Applications. Meeting of Finance Committee.	
14 15 16 17 18 19 20	S M Tu W Th F S	Meeting of Council.	
21 22 23 24 25 26 27	S M Tu W Th F S	Meeting of Board of Faculty of Arts. Meeting of Board of Faculties of Science and Technology.	
28 29 30 31	S M Tu W	Meeting of Board of Faculty of Medicine.	

JUNE, 1922			
I 2 3	Th F S	Degree examinations in Faculties of Arts, Science, and Technology begin. Last day of entry and payment of fees for Second and Final M.B., for First Professional and Final L.D.S., and for D.P.H. examinations.	
4 5 6 7 8 9	S M Tu W Th F S	WHIT-SUNDAY. University closed. University closed. Meeting of Senate.	
11 12 13 14 15 16 17	S M Tu W Th F S	Meeting of Committee on Applications. Meeting of Finance Committee.	
18 19 20	S M Tu	Meeting of Board of Faculty of Arts. Second M.B., Final M.B., and L.D.S. and D.P.H. examinations	
21 22 23 24	W Th F S	Meeting of Council.	
25 26 27 28 29 30	S M Tu W Th F	Meeting of Board of Faculty of Medicine. Meeting of Fellowships and Scholarships Committee. Meeting of Board of Faculties of Science and Tech- nology.	

	JULY, 1922		
I	s	Third Term in all Faculties ends. Degree Day. Summer course in Agriculture ends.	
2 3 4 5 6 7 8	S M Tu W Th F S		
9 10 11 12 13 14 15	S M Tu W Th F S	Meeting of Finance Committee.	
16 17 18 19 20 21 22	S M Tu W Th F S	Meeting of Council.	
23 24 25 26 27 28 29	S M Tu W Th F S		
30 31	S M		

	AUGUST, 1922		
I 2	Tu W	Last day of entry for the Supplementary Intermediate examination in Arts and Science, for the First M.B. and B.Ch.D. examinations (Parts I and II), and for	
3 4 5	Th F S	the Preliminary examination in Science (L.D.S.).	
6 7 8 9 10 11 12	S M Tu W Th F S	BANK HOLIDAY. University closed. University closed.	
13 14 15 16 17 18 19	S M Tu W Th F S		
20 21 22 23 24 25 26	S M Tu W Th F S		
27 28 29 30 31	S M Tu W Th		

	SEPTEMBER, 1922		
I 2	FS		
<b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b> <b>9</b>	S M Tu W Th F S		
10 I I	S M	Supplementary Intermediate examinations in Arts and Science, First M.B. and B.Ch.D. examinations, and	
12 13 14 15 16	Tu W Th F S	l'reliminary examination in Science (L.D.S.) begin.	
17 18 19 20 21 22 23	S M Tu W Th F S		
24 25 26 27 28	S M Tu W Th		
29 30	FS		

# THE UNIVERSITY OF LEEDS

# THE CHARTER

EDWARD VII, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith. To all to whom these presents shall come, greeting.

Whereas by Charter of Her Late Majesty Queen Victoria, dated 20th April, 1880, the Victoria University was founded and constituted having its seat in the City of Manchester.

And whereas the Owens College, Manchester, was thereby constituted a College in the University and provision was made that other Colleges might from time to time be admitted as Colleges in the University in the manner and subject to the conditions therein prescribed.

And whereas the University College, Liverpool, was by resolution of the Court of the University admitted as a College of the University on the 5th November, 1884, and The Yorkshire College, Leeds, was by resolution of the said Court admitted as a College in the University on the 3rd November, 1887, but no other College has been soadmitted.

And whereas the said University College, Liverpool, has presented to Us in Our Council a humble Petition under the Common Seal of that College praying us to erect a University within the City of Liverpool.

And whereas the Owens College, Manchester, has presented to Us in Our Council a humble Petition under the Common Seal of that College praying that a new or supplemental Charter may be granted so as to constitute and continue the Victoria University as a University in Manchester without association with any College except the Owens College. And whereas the Yorkshire College, Leeds, has presented to Us in Our Council a humble Petition under the Common Seal of that College, praying Us to erect a University having its seat in Leeds.

And whereas we have taken the said Petitions into Our Royal consideration and are minded to accede thereto.

Now therefore know ye that We, by virtue of Our Royal Prerogative and all other powers in that behalf enabling us of Our Special Grace certain knowledge and mere motion by these presents Do for Us, Our Heirs and Successors, grant, will, direct, and ordain as follows:

I. There shall be from henceforth for ever in Our said City of Leeds a University of the name and style of "The University of Leeds," which shall be and continue one body politic and corporate with perpetual succession and a common seal and with full power and capacity by and in such name to sue and be sued and to do all other lawful acts whatsoever and with full power and capacity, subject to the restrictions herein set forth, without any further licence to all persons and corporations to assure and to the University to take, by gift or otherwise purchase and hold and also to grant demise or otherwise dispose of real and personal property.

II. The University shall have the powers following :

1. To grant and confer Degrees and other academic distinctions to and on persons who shall have pursued an approved course of study in the University and shall have passed the examinations of the University under conditions laid down in its Statutes or Ordinances. Provided that degrees representing proficiency in technical subjects shall not be conferred without proper security for testing the scientific or general knowledge underlying technical attainments.

2. To admit graduates of other Universities to Degrees of equal or similar rank in the University.

3. To confer Degrees of the University on any persons who hold office in the University as Professors, Readers, Lecturers, or otherwise, or who shall have carried on independent research therein, or on any persons who, at the date of this Our Charter, are Associates of the Yorkshire College.

4. To grant Diplomas, Licentiateships, Certificates, or other distinctions to persons who have pursued a course of study approved by the University under conditions laid down by the University.

5. To confer Honorary Degrees, or other distinctions on approved persons.

Provided that all Degrees and other distinctions shall be conferred and held subject to any provisions which may be made in reference thereto by the Statutes, Ordinances, or Regulations of the University.

6. To provide for instruction in such branches of learning as the University may think fit, and also to make provision for research and for the advancement and dissemination of knowledge.

7. To examine and inspect schools and other educational institutions, to grant Diplomas and other Certificates, and to provide such lectures and instruction for persons not members of the University as the University may determine.

8. To accept the examinations and periods of study passed by students of the University at other Universities or places of learning as equivalent to such examinations and periods of study in the University as the University may determine, and to withdraw such acceptance at any time.

Provided that in no case shall the University confer a Degree in Medicine or Surgery upon any person who has not attended in the University during two years at least courses of study recognised for such Degree, or for one of the other Degrees of the University.

9. To affiliate other Colleges or institutions or branches or departments thereof, or to admit the members thereof to any of the privileges of the University, and to accept attendance at courses of study in such Colleges or institutions in place of such part of the attendance at courses of study in the University, and upon such terms and conditions and subject to such regulations as may from time to time be determined by the University.

10. To co-operate by means of joint boards or otherwise, with other Universities and Authorities for the

conduct of Matriculation examinations, for the examination and inspection of schools and other academic institutions and for such other purposes as the University may from time to time determine.

11. To enter into any agreement with the Yorkshire College for the incorporation of that College in the University, and for taking over its property and liabilities, and, if necessary, to promote a Bill in Parliament to confirm or carry out any such agreement.

12. To enter into any agreement with any other institution for the incorporation of that institution in the University and for taking over its property and liabilities, and for any other purpose not repugnant to this Our Charter.

13. To enter into any agreement with the Victoria University of Manchester or with the University of Liverpool for the division or apportionment of any of the moneys, endowments, or property of the Victoria University, with due regard to the local origin of any particular foundation, to the wishes of the Donors, and other special circumstances, and for reference to an Arbitrator in case of difference.

14. To institute Professorships, Assistant Professorships, Readerships, Lectureships, Teacherships, and any other offices required by the University, and to appoint to such offices. Also to institute and award Fellowships, Scholarships and Exhibitions and Prizes.

15. To license Halls for the residence of students.

16. To do all such other acts and things whether incidental to the powers aforesaid or not, as may be requisite in order to further the objects of the University as a Teaching and Examining Body, and to cultivate and promote Arts, Science, and Learning.

III. It shall be the duty of the University to co-operate, by means of a Joint Board or otherwise, with the Victoria University of Manchester and the University of Liverpool for the regulation and conduct of Matriculation examinations, including the conditions of exemption therefrom. Statutes of the University shall prescribe and regulate the constitution

and duties of the said Joint Board, the appointment and continuance in office of the members thereof, the filling of vacancies among the members, and all other matters relative to the Joint Board which it may be thought are proper to be so regulated and prescribed.

## Visitor

IV. We, Our Heirs and Successors, Kings and Queens of the Kingdom and Dominions aforesaid, shall be and remain the Visitor and Visitors of the University through the Lord President of our Council for the time being, and in the exercise of the Visitorial Authority We and Our Heirs and Successors shall have the right from time to time and in such manner as We or They shall think fit to direct an inspection of the University, its buildings, laboratories, and general equipment, and also of the examination, teaching, and other work done by the University.

## Authorities of the University

V. The Authorities of the University shall be the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Court, the Council, the Senate, the Faculties, the Boards of Faculties, and the Convocation. There shall be a Treasurer and other proper officers of the University.

### The Chancellor

VI. The Chancellor shall be the Head and Chief Officer of the University and President of its Court, Council, and Convocation, and shall, except as otherwise hereby provided, confer Degrees. He shall hold office during his life or until his resignation or until his removal for good cause by the Visitor at the instance of the Court.

Our right trusty and entirely beloved Cousin and Councillor, George Frederick Samuel, Marquis of Ripon, Knight of Our Most Noble Order of the Garter, Doctor of Laws, shall be the first Chancellor of the University.

His successors from time to time shall be elected by the Court on the nomination of the Council of the University.

## The Pro-Chancellor

VII. In the absence of the Chancellor, or pending a vacancy in the office of Chancellor, or during the Chancellor's inability to act, the Pro-Chancellor shall exercise all the functions of the Chancellor, except the conferring of Degrees, and shall, if present, preside at any meetings of the Court and Council. Our trusty and well-beloved Arthur Greenhow Lupton, Chairman of the Council of the Yorkshire College, shall be the first Pro-Chancellor of the University, and shall hold his office for one year. Subsequent appointments to the said office shall be made annually by the Court on the nomination of the Council.

## The Vice-Chancellor

VIII. The Vice-Chancellor shall be ex-officio Chairman of the Senate. In the absence of the Chancellor the Vice-Chancellor shall confer Degrees, except as otherwise hereby provided.

Our trusty and well-beloved Nathan Bodington, Principal of the Yorkshire College, Doctor of Letters, shall be the first Vice-Chancellor of the University, and shall hold such office for such term or terms and subject to such conditions as may from time to time be determined by the Council.

His successors from time to time shall be appointed by the Court on the nomination of the Council and shall hold such office for such term or terms and subject to such conditions as may from time to time be determined by the Council.

## The Pro-Vice-Chancellor

IX. Subject to the Statutes and Ordinances of the University, and in the absence of the Vice-Chancellor, the Pro-Vice-Chancellor may act as Vice-Chancellor. The Pro-Vice-Chancellor shall from time to time be appointed by the Council from among the members of the Senate.

## The Court

X. The Court shall be the governing body of the University and shall direct the form, custody, and use of the Common Seal, and shall have power to regulate and

determine all matters concerning the University, and generally shall exercise all the powers and discretions of the University, except as otherwise provided by this Our Charter or by the Statutes.

The Court shall have power by Statute to increase or diminish the number of its members, by increasing or diminishing the number to be nominated or appointed by the persons or bodies possessing the right of nomination or appointment, or by adding representatives of other bodies, or in any other manner.

The Statutes set forth in the Schedule hereto annexed shall be the first Statutes of the University under this Our Charter. The Court may amend, add to, or repeal the Statutes for the time being in force (including those set forth in the Schedule hereto), but no such amendment, addition, or repeal shall be valid or operative until allowed by Us or by a Committee of Our Council.

Ordinances may be made by the Court for the regulation of all matters not required by this Our Charter to be dealt with by Statute.

Provided (1) that it shall not be lawful for the Court, by any Statute or otherwise, to adopt or impose on any person any test whatever of religious belief or profession in order to entitle him to be admitted as a Professor, Teacher, Student, or Member of the University, or to hold office therein, or to graduate thereat, or to enjoy or exercise any privilege thereof.

Provided (2) that any Statute or Ordinance made by the Court be not repugnant to the laws of this Realm or to the general objects of this Our Charter.

Provided (3) that Statutes or Ordinances relating to Degrees, studies, and examinations shall not be adopted without report from the Senate.

Provided (4) that no change shall be made in any Statute or Ordinance altering the status, powers, or constitution of any of the Authorities of the University until such Authority shall have had an opportunity of pronouncing an opinion upon the proposed change

The Court shall have power to confer Degrees in absentia by a resolution of the Court, but save as aforesaid all Degrees shall be conferred by the Chancellor or in his absence by the Vice-Chancellor or Pro-Vice-Chancellor.

The Court shall have power to deprive any Graduate of the University who shall have been convicted of a crime or offence, or shall, in the opinion of the Court, have been guilty of scandalous conduct, of any Degree or Degrees conferred by the University and of all privileges enjoyed by him as such Graduate aforesaid.

The acts of the Court shall not be invalidated by any vacancy among its Members.

XI. Every Statute or alteration of a Statute, and every Ordinance or alteration of an Ordinance relating to any of the matters following, that is to say :

(a) The titles of Degrees,

(b) The establishment of new Degrees,

(c) The periods of residence and study in the University or in any affiliated or recognised institution required for Degrees,

(d) The conditions under which Degrees higher than the Degree of Bachelor in any faculty are to be granted,

(e) The courses for medical Degrees and the subjects of examinations,

shall before such Statute or alteration of a Statute shall be allowed and before such Ordinance or alteration of an Ordinance shall become operative and have effect be communicated to the Victoria University of Manchester and the University of Liverpool, and if within one month after the receipt of such communication notice of objection thereto shall have been given by the said Universities or either of them the question so arising shall be considered by a Joint Committee of the three Universities, and in default of agreement any of the said Universities may within one month make a representation in regard thereto to Us or to a committee of Our Council, and, in the event last mentioned, such Statute or Ordinance or alteration therein shall not become operative and have effect until allowed by Us or by such Committee.

Statutes of the University shall prescr.be and regulate the constitution and appointment of the said Joint Committee and all other matters relating to the said Committee which it may be thought are proper to be so prescribed and regulated.

# The Council

XII. The Council shall be the Executive Body of the University and may exercise and do such of the powers, authorities, and things by this Our Charter granted to or authorised to be done by the Court, as are, or shall from time to time be assigned to the Council by Statute or by the Court, except the election of Members of the Court to be Members of the Council.

The Court shall have power by Statute to increase or diminish the number of the Council, by increasing or diminishing the number to be nominated, elected, or appointed by the persons or bodies possessing the right of nomination or appointment, or by adding representatives of other bodies, or in any other manner.

The Council shall have power to draft Statutes and Ordinances as and when they see fit, and to submit the same to the Court for consideration and enactment.

The acts of the Council shall not be invalidated by reason of any vacancy among its members.

## The Senate

XIII. The constitution of the Senate shall be determined by Statute.

The Senate shall, subject to the Statutes and Ordinances of the University, and subject also to review by the Court, have the control and general regulation of the instruction and education within the University and shall have power to discuss and pronounce an opinion on any matter whatsoever relating to the University and such other powers and duties as may be conferred upon it by Statute or Ordinance.

## Faculties

XIV. The University shall include the Faculties of Arts, Science, Medicine and Technology, and such other Faculties

(whether formed by the sub-division of an existing faculty or by the creation of a new faculty or otherwise) as may from time to time be constituted by Statute.

The constitution and powers of the several Faculties shall be determined by Statute.

Such Boards of Faculties shall be appointed by the Council as the Council may from time to time determine; the members of each Board (the numbers of whom shall be in the discretion of the Council) shall be appointed by the Council from among members of one or more Faculties, or from among the External Examiners of the University.

### Convocation

XV. The Convocation shall consist of the Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Members of the Senate, the Lecturers, and the registered Graduates of the University.

The Court shall have power to fix the conditions of registration and to prescribe the annual or other fees, or a composition therefor which shall be necessary for registration.

The Chancellor, if present, shall preside at the Meetings of Convocation.

## Powers of Convocation

XVI. Convocation shall have the following powers :

To elect its own Chairman, who shall, in the absence of the Chancellor, preside at its Meetings.

To elect representatives as Members of the Court and Council.

To discuss and pronounce an opinion on any matter whatsoever relating to the University, including any matters referred to them by the Court or the Council.

To prescribe the mode of conducting the proceedings of Convocation and of registering the same, and of reporting the same to the Court, Council, or Senate, or any of them.

To enter into communication directly with the Court, Council, or Senate on any matter affecting the University.

# Regulations as to Procedure

XVII. The Court, the Council, the Senate, the Faculties, the Boards of Faculties, and Convocation respectively may from time to time make regulations for governing their respective proceedings, subject to this Our Charter and to the Statutes and Ordinances of the University.

### The Treasurer

XVIII. Our trusty and well-beloved Sir John Barran, Baronet, Treasurer of the Yorkshire College, shall be the first Treasurer of the University, and shall hold his office for one year. Subsequent appointments to the said office shall be made annually by the Court.

### Members of the University

XIX. The Members of the University shall be the Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the Treasurer, the Members of the University Court, the Professors, Emeritus Professors, Assistant Professors, Readers, Lecturers and Demonstrators, and such other Teachers of the University as the Court may determine, the Members of the Faculties, the holders of such other University offices as the Council may from time to time determine, the Wardens or other chief officers of Halls of Residence licensed by the University, Fellows, Graduates, and Undergraduates of the University.

The Undergraduates of the University shall be such persons attending lectures, or receiving instruction in the University as shall have matriculated under the Statutes.

## Advisory Committees

XX. The Council may from time to time appoint Advisory Committees, consisting of members of the University, and also if the Council shall think fit, of persons who are not members of the University, and may delegate to such Committees such duties as it thinks fit as regards financial, administrative, or other matters affecting the University or any particular Faculty or Department, or the management or supervision of any buildings or property of the University.

## Examiners and Examinations

XXI. All examinations held by the University shall be conducted in such manner as the Statutes and Ordinances shall prescribe, provided that at least one external and independent examiner shall be appointed by the Council for each subject or group of subjects forming part of the course of studies required for University degrees, but this proviso shall not apply to examinations for admission or entrance to the University.

Provided that in case of a vacancy occurring in or during any examination or of other emergency the Vice-Chancellor shall have power to appoint a substitute for that examination.

## General Provisions

XXII. All the Degrees and courses of study of the University shall be open to women, subject to such conditions and regulations as the Court may prescribe, and women shall be eligible for any office in the University and for membership of any of its constituent bodies, and in the present Charter words implying the male sex shall be held to include the female, unless the context clearly shows the meaning to be otherwise.

XXIII. The University may from time to time found and endow Fellowships, Scholarships, Exhibitions, and other Prizes for which funds or property may, by bequest, donation, grant, or otherwise be provided, and may make regulations respecting the same and the tenure thereof, but, except as aforesaid, and except by way of prize, reward, special grant, or remuneration for services rendered or to be rendered, in the past, present, or future respectively, the University shall not make any gift, division or bonus in money unto or between any of its members.

XXIV. In addition to the buildings, lands, and premises of the University for the time being used and occupied for the immediate purposes thereof, the University shall have power to hold lands, tenements, and hereditaments of an annual value not exceeding in the aggregate, at the time or respective times of the acquisition of the same, the sum of £,50,000. XXV. The University may demand and receive such fees as the Court may from time to time appoint.

XXVI. The Court may from time to time alter, amend, or add to these presents by a Special Resolution in that behalf, and such alteration, amendment or addition shall, when allowed by Us, our Heirs, or Successors, or by any Committee of our Most Honourable Privy Council, or otherwise as We or They shall think fit, become effectual so that these presents shall thenceforward continue and operate as though they had been originally granted and made as so altered, amended, or added to. This Article shall apply to this Charter as altered, amended, or added to in any manner aforesaid.

XXVII. A Special Resolution is a Resolution passed at one meeting of the Court and confirmed at a subsequent meeting, held not less than one calendar month, nor more than three calendar months after the former, provided that the Resolution be passed at each meeting by a majority of not less than three-fourths of the Members of the Court present and voting thereon.

XXVIII. In this Our Charter "Statutes" means the Statutes set forth in the Schedule hereto and any Statutes altering, amending, adding to, or repealing the same or any of them which may hereafter be made and may be allowed by Us in Council, or by a Committee of Our Council.

"Ordinances" means Acts of the Court under the powers conferred by this Our Charter to which Our further sanction is not hereby or by Statute required.

"Regulations," except when otherwise required by the context, means Regulations made pursuant to this Our Charter or the Statutes.

XXIX. Our Royal Will and pleasure is that this Our Charter shall always be construed and adjudged in the most favourable and beneficial sense for the best advantage of the University, and the promotion of the objects of this Our Charter as well in all our Courts as elsewhere notwithstanding any non-recital, mis-recital, uncertainty or imperfection herein.

## THE SCHEDULE

# STATUTES

# I.

# The University Couri

# (a)

The University Court (hereinafter called the Court) shall consist of the following persons, viz. :

I. *Ex-officio* members, The Chancellor, the Pro-Chancellor, the Vice-Chancellor, and the Treasurer.

2 All present members of the Council of the Yorkshire College; all future members of the University Council, during their tenure of office; all present Perpetual and Life Governors of the College; and all future Donors of  $\pounds_{1,000}$  to the University. If a donation of  $\pounds_{1,000}$  be made by a company, society, or partnership firm, one member thereof may be nominated by the Donors as a member of the Court.

Six representatives of the Clothworkers' Company of London.

One representative of the Skinners' Company of London.

One representative of the Drapers' Company of London.

- One representative of the Trustees of William Akroyd's Foundation.
- One representative of the West Yorkshire Coal Owners' Association.
- One representative of the Yorkshire Board of Legal Studies.

3. Representatives of Public Authorities, viz.:

- Six from the County Council of the West Riding of Yorkshire.
- Two from the County Council of the North Riding of Yorkshire.

Two from the County Council of the East Riding of Yorkshire.

- Four from the Council of the County Borough of Leeds.
- Two from the Council of the County Borough of Bradford.
- One from the Council of the County Borough of York.

One from the Council of the County Borough of Hull.

- One from the Council of the County Borough of Halifax.
- One from the Council of the County Borough of Huddersfield.
- One from the Council of the County Borough of Middlesbrough.
- One from the Council of each of such other County Boroughs to be created in future as may be approved by the Court.
- 4. Representatives of the University :

Ten from the Faculties.

- Representatives (not exceeding five in all) of the Convocation, viz :—one representative for every hundred members up to 500.
- 5. Representatives of other Institutions, viz. :
  - Representatives of such Affiliated Institutions as the Court may determine, and
  - One representative of the Victoria University of Manchester.

One representative of the University of Liverpool.

One representative of such other English University as the Court may determine.

6. Representatives of Schools:

Eight representatives of the Head Masters and Mistresses of Secondary Schools in Yorkshire, such representatives to be appointed by the Court.

7. Other Governors :

Three persons appointed by the Crown.

Ten persons elected by co-optation by the Court.

Except as otherwise by the Charter provided, and subject to the Statutes of the University, the Court may determine all matters relating to the nomination, appointment, and election of members of the Court and Council, and their respective periods or terms of office, and all other matters relating to the constitution of the Court and Council.

# (b)

The Court shall have power to delegate its functions to the Council except as otherwise provided, and to delegate to the Senate the power to award Degrees other than *ad eundem* Degrees, Degrees conferred on persons who hold office in the University, and Honorary Degrees.

The periods during which members of the Court respectively shall hold office shall be as follows :

The Chancellor, the Pro-Chancellor, the Vice-Chancellor, the Treasurer, and all future members of the University Council shall hold office during the time they occupy the positions named respectively.

All present members of the Council of the Yorkshire College, and all present Perpetual and Life Governors of the Yorkshire College, and all future donors of  $\pounds_{1,000}$  to the University, and the persons nominated by the donors in the case of donations of  $\pounds_{1,000}$  made by a company, society, or partnership firm, shall hold office for their respective lives, or until resignation.

All other members mentioned in clause (a) 2 above, and all members mentioned in clause (a) 3 above, shall hold office for one year from the date of appointment. Of the members mentioned in clause (a) 4, the ten representatives of the Faculties shall hold office for two years from the respective dates of appointment, and five of such members, to be selected by lot or otherwise as the Court shall determine, shall retire in each year; provided that if a representative of a Faculty ceases to be a member of that Faculty he shall cease to be a member of the Court. The representatives of Convocation shall hold office for two years from the date of appointment. Members mentioned in clause

(a) 5 and 6, shall hold office for two years from the respective dates of appointment. Members mentioned in clause (a) 7 shall hold office for five years from the respective dates of appointment, but of the members appointed by co-optation two, to be selected by lot or otherwise as the Court shall determine, shall retire each year.

All retiring members shall be eligible for re-appointment or re-election.

Appointees or representatives need not be members of the bodies appointing.

Any member of the Court may resign such membership at any time by letter addressed to the Registrar of the University.

Any casual vacancy occurring by resignation, incapacity, or death among the appointed or representative or co-opted members shall be filled up as soon as convenient by the person or body which appointed or co-opted the member whose place has become vacant. If such member was a member for a term of years the person appointed to supply his place shall be a member of the Court for the remainder of that term.

Fifteen members of the Court shall form a quorum, and, until the above-mentioned representative members have been appointed, the other members shall form the Court.

### II.

## The University Council

(a) The University Council (hereinafter called the Council) shall consist of the following persons, namely :--

The Chancellor, the Pro-Chancellor, the Vice-Chancellor, and the Treasurer.

Two representatives of the West Riding County Council. One representative of the North Riding County Council. One representative of the East Riding County Council. Two representatives of the County Borough of Leeds. One representative of the County Borough of Bradford

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One representative of the Council of the County Borough of York.

- One representative of the Council of the County Borough of Hull.
- One representative of the Council of the County Borough of Halifax.
- One representative of the Council of the County Borough of Huddersfield.

One representative of the Council of the County Borough of Middlesbrough.

One from the Council of each of such other Yorkshire County Boroughs already existing or to be created in future as may be approved by the Court.

Two representatives of the Clothworkers' Company of London.

Five representatives to be elected by the Faculties of the University.

One member to be elected by Convocation.

One member to be nominated by the Crown.

Twelve members to be elected by the Court. Provided nevertheless, that at first such of the present members of the Council of the Yorkshire College as have been elected thereto by the Board of Governors of the College shall take the place of the said twelve members; and of such members of the Council of the Yorkshire College four, to be selected by lot or otherwise as the Council may determine, shall retire every three years until the number of such members has been reduced to twelve or less; and on the number of such members being reduced to less than twelve the Court shall have power to appoint any other person or persons to make up such number to twelve. Provided also that, as from the 1st May, 1920, the number of members to be elected by the Court shall be increased from twelve to sixteen. Provided also that a person of the age of 71 years or over shall not be eligible for election or reelection by the Court as a member of the Council unless he was a member on the 21st April, 1920. So soon as the number of such members shall have been reduced to twelve or less, the members of the

Council of the Yorkshire College who at that time remain members of the Council, together with such appointee or appointees of the Court as aforesaid, shall hold office for the period and be subject to the provisions as to retirement hereinafter mentioned, as if all such members and appointees as aforesaid had been elected members of the Council by the Court on the day when such number as aforesaid was reduced to twelve or less.

The members of the Teaching Staff who are members of the Council, however elected (including the Vice-Chancellor), shall not exceed one fifth of the whole Council.

(b) The periods during which the members of the Council respectively shall hold office shall be as follows:

The Chancellor, the Pro-Chancellor, the Vice-Chancellor and the Treasurer shall hold office for the time during which they occupy the positions named respectively.

All other members of the Council shall hold office for one year from the date of appointment, except as otherwise hereinbefore provided and except members elected by the Court, who shall hold office for three years (four, to be selected by lot or otherwise as the Council shall determine, retiring each year), and except the person appointed by the Crown, who shall hold office for five years. Provided that the term of office of members newly elected by the Court in or after the year 1920 (other than those appointed to fill casual vacancies) shall be four years, and that the term of office of retiring members re-elected by the Court after the year 1920 shall also be four years.

Subject to the proviso contained in the foregoing Sub-section (a) as to an age-limit for the election or re-election of members by the Court, all retiring members shall be eligible for re-appointment or re-election.

Appointees or representatives need not be members of the bodies appointing.

Any member of the Council may resign such membership at any time by letter addressed to the Registrar of the University.

Any casual vacancy occurring by resignation, incapacity, or death among the appointed or representative members shall be filled up as soon as convenient by the person or body which appointed the member whose place has become vacant. If such member was a member for a term of years the person appointed to supply his place shall be a member of the Council for the remainder of that term.

Seven members of the Council shall form a quorum, and until the above named representative members have been elected, the other members shall form the Council.

## III.

### Powers of the Council

Subject to the provisions made in the Charter and Statutes, the Council shall have the following powers :

To nominate the Pro-Chancellor and the Vice-Chancellor.

To elect Professors of the University, and either to elect or to delegate to the Senate the election of any academic officers of the University other than Professors.

To elect a Registrar and other officers of the University for such periods and under such conditions as may be determined by the Council.

To institute Professorships, Assistant Professorships, Readerships, Lectureships, or other teaching offices, after giving the Senate the opportunity of reporting thereon.

To abolish or hold in abeyance, after giving the Senate the opportunity of reporting thereon, any Professorship, Readership, or other academic office in the University.

To draft Statutes and Ordinances as and when it sees fit and submit the same to the Court. Provided that any Statute or Ordinance relating to courses of study shall not be adopted without giving the Senate the opportunity of reporting thereon.

To make regulations for any purposes for which regulations are or may be authorised to be made.

To govern, manage, and regulate the finances, accounts, investments, property, business, and all affairs whatsoever of the University, and for that purpose to appoint Bankers, Deputy-Treasurers, and any other officers or agents whom it may seem expedient to appoint.

To invest any moneys belonging to the University, including any unapplied income in such stocks, funds, fully paid shares or securities as the Council shall from time to time think fit, whether authorised by the general law for the investment of trust moneys or not, and whether within the United Kingdom of Great Britain and Ireland or not or in the purchase of freehold, copyhold, or leasehold hereditaments in the United Kingdom, including rent charges, or chief rents, with the like power of varying such investments from time to time by sale and re-investment or otherwise.

To sell, buy, exchange, lease, and accept leases of real and personal property on behalf of the University.

To provide the buildings, premises, furniture, and apparatus and other means needed for carrying on the work of the University.

To enter into, vary, carry out, and cancel contracts on behalf of the University. Any contract entered into on behalf of the University may be made in any manner authorised by law for the making of contracts by or on behalf of Companies incorporated under the Companies' Acts, 1862 and 1867.

## IV.

### Powers of the Vice-Chancellor

The Vice-Chancellor shall have the sole power of suspending or dismissing any offending student, subject to the right of appeal to the Visitor. He shall exercise general supervision over the educational arrangements of the University, regulate the admission of students, and maintain the discipline of the University, for which he shall be responsible to the Council.

## ν.

# The Senate

The Senate of the University shall consist of the Vice-Chancellor and the Professors of the University, and of such other members of the Boards of Faculties hereinafter mentioned as the Court may, after report from the Senate, appoint, provided that the number of such other members appointed shall not exceed three, and that they shall hold office for such term only as the Court shall determine.

The Professors of the University within the meaning of the Charter shall include those persons who shall be appointed by the Council as such, and also the Professors of the Yorkshire College at the date of the Charter, who shall hold their Professorships upon the same conditions as those upon which they held them at the date of the Charter, until such conditions shall be modified or altered by the Council.

The Senate shall have the following powers :

To make and submit to the Council, after report from the Board or Boards of Faculties concerned, all regulations for giving effect to the Statutes and Ordinances of the University relating to courses of study.

To appoint Internal Examiners after report from the Board or Boards of Faculties concerned.

To recommend External Examiners for appointment by the Council after report from the Board or Boards of Faculties concerned.

To report to the Council, after report from the Board or Boards of Faculties concerned, on all Ordinances relating to courses of study.

To report to the Council on Statutes or Ordinances or proposed changes of Statutes or Ordinances.

To report on any matter referred to or delegated to them by the Court or the Council.

To discuss and declare an opinion on any matter whatsoever relating to the University.

To appoint on delegation of the Council, Readers, Lecturers, and other academic officers of the University not being Professors.

To formulate and modify or revise, subject to the control of the Council, schemes for the organisation of Faculties of Arts, Science, Medicine, Technology, and any other Faculties of the University, and to assign to such Faculties their respective subjects; also to report to the Council as to the expediency of the establishment at any time of other Faculties, or as to the expediency of the abolition, combination, or subdivision of any Faculties.

To fix, subject to any conditions made by the Founders which are accepted by the Court, the times and mode and conditions of competition for Fellowships, Scholarships, and other Prizes, and to award the same.

To do such other acts and things as the Court shall authorise.

No new Degree shall be established or other distinction of Honour or Merit adopted until the Senate has had an opportunity of reporting thereon.

### VI.

### Faculties

Each of the Faculties shall respectively consist of :--

1. The Professors assigned thereto by the Council.

2. Such Lecturers, Assistant Lecturers, and other teachers of the University as may be appointed to the Faculty by the Council on the recommendation of the Senate.

3. Such other persons as may be appointed by the Council of the University on the recommendation of the Senate.

Each of the Faculties shall have the power of electing a representative or representatives on the Court and Council of the University, but in the event of the number of Faculties being so increased that the members of the staff elected by

them would exceed the proportion limited as hereinbefore expressed, the Council shall decide by what Faculties or combinations of Faculties the election shall be made.

Each Faculty shall have the power of presenting recommendations and reports to the Senate upon all matters connected with the subjects of study embraced by the Faculty.

The Faculty of Arts shall, until otherwise provided by Statute, include Economics and Law.

The Faculty of Technology shall, until otherwise provided by Statute, include Agriculture, Dyeing, Engineering, Leather Industries, Mining, and Textile Industries.

The Vice-Chancellor shall be a member of each of the several Faculties and Boards of Faculties.

There shall be a Dean of each Faculty elected by that Faculty, or otherwise as the Council shall direct. He shall preside at the meetings of the Faculty and hold office during such period and with such powers as shall be determined by Statute or Ordinance, and shall be eligible for re-election.

# VII.

## Powers of the Boards of Faculties

The Boards of Faculties respectively shall have the powers following :----

To regulate, subject to the control of the Senate, the teaching and study of the subjects assigned to the Board in question.

To make recommendations as to the appointment of Examiners.

To report to the Senate on Ordinances and Regulations dealing with courses of study for degrees and other distinctions, and on any questions relating to the work of the respective Faculties.

To deal with any matter referred or delegated to them by the Senate.

### VIII.

## Convocation

A Register shall be kept containing the names of all persons who are members of Convocation according to the provision made by the Charter.

The Register shall be conclusive evidence that any person whose name appears therein at the time of claiming to vote in Convocation is entitled to vote, and that any person whose name does not appear therein is not so entitled.

A meeting of Convocation shall be summoned at least once in every year and at such other times as Convocation may by its by-laws determine.

A meeting of Convocation may be called by the direction of the Chairman, and shall also be called on the requisition in writing of at least twenty members.

## IX.

## Auditor

The Court shall annually appoint an Auditor, who shall be a member of the Institute of Chartered Accountants of England and Wales, or of the Incorporated Society of Accountants and Auditors, in the active practice of his profession, who shall receive such remuneration as may from time to time be determined by the Court.

Acceptance of office by an Auditor shall be deemed to carry with it an undertaking by the Auditor to the University that every certificate given by him, or passing of accounts by him, implies that he has satisfied himself by full and careful investigation (made by himself or agents, for whom he undertakes to be responsible) by every reasonable means within his power, and after the exercise of due professional skill, that the statements in the certificate are true and accurate, and that any accounts certified or passed are complete, true, and accurate.

### Х.

## Committee for considering objections by the Universities at Manchester and Liverpool

The Joint Committee to be constituted pursuant to Clause XI of the Charter for considering objections made by the Victoria University of Manchester and the University of Liverpool to proposed Statutes and Ordinances, shall consist of nine members, three to be appointed by each University.

The Joint Committee shall be convened by the Registrar of the Victoria University of Manchester.
#### Statutes

## XI.

# Committee for considering objections to proposed Statutes and Ordinances of the University of Sheffield

Any Committee to be constituted for considering objections made by any of the Universities in Manchester, Liverpool and Leeds to proposed Statutes and Ordinances of the University of Sheffield shall consist of twelve members, three to be appointed by each of the said Universities.

Such Committee shall be convened by the Registrar of the Victoria University of Manchester.

# XII.

## Regulation and conduct of the Matriculation examination

The Matriculation examination which must be passed by students before entering on the degree courses in the University shall be regulated and conducted by a Joint Board constituted as hereinafter prescribed.

The Joint Board shall determine the conditions and subjects of the examination, together with the exemptions and conditions of exemption from it, provided that the Senate of each University shall have power to exempt from the Matriculation examination such persons as it may judge suitably qualified by higher study or research to enter upon a course for a degree.

The Board shall, with the consent of the five Universities concerned, have power to prescribe particular subjects to be passed in the examination as a condition of admission into particular Faculties, provided that at any time after any regulation to that end shall have been prescribed by the Board any of the five Universities shall have power to cause it to cease to be operative, on the expiration of two years from the date of notice to be given to the Board, so far as concerns such University.

The regulations of the Board regarding the Matriculation examination shall not affect the power of each University (a) to require a standard higher than that of the Matriculation examination in any subject or subjects as a condition of admission into any Faculty or School; (b) to require candidates as a condition of admission into its several Faculties and Honours Schools and courses leading to a

#### Statutes

particular degree to have passed in such of the optional subjects of the Matriculation examination as the University may determine; (c) to admit unmatriculated students to such classes as it may think fit; or (d) to determine how far the examinations recognised by the Joint Board as exempting from the Matriculation examination shall be accepted by the University concerned as satisfying the requirements made by the University under sections (a) and (b) of this clause.

The Joint Board shall consist of twenty members, four to be elected annually by each of the Universities in Manchester, Liverpool, Leeds, Sheffield, and Birmingham, with power to co-opt persons of educational experience to the number of six.

When any change in the regulations regarding the Matriculation examination is carried in the Joint Board by a majority consisting of less than two-thirds of the members who are present, the question at issue shall, if any four members present and voting so require, be referred to each of the five Universities, who shall each then nominate two additional members of the Board for the purpose of dealing with such question. The decision of the Board so constituted shall be final.

The Board shall send annual reports to each University.

The five Universities shall contribute to the expenses of the Joint Board in such proportions as may be hereafter determined.

# XIII.

## Periods of Study before Graduation

The period of study necessary to qualify any student for graduation shall not be less than three years, all of which shall be subsequent to the date at which the student passes the Matriculation examination

provided that during the present War and for a period of twelve months thereafter, the Senate shall have power to waive the conditions of this Section in such a way as will prevent, as far as possible, any person from being placed at a disadvantage through undertaking or having undertaken active service or other approved duties in connection with national defence

#### Statutes

or with the defence of the States, at the time of such service, in alliance with Great Britain. Any action taken by the Senate under this Clause shall be reported to the Council.]\*

This Clause shall come into operation not later than October 1st, 1906.

In the case of the Yorkshire College, and in the event of any other College or Institution, or any branch or department thereof, becoming affiliated to the University within six months from the date of the Charter, the University may accept attendance which commenced on or subsequent to the First day of October, 1903, at courses of study in the Yorkshire College or in such other College or Institution in place of attendance at courses of study in the University for the same period.

# XIV.

#### Definitions

In these Statutes-

"Statutes" means the Statutes of the University.

- "Ordinances" means Ordinances made pursuant to the Charter or Statutes.
- "Regulations" means Regulations made pursuant to the Charter or Statutes.

In witness whereof We have caused these Our Letters to be made Patent.

Witness Ourself at Westminster the twenty-fifth of April in the Fourth Year of Our Reign.

By Warrant under the King's Sign Manual.

MUIR MACKENZIE.



\*The proviso printed in italics was allowed by the Privy Council on September 11th, 1918.

University of Leeds Act, 1904

# AN ACT

# To merge the Yorkshire College in the University of Leeds and to transfer all the property and liabilities of the Yorkshire College to the University of Leeds and for other purposes.

# (Royal Assent, 24th June 1904.)

WHEREAS the Yorkshire College was in the year one Preamble. thousand eight hundred and seventy-eight constituted and incorporated under the Companies Acts 1862 and 1867 as an Association not for profit with the object of founding endowing and maintaining in the county of York a College or Colleges and by means thereof and otherwise of promoting the education of persons of both sexes and in particular of providing instruction in such sciences and arts as are applicable or ancillary to the manufacturing mining engineering and agricultural industries of the county of York and in ancient and modern languages history and literature medicine surgery law logic moral philosophy and other branches of education and with such other subordinate objects as are in the Memorandum of Association of the said College mentioned :

And whereas by Royal Charter dated the twentieth day of April one thousand eight hundred and eighty the Victoria University was constituted and founded having its seat in the city of Manchester with power to confer degrees and other distinctions except in medicine or surgery unless and until authority in that behalf should be given by further Charter or by Act of Parliament which authority was given by a supplemental Charter dated the twentieth day of March one thousand eight hundred and eighty-three:

And whereas in the year one thousand eight hundred and eighty-seven the Yorkshire College was admitted as a College in the Victoria University :

And whereas by Royal Charter dated the fifteenth day of July one thousand nine hundred and three it is provided that the Victoria University shall henceforth be called and known as the Victoria University of Manchester and (among other things) that on the grant of a Charter establishing a university having its seat in Leeds or elsewhere in Yorkshire the Yorkshire College shall cease to be a College of the Victoria University of Manchester:

And whereas on the Petition of the Yorkshire College a Charter was on the twenty-fifth day of April one thousand nine hundred and four granted by His Majesty constituting in the city of Leeds a university by the name and style of the University of Leeds with faculties of Arts Science Medicine and Technology and such other faculties as may from time to time be constituted by the statutes of the University and with power to grant degrees and to do all acts and things which may be requisite in order to further the objects of the University as a teaching and examining body and to cultivate and promote art science and learning :

And whereas the Yorkshire College has consequently ceased to be a College in the Victoria University of Manchester and the governing body of the Yorkshire College are desirous and it is expedient that the College should be merged in the University of Leeds and that all its property and liabilities should be transferred to and vested in the lastnamed University :

And whereas it is expedient to empower the University of Leeds to hold examinations under Section 3 of the Medical Act 1886 and to elect a representative on the General Council mentioned in Section 7 of the same Act :

And whereas the objects of this Act cannot be attained without the authority of Parliament :

#### MAY IT THEREFORE PLEASE YOUR MAJESTY

That it may be enacted and be it enacted by the King's Most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parliament assembled and by the authority of the same as follows (that is to say) :

1. This Act may be cited as the "University of Leeds Act, 1904."

2. On the passing of this Act the Yorkshire College
 <sup>ire</sup> shall be by virtue of this Act dissolved and cease to exist and
 all property real and personal of every description (including
 things in action) and all rights and privileges of the Yorkshire College which immediately before that date belonged

Short title.

Dissolution of Yorkshire College and transfer of property to University of Leeds. to or were vested in that College shall be by virtue of this Act without any conveyance or other instrument transferred to and vested in the University of Leeds for all the estate and interest therein of the Yorkshire College and shall be applied to the objects and purposes for which the University of Leeds is incorporated.

3. On the passing of this Act all debts and liabilities of the Yorkshire College shall by virtue of this Act be transferred and attached to the University of Leeds and shall thereafter be discharged and satisfied by that University.

4. All agreements awards contracts deeds and other Saving for instruments and all actions and proceedings and causes of action or proceedings which immediately before the passing actions &c. of this Act were existing or pending in favour of or against the Yorkshire College shall continue and may be carried into effect enforced and prosecuted by or in favour of or against the University of Leeds to the same extent and in like manner as if the University of Leeds instead of the Yorkshire College had been party to or interested in the same respectively.

5. (1) The Council of the Victoria University of Man-Adjustment chester the Council of the Owens College Manchester and of property the Council of the University of Liverpool or any of them liabilities, may by agreement with the Council of the University of &c. Leeds adjust and settle all questions arising with respect to any endowments property powers privileges authorities debts liabilities obligations or expenses in which the parties to the agreement are interested and also with respect to any examinations degrees and other University and College matters.

(2) An agreement under this section may provide for the transfer retention division apportionment or commutation of any endowments property debts liabilities or obligations and for a payment being made by any party to the other or others in respect of any such transfer retention division apportionment or commutation or in respect of the salary or remuneration of any officer or person and generally may make as between the parties to the agreement any provisions necessary or proper for carrying into effect the purposes of this Act.

Transfer of liabilities.

agreements deeds

(3) In default of agreement on any such question as aforesaid or so far as such agreement does not extend the question shall be referred to a single arbitrator to be nominated by the Lord President of His Majesty's Council on the application of any party and his award may provide for any matter for which an agreement might have provided. And subject as aforesaid the provisions of the Arbitration Act 1889 shall apply.

6. All professors and other members of and persons attached to or associated with the teaching staff of the Yorkshire College and all salaried or paid officers and servants of the Yorkshire College shall hold as nearly as practicable the same offices and places in the University of Leeds as they held in the said College immediately before the passing of this Act and upon the same terms and conditions unless and until the Council of the University shall otherwise decide.

7. Any power or right of the Yorkshire College or of the Council Senate or other members of that College as such to appoint or nominate a member of the governing body of any educational charitable or other institution shall on the passing of this Act be transferred to and may be exercised by the Council of the University of Leeds.

8. The University of Leeds is hereby empowered to hold qualifying examinations in medicine surgery and midwifery hold examin- for the purpose of registration under the Medical Acts as if the University had been a University in the United Kingdom legally qualified at the passing of the Medical Act 1886 to grant diplomas in medicine and surgery and the provisions of Part I of that Act shall be read and have effect accordingly.

> 9. The Council of the University of Leeds shall be entitled to choose one representative to be a member of the General Council constituted by the Medical Acts and Section 7 of the Medical Act 1886 shall be read and have effect as if the University of Leeds had been expressly included therein.

Section 7 of the Mortmain and Charitable Uses 10. Application Act 1888 shall be read and have effect as if the words "and of Section 7 of Mortmain &c. Act 1888 the University of Leeds" were therein inserted after the (51 and 52 words "Victoria University." Vict. c. 42)

Saving for existing officers of Vorkshire College.

Transfer of powers to nominate members of certain governing bodies.

Power of University of Leeds to ations under 49 and 50 Vict. c. 48.

Power of University of Leeds to choose representative on General Medical Council.

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# University of Leeds Act. 1904

Any will deed or other document whether made or Construction II. executed before or after the passing of this Act which in favour of contains any bequest gift or trust in favour of the Yorkshire Yorkshire College. College shall on and after the passing of this Act be read and have effect as if the University of Leeds were therein named instead of the Yorkshire College.

12. The Charitable Trusts Acts 1853 to 1894 shall not As to the Charitable extend to the University of Leeds or to any college or hall Trusts Acts. therein.

13. The Council of the University of Leeds shall deliver Copy of Act to the Registrar of Joint Stock Companies a printed copy to be registered. of this Act and he shall retain and register the same and if such copy is not so delivered within three months from the passing of this Act the University of Leeds shall incur a penalty not exceeding two pounds for every day after the expiration of those three months during which the default continues and any member of the said Council who knowingly and wilfully authorises such default shall incur the like penalty. Every penalty under this section shall be recoverable summarily.

There shall be paid to the Registrar by the University of Leeds on such copy being registered the like fee as is for the time being payable under the Companies Act 1862 on registration of any document other than a Memorandum of Association.

14. The costs charges and expenses of and incidental to Costs of preparing and obtaining this Act shall be defrayed by the Act. University of Leeds out of income or of the capital of the property by this Act transferred to the University or if the Council of the University think fit out of money to be raised by sale or mortgage of some part of the said property.

# AN ACT

# To extend the privileges of the Graduates of the University of Leeds.

# (Royal Assent, 15th August, 1904.)

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows :---

Extension of privileges of graduates of Leeds University. 1. Wherever any office is or shall be open to graduates of the Universities of Oxford, Cambridge, and London, and of the Victoria University of Manchester, or wherever any privilege or exemption has been or shall be given by any Act of Parliament or regulation of any public authority to graduates of the Universities of Oxford, Cambridge, and London, and the Victoria University of Manchester, graduates of the University of Leeds having the degree which would be a qualification if it had been granted by the University of Oxford, Cambridge, or London, or the Victoria University of Manchester, may become candidates for and may hold any such office and shall be entitled to all such privileges as fully as graduates of any of the last-mentioned universities.

Short title. 2. This Act may be cited as the Leeds University Act, 1904.

# ORDINANCES

# made by the Court in accordance with the provisions of Clauses X and XI of the Charter

#### I. AFFILIATED COLLEGES AND INSTITUTIONS

1. Colleges and Institutions, or parts thereof, may be admitted to affiliation after report by the Senate. The Senate, before recommending the affiliation of any such College or Institution, shall satisfy itself:

- (a) That the College or Institution has attained a satisfactory standard of educational efficiency for the purposes for which affiliation is sought, and is established on a permanent basis.
- (b) That the majority of regular students in such College or Institution are of the age of sixteen years.

2. In the case of any affiliated College or Institution, or of any part of such College or Institution recognised for the purposes of this clause, students who have attained the age of seventeen years, and have passed the Matriculation examination of the University, or are exempt therefrom, shall be allowed to attend at any such College or Institution a part or the whole of a course of study, approved by the Senate of the University as exempting from such courses of study in the University as the Council may approve, provided that in no case shall the University confer a degree upon any person who has not attended in the University during two years at least the courses of study which have been recognised for such degree.

3. The Council shall, after a report from the Senate, determine the privileges to which the students of any such affiliated College or Institution shall be admitted.

4. Any College or Institution desiring to avail itself of the foregoing Ordinance shall

(a) Make provision for the representation of the University on the body which determines the annual plan of study, in so far as it concerns the courses submitted for the approval of the University;

(b) Submit for the approval of the Senate of the University day courses of study, whose duration, scope, and standard shall be equivalent to the corresponding courses of the University.

5. The University shall inspect from time to time the buildings and equipment for teaching provided in any such College or Institution, and shall satisfy itself as to the qualifications of any teacher therein appointed to conduct the courses offered in place of University courses.

6. The Council, after a report from the Senate, shall be entitled at any time to withdraw any privileges which may have been granted to any College or Institution under these Ordinances, and to remove the said College or Institution from affiliation.

#### Affiliated Colleges

THE COLLEGE OF THE RESURRECTION, MIRFIELD (May 18, 1904). By resolution of the Council the students of this College are exempt from attendance at the University upon the first of the three years of study required for the B.A. Ordinary or Honours degree.

THE TECHNICAL COLLEGE, HUDDERSFIELD. (March 2, 1906). By resolution of the Council, attendance upon certain classes in this College is recognised as exempting from attendance upon classes in the University in the first year of the courses required for the degrees of B.A., B.Sc. (including Engineering), and M.B. and Ch.B.

RAWDON COLLEGE, RAWDON. (May 17, 1916). By resolution of the Council (October 1, 1915), attendance upon certain courses of study in this College is recognised as exempting from attendance upon courses in the University in the first of the three years of study required for the B.A. (Ordinary and Honours Degree).

DIOCESAN TRAINING COLLEGE, YORK. (June 15, 1921). By resolution of the Council (July 19, 1921) attendance upon certain courses of study in this College 1s recognised as exempting from attendance upon courses in the University in the first of the three years of study required for the B.A. and B.Sc. (Ordinary aud Honours) Degrees.

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# II. DEGREES IN ARTS

 The degrees in Arts shall be: Bachelor of Arts (B.A.) Master of Arts (M.A.) Master of Education (M.Ed.) Doctor of Philosophy (Ph.D.)
 Doctor of Letters (Litt.D.).

> Degree of Bachelor of Arts (See pp. 138-148)

Degree of Bachelor of Arts with Honours (See pp. 148-166)

> Degree of Master of Arts (See pp. 167-174)

Degree of Master of Education (See pp. 175-176)

Degree of Doctor of Philosophy (See pp. 176-178)

Degree of Doctor of Letters (See pp. 178-179)

#### **III. DEGREES IN COMMERCE**

1. The degrees in Commerce shall be : Bachelor of Commerce (B. Com.).

> Degree of Bachelor of Commerce (See pp. 222-225)

Degree of Bachelor of Commerce with Honours (See pp. 225-228)

#### IV. DEGREES IN LAW

 The degrees in Law shall be : Bachelor of Laws (LL.B.) Master of Laws (LL.M.) Doctor of Philosophy (Ph.D.) Doctor of Laws (LL.D.).

Degree of Bachelor of Laws (See pp. 231-233)

Degree of Bachelor of Laws with Honours (See pp. 233-236)

> Degree of Master of Laws (See pp. 237-238)

Degree of Doctor of Philosophy (See p. 238)

> Degree of Doctor of Laws (See pp. 238-239)

# V. DEGREES IN SCIENCE

 The degrees in Science shall be :--Bachelor of Science (B.Sc.) Master of Science (M.Sc.) Master of Education (M Ed.) Doctor of Philosophy (Ph.D.) Doctor of Science (D.Sc.).

> Degree of Bachelor of Science (See pp. 240-250)

Degree of Bachelor of Science with Honours (See pp. 250-270)

> Degree of Master of Science (See pp. 271-275)

Degree of Master of Education (See p. 275)

Degree of Doctor of Philosophy (See p. 275)

Degree of Doctor of Science (See pp. 275-276)

# VI. DEGREES IN MEDICINE AND SURGERY

The degrees in Medicine and Surgery shall be : Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.) Doctor of Philosophy (Ph.D.) Doctor of Medicine (M.D.) Master of Surgery (Ch.M.)

# Degrees of Bachelor of Medicine and Bachelor of Surgery

(See pp. 383-390)

Degree of Doctor of Medicine (See pp. 390-391)

Degree of Doctor of Philosophy. (See p. 391)

Degree of Master of Surgery (See pp. 391-392)

#### VII. DEGREES IN DENTAL SURGERY

1. The degrees in Dental Surgery shall be : Bachelor of Dental Surgery (B.Ch.D.) Master of Dental Surgery (M.Ch.D.)

Degree of Bachelor of Dental Surgery (See pp. 412-415)

# VIII. RECOGNITION OF VICTORIA UNIVERSITY COURSES AND EXAMINATIONS

(a) The Senate, or any Committee of the Senate appointed for that purpose, is hereby empowered to recognise courses of study pursued and examinations passed by students of the Yorkshire College or of the University of Leeds in the Victoria University or the Victoria University of Manchester prior to January 1, 1905, as equivalent to corresponding courses and examinations in the University of Leeds.

(b) The Senate, or any Committee of the Senate appointed for that purpose, is hereby also empowered to make such concessions in exemption from examinations and from attendance on courses of study, as may be required to place a past or present student of the University or of the Yorkshire College, who has been admitted thereto before 1st October, 1904, in as favourable a position in the above respects as if he had become or had continued to be a student of the Victoria University or of the Victoria University of Manchester.

(c) A student of the Yorkshire College, who before December 31, 1904, has passed a Final examination of the Victoria University or of the Victoria University of Manchester, for the Bachelor's degree in the Faculty of Arts, Science, Law, or Medicine shall be entitled to be admitted to the Bachelor's degree of the University of Leeds; and if he has been admitted to the Bachelor's degree of the Victoria University or the Victoria University of Manchester he shall be entitled to proceed to the higher degrees of the University of Leeds on the same conditions as if he had graduated in this University.

## IX. RECOGNITION OF COURSES AND EXAMINATIONS OF OTHER RESIDENTIAL UNIVERSITIES

(a) Subject to the provisions of the Charter and Statutes, the Senate, or any Committee of the Senate appointed for that purpose, is hereby empowered to allow members of any University, in which residence is required as a condition of graduation, or members of any University who have attended courses of study at some College or other place of learning which is affiliated or associated with such University, after Matriculation at the University of Leeds, and presentation of certificates of conduct satisfactory to the Senate or Committee, to count such periods of residence passed by them at such other University as equivalent to such periods of residence at the University of Leeds as the Senate or Committee may determine, provided that no degree of this University shall be conferred on any such person unless he shall have pursued an

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approved course of study in this University extending over at least two years, and shall have passed the Final examination for such degree.

(b) Undergraduates of other Universities who have been admitted, under this Ordinance, as members of this University may be allowed to count examinations passed by them at such other Universities as equivalent to such examinations or portions of examinations other than the Final examination of this University as the Senate, or any Committee of the Senate appointed for that purpose, may from time to time determine.

(c) Undergraduates of the University of Leeds who are pursuing an approved course of instruction in any of the Honours Schools of the University may be allowed to count such periods of residence passed by them at other Universities during their undergraduate course as equivalent to such periods of residence at the University of Leeds as the Senate, or any Committee appointed for that purpose, may from time to time determine, provided that no degree of this University shall be conferred upon any such undergraduate unless he shall have pursued an approved course of study in this University extending over at least two years, and shall have passed the Honours examination for such degree.

# X. CONFERMENT OF DEGREES UPON FORMER STUDENTS OF THE YORKSHIRE COLLEGE

1. As to conferment of *ad eundem* degrees on students who have attended full courses of study at the Yorkshire College and have graduated at various Universities, but who have not been admitted to the College Associateship :

- Graduates of the Victoria University shall be offered the same degrees in the University of Leeds as those which they have received from the Victoria University.
- Graduates in Medicine of other Universities shall be admissible on application to the M.B. degree of the University of Leeds.
- Applications from non-medical graduates of other Universities who have been students of the Yorkshire College shall be considered on their merits.

In every case of admission under the above conditions a fee of 10s. 6d. shall be charged.

2. As to Associates of the Yorkshire College :

Graduates of the Victoria University shall be offered the same degrees in the University of Leeds as those which they have received from the Victoria University.

- Graduates of other Universities shall be offered the degree of Bachelor in this University in the Faculties in which they graduated elsewhere.
- All Associates of the Yorkshire College admitted to degrees of the University of Leeds under these conditions shall be admitted without fee.

3. All persons admitted to degrees of the University of Leeds under the foregoing conditions shall be admissible as life members of the Convocation of the University.

4. No graduate admitted under the above conditions to a lower degree shall be precluded from proceeding in the University of Leeds to a higher degree in his particular faculty.

# XI. STANDING OF CERTAIN GRADUATES IN PROCEEDING TO HIGHER DEGREES

1. Graduates of other Universities who have been admitted to degrees of equal or similar rank in this University shall be allowed, in proceeding to higher degrees, to count their standing as graduates from the date of their graduation in such other Universities.

2. Associates by examination of the Yorkshire College who have been admitted to degrees in this University shall be allowed, in proceeding to higher degrees, to count their standing as graduates from the date of admission to the Associateship.

## XII. AWARD OF DEGREES BY SENATE

The Senate is hereby empowered to award degrees other than (1) ad eundem degrees, (2) degrees conferred on officers of the University, and (3) honorary degrees, in accordance with the provision in that behalf contained in Statute I. b.

# XIII. AWARD OF DEGREES BY COUNCIL

1. The Council is hereby authorised to grant to any Professor of the University, or to any Lecturer who is the head of any department in the University, a degree not higher than that of Master in the Faculty in which he has graduated, or, in the case of a Professor or Lecturer holding no degree, such degree, not higher than that of Master, as the Council may determine.

2. The Council is authorised, if it thinks fit, to grant to any other officer of the University such degree, not higher than that of Master, as it may determine, but no such degree shall be conferred until a report thereon has been received from the Senate.

3. No Medical degree shall be conferred under either of the above provisions (1) and (2) upon a person who does not already possess a registrable medical qualification; and no person, in virtue of a degree conferred under either of these provisions, shall be allowed to proceed to a degree higher than that to which he has been admitted.

## XIV. JOINT MATRICULATION BOARD AND JOINT COMMITTEES

The Council is hereby empowered to elect annually, or as may be required :

- 1. Five members of the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield.
- 2. Three members of a Joint Committee of the Universities of Manchester, Liverpool, and Leeds, to consider objections which may be raised by one or more of those Universities, to Statutes or Ordinances proposed by any of them, or by the University of Sheffield.

#### XV. DIPLOMAS

Diplomas shall be granted by the University, in such subjects as the Council may from time to time determine, to students who pursue the courses of study and pass the examinations prescribed.

The Council is empowered to make from time to time Regulations under which such diplomas shall be awarded.

The award of diplomas under the provisions of this Ordinance is delegated to the Senate.

# XVI. REGULATIONS FOR PROCEDURE

The Council, Senate, Faculties, Boards of Faculties, and Convocation are hereby empowered to enact Regulations for the conduct of their business and that of their Committees, subject to the provisions of the Charter and Statutes.

#### XVII. FEES

The Council is hereby empowered, after giving the Senate an opportunity of reporting thereon, to appoint such Registration, Examination, Class, Laboratory, and other fees to be paid by students and others as the Council may from time to time determine, and to increase, reduce, or abolish the same.

## XVIII. REGULATIONS FOR EXAMINATIONS

Subject to the provisions of the Charter, Statutes, and Ordinances of the University, the Council is hereby empowered to adopt regulations, or to delegate to the Senate the making of regulations, as to the subjects, times, modes, and standards of the examinations.

# XIX. ADMISSION TO EXAMINATIONS

Before admission to any examination candidates must pay the examination fee. The admission of all students to the examinations of the University shall be subject to the approval of the Vice-Chancellor.

# XX. EXTERNAL EXAMINERS

The Council is hereby empowered to appoint, on the recommendation of the Senate, such External Examiners on such conditions as to tenure of office, remuneration, and otherwise as it may from time to time determine.

#### XXI. PRIZES

The Council is hereby empowered, upon report from the Senate, to institute such class and other prizes as it may from time to time determine, and to vary their value and to abolish the same.

### XXII. EXAMINATION OF SCHOOLS, AND EXTENSION LECTURES

The Senate is hereby empowered to examine and inspect schools and other educational institutions, and to provide lectures and instruction for persons not members of the University under such Regulations as the Council may from time to time adopt. The Senate is empowered to award certificates in connection with lectures and instruction for persons not members of the University.

#### XXIII. TENURE OF OFFICE OF DEANS OF FACULTIES

Deans of Faculties shall be elected for periods not exceeding two years at a time.

# XXIV. TENURE OF OFFICE OF ADDITIONAL MEMBERS OF THE SENATE

Such additional Members of the Senate of the University as may be appointed by the Court under Statute V. shall be appointed for one year only, but shall be reeligible at the end of each year.

## XXV. REGISTER OF CONVOCATION

1. The Chancellor, the Vice-Chancellor, the Pro-Vice-Chancellor, the members of the Senate and the Lecturers shall be registered as members of Convocation without payment of any fee, and their names shall be continued upon the Register so long as they retain their qualifying offices.

2. Graduates who have been admitted to degrees of this University by reason of their having pursued courses of study in the Yorkshire College, and having been admitted to degrees of other Universities or to the Associateship of the Yorkshire College, shall be entitled to be registered immediately as life members of Convocation without payment of any further fee.

3. All graduates of this University shall be entitled to be registered as members of Convocation upon payment of a fee of 10s. 6d.

#### XXVI. COMMUNICATIONS FROM COUNCIL TO CONVOCATION

Convocation shall receive from the Council the draft of any Ordinance proposed which, in the opinion of the Council, would affect the status, position, rights, or privileges of Convocation or the members thereof, and further Convocation, if it so desires, may record its opinion on any draft Ordinance so submitted within one month from the date at which it has been received, and such opinion when recorded shall be taken into consideration by the Council.

# XXVII. WAIVING OF PRESENT REQUIREMENTS AS TO CERTAIN UNIVERSITY EXAMINATIONS IN THE CASE OF APPROVED STUDENTS ON NATIONAL SERVICE

During the continuance of the present war, or for such further period as the Lords of the Committee of Council shall allow the amendment to Statute XIII to remain in force, it shall be within the power of the Senate, acting on the recommendation of the Heads of Departments concerned, to waive, in the case of approved candidates going on active service, or undertaking other approved duties in connection with national defence, any requirement prescribed by the existing Ordinances of the University as to the passing of (1) any examination for the degree of Bachelor in any Faculty other than that of Medicine; (2) the First Examination for the Degrees of M.B., Ch.B., and B. Ch. D. Any action taken by the Senate under this Ordinance shall be reported to the Council.

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Professor RICHARD WHIDDINGTON, M.A., D.Sc	- 19	19
Miss HANNAH ROBERTSON, B.A. (Tutor of Women Student	s)	
(annual appointment)	- 19	2 I

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Beverley Grammar School-	<sup>3</sup> Rev. CANON OLLARD	Dec.,	1921
Bingley Grammar School -	<sup>3</sup> Mrs. REDMAN KING	June,	1924
Bishopside (Ripon) — Lupton and Watson's Foundation	*Sir J. N. BARRAN, Bart.	Feb.,	1 <b>92</b> 4
Bradford Grammar School -	<sup>3</sup> Professor KENDALL	Dec.,	19 <b>21</b>
Bradford Girls' Grammar School	*Miss B. E. GWYER	Mar.,	1925
Bridlington Grammar School -	<sup>3</sup> Professor MILNE	April,	1924
Brighouse School for Girls -	<sup>3</sup> Miss A. B. MARCHBANK	June,	1924
Castleford Secondary School -	<sup>3</sup> Professor GILLESPIE	Nov.,	1921
Cleckheaton Grammar School -	<sup>3</sup> Dr. Brodetsky	April,	1923
Coxwold Charity	<sup>3</sup> Professor H. M. DAWSON	Oct.,	1923
Dewsbury—Endowed Schools } Foundation	<sup>5</sup> Professor PRIESTLEY	Dec.,	1921
Drax Free School	<sup>5</sup> Rev. W. SEED, M.A.	Feb.,	1922
Giggleswick Grammar School -	<sup>3</sup> Professor GRANT	Mar.,	1922
Halifax-Heath Grammar School	<sup>5</sup> Professor CONNAL	May,	1923
Halifax-Crossley and Porter Schools	<sup>2</sup> Mr. Howard Clay	Dec.,	1921
Harrogate Secondary School -	<sup>3</sup> Miss H. ROBERTSON	Feb.,	1922
Heckmondwike Secondary			
School	<sup>3</sup> Professor STEWART	June,	1922
Hemsworth Secondary School -	<sup>3</sup> Mrs. Garstang	May,	1924

The number prefixed to a name indicates the number of years in the term of the appointment.

# Representatives on Committees, etc.

Hipperholme Grammar School -	<sup>5</sup> Rev. Dr. G. T. JOWETT	July,	1922
Holmfirth Secondary School -	<sup>3</sup> Mr. S. JAGGER	Nov.,	1922
Ilkley Grammar School	<sup>5</sup> Emeritus Professor PROCTER	Dec.,	1923
KeighleyDrake and Tonson's }	*Professor GILLESPIE	June,	1922
Keighley Trade and Grammar School	<sup>1</sup> Professor POOLE	Dec.,	1921
Knaresborough Rural Sec- ondary School	<sup>8</sup> Mr. W. P. Welpton	Sept.,	1922
Leeds Grammar School	<sup>3</sup> The VICE-CHANCELLOR <sup>3</sup> Professor GARSTANG	May,	1922
Leeds Girls' High School -	<sup>3</sup> Professor CONNAL	June,	1924
Leeds, Mount St. Mary's College	<sup>3</sup> Miss H. Robertson	Nov.,	1921
Malton (Old) Grammar School -	<sup>3</sup> Mr, Hugh W. Pearson	Oct.,	1922
Morley Secondary School -	<sup>3</sup> Professor COBB	May,	1922
Normanton Grammar School -	<sup>3</sup> Professor SMITHELLS	Dec.,	1922
Northallerton Grammar School -	<sup>3</sup> Mr. W. BROWN	June,	1923
Ossett Grammar School	<sup>3</sup> Mr. J. W. HAIGH JOHNSON,	,	
	M.Sc.	July,	1924
Otley Grammar School	<sup>3</sup> Professor GRANT	July,	1924
Pickering Grammar School -	<sup>3</sup> Mrs. KITCHING	Nov.,	1923
Pecklington Grammar School -	<sup>3</sup> Mr. A. M. WOODWARD	June,	1923
Pontefract Grammar School -	<sup>3</sup> Professor CONNAL	Dec.,	1923
Pontefract Girls' High School -	<sup>3</sup> Miss Holgate	Mar.,	1922
Rastrick Grammar School -	<sup>3</sup> Professor ROBERTS	Dec.,	1923
Ripon Grammar School	<sup>3</sup> Sir J. N. BARRAN, Bart.	Feb.,	1924
Ripon Girls' Secondary School -	<sup>3</sup> Mrs. B. M. Connal.	June,	1924
Sedbergh Grammar School -	<sup>5</sup> Professor GARSTANG	Feb.,	1923
Selby Secondary School	<sup>3</sup> Miss H. ROBERTSON	Nov.,	1921
Settle Girls' High School	<sup>3</sup> Dr. Doris Gunnel	Mar.,	1922
SkiptonErmysted's Grammar	<sup>3</sup> Professor PRIESTLEY	Feb.,	1923
Skipton Girls' Endowed School	<sup>5</sup> Professor PRIESTLEY	June,	1924
Slaithwaite Grammar School -	<sup>3</sup> Mr. WOODHEAD	June,	1924
Tadcaster Grammar School	<sup>3</sup> Mr. Cowling	Dec.,	1923
Thornton-in-Bradford— Endowed Schools	<sup>5</sup> Professor Gordon	Dec.,	1923
Wakefield Grammar School	<sup>3</sup> Professor GILLESPIE	Dec.,	1923
Wortley Free School Trust	<sup>3</sup> Professor COBB	May,	1922
York—St. Peter's School -	<sup>5</sup> Rev. J. M. MARSHALL	Feb.,	1924

The number prefixed to a name indicates the number of years in the term of the appointment,

# PROFESSORS, LECTURERS, Etc.

## FACULTY OF ARTS

Dean of the Faculty PROFESSOR GORDON

Classics

Professors: W. RHYS ROBERTS, M.A., Litt. D., Cambridge, late Fellow of King's College, Cambridge, LL.D., St. Andrews, Litt.D., Wales.

B. M. CONNAL, M.A., Corpus Christi College, Oxford.

Lecturer in Classical Archaeology: II. G. EVELYN WHITE, M.A., Oxford.

Assistant Lecturers: E. E. BIBBY, M.A., Leeds and Cambridge. A. J. BARRATT, B.A., Oxford.

English Language and Literature

Professor: GEORGE GORDON, M.A., late Fellow of Magdalen College, Oxford.

Reader in English Language : J. R. R. TOLKIEN, M.A., Oxford

Assistant Lecturers: G. H. COWLING, M.A., Leeds.

H. J. DAVIS, M.A., Oxford. One Vacancy

French Language and Literature and Romance Philology

Professor: PAUL BARBIER, M.A., London. Lecturer: Miss DORIS GUNNELL, M.A., Leeds, Docteur de l'Universite, Paris.

Assistant Lecturers: R. H. SOLTAU, M.A., Oxford.

Miss JESSIE MURRAY, M.A., St. Andrews.

German Language and Literature

Professor : Vacant.

Lecturer and Acting Head: CHARLES E. GOUGH, Ph.D., Basle.

Assistant Lecturers: Miss MARY C. CALD-WELL, B.A., Leeds.

Miss ALICE A. SCOTT, M.A., London.

Hebrew .

Courses at Headingley College by the Rev. JOHN W. LIGHTLEY, M.A., and at Rawdon College by the Rev. Principal W. E. BLOMFIELD, B.A., B.D., are accepted.

Russian Language and Literature

Professor : Vacant. Acting Head and Lecturer : J. KOLNI BALOZKY.

Honorary Lecturer in Russian History and Music: The Rev. W. H. FRERE, D.D.

Spanish Language and Literature

History

Professor: Vacant.

Acting Head and Lecturer : PEDRO PENZOL.

Professor: ARTHUR J. GRANT, M.A., King's College, Cambridge.

Reader in Mediaval History : MISS A. M. COOKE, M.A., Victoria.

Reader in Ancient History and Classical Archæology:

ARTHUR M. WOODWARD, M.A., Oxford.

Assistant Lecturer : A. H. DAINTON, M.A., Oxford.

Courses in Ecclesiastical History at Headingley College by the Rev. WILFRID J. MOULTON, M.A., and at Rawdon College by the Rev. A. C. UNDERWOOD, M.A., B.Litt., B.D., are accepted.

Philosophy Professor : C. M. GILLESPIE, M.A., Trinity College, Oxford.

> Assistant Lecturer: H. F. HALLETT, M.A., Edinburgh.

Professor : J. HARRY JONES, M.A., Wales. . Lecturer in Economics and Social Organisation : A. N. SHIMMIN, M.A., Manchester.

Lecturer in Economic History: Vacant.

Lecturer in Statistics : Vacant.

Lecturer in Accountancy: Vacant.

University Lecturer in Social Organisation: ROBERT S. DOWER, M.A., St. John s College, Cambridge.

Economics

96	Professors, Lecturers, etc.
Economics .	Assistant Lecturer: A. C. HAPPELL, B.A., Cambridge.
	Tutor in Practical Social Work: Vacant.
Geography	Reader: C. B. FAWCETT, B.Litt., Oxford, M.Sc., London.
	Assistant Lecturer : Miss MARY K. HESLOP, M.Sc., Durham.
Education .	Principal of the Training Department: The VICE-CHANCELLOR.
	Professor : JOHN STRONG, M.A., London, LL.D., St. Andrew's, C.B.E., F.R.S.E.
	Lecturer in Education and Master of Method : W. P. WELPTON, B.Sc., London.
	Lecturer in the History of Education : A. J. MONAHAN, M.A., Leeds.
	Lecturer in Experimental Education : LL. WYNN-JONES, Ph.D.
	Assistant Master of Method: S. J. CURTIS, B.A., London.
	Tutor of Women Students and Mistress of Method: MISS HANNAH ROBERTSON, B.A., London.
	Assistant Lecturer and Assistant Mistress of Method: MISS E. M. BLACKBURN, M.A., Leeds.
	Assistant Lecturers : Miss R. F. SHOVE, M.A., Dublin. Miss JANE HOLGATE, B.A., Leeds.
	Assistant Lecturer (Phonetics) : Miss SYBIL M. GOULDING, B.A., Oxford.
	Teacher of Music, Reading and Elocution : T. J. HOGGETT, Mus.B., Durham.
	Teacher of Needlework: MISS E. M. WALL.
	Teacher of Art: Vacant.
Law .	Professor : J. D. I. HUGHES, M.A., B.C.L., Ballial College, Oxford.
	Lecturers : G. L. HAGGEN, M.A., Oxford, B.C.L. H. R. BURRILL, LL.B., Leeds.

## FACULTY OF SCIENCE

Dean of the Faculty PROFESSOR PRIESTLEY

Mathematics

Professor: W. P. MILNE, M.A., D.Sc., Aberdeen, M.A., Clare College, Cambridge.

Reader in Applied Mathematics: S. BRODETSKY, M.A., Trinity College, Cambridge, Ph.D., Leipzig.

Lecturer: W. E. H. BERWICK, M.A., Cambridge,

Assistant Lecturer: C. W. GILHAM, M.A., Cambridge, B.Sc., London.

Assistant Lecturer in Applied Mathematics': G. C. STEWARD, B.A., Cambridge, M.Sc., London.

Assistant Lecturer in Graphics and Computation: G. SMEAL, B.Sc., Melbourne.

Physics

Cavendish Professor: R. WHIDDINGTON, M.A., D.Sc., Fellow of St. John's College, Cambridge.

Lecturer in Optics: A. O. ALLEN, M.A., B.Sc., London, A.R.C.Sc.

Lecturer in Physics: J. E. P. WAGSTAFF, M.A., B.Sc., Cambridge.

Assistant Lecturers and Demonstrators: J. EWLES, M.A., Cambridge.

#### Demonstrator :

Miss CLARA E. WATSON, B.Sc., Leeds. Assistant Demonstrators: Four Senior Students. Honorary Fellow for Research in Physics: Vacant.

Chemistry .

Professor: ARTHUR SMITHELLS, B.Sc., London and Victoria, C.M.G., F.R.S.

Lecturer in Analytical Chemistry: W. LOWSÓN, B.Sc., London and Leeds, F.I.C.

Assistant Lecturers and Demonstrators: G. T. P. TATHAM, B.Sc., London. J. C. GREGORY, B.Sc., F.I.C. Miss MAY S. LESLIE, D.Sc., Leeds.

D

Chemistry

- Demonstrators: C. H. D. CLARK, B.Sc., London. Miss D. M. Mc ROBIE, M.A., Aberdeen. J. IIUME, B.Sc., A.I.C.
  - Research Assistant: H. WHITAKER, M.Sc., Leeds. Lecturer Assistant: C. G. DURDEY.

Laboratory Steward : A. NUTTALL.

Organic Chemistry

Physical Chemistry

.

Zoology

. Professor : JULIUS B. COHEN, B.Sc., Victoria, Ph.D., Munich, F.R.S.

Assistant Lecturer and Demonstrator: P. K. DUTT, M.A., Calcutta, M.Sc., Leeds, A.I.C.

Demonstrator: Miss AGNES SHORE. Research Assistant; Vacant.

Professor: HARRY M. DAWSON, B.Sc., London, D.Sc., Leeds, Ph.D., Giessen.

Professor: WALTER GARSTANG, M.A., D.Sc., Oxford, late Fellow of Lincoln College, Oxford.

Assistant Lecturers and Demonstrators: Mrs.W. O. REDMAN KING, B.Sc., Leeds. E. PERCIVAL, B.Sc., Leeds.

Assistant and Keeper of the Insect Collections : MISS M. SIMPSON.

Research Assistant: Vacant Laboratory Steward: A. P. HORROX.

Botany

Professor: JOSEPH H. PRIESTLEY, B.Sc., London, D.S.O., F.L.S.

Honorary Lecturer in Mycology: HAROLD WAGER, D.Sc., F R.S.

Lecturer in Plant Morphology : NORMAN WALKER.

Lecturer :

W. H. PEARSALL, M Sc., Manchester. Assistant Lecturer and Demonstrator:

J. EWING, M.A., D.Sc., Aberdeen.

Honorary Demonstrators: Mrs. J. H. PRIESTLEY. Mrs. W. R. GRIST, B.Sc., London.

Botany

Demonstrators: Miss A. F. C. EVERSHED, Nat. Sci. Tripos, Cambridge.

> Mrs. W. H. PEARSALL, M.Sc., Manchester.

Research Assistants: Miss DOROTHY ARMSTEAD, M.Sc., Manchester. Miss LETTICE M. WOFFENDEN,

M.Sc., Leeds.

Laboratory Steward: R. W. BUTCHER.

Physiology . . See page 103.

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Geology

. Professor : PERCY F. KENDALL, M.Sc., Leeds, F.G.S. Reader in Petrology: A. GILLIGAN, D.Sc., Leeds, F.G.S.

Assistant Lecturer and Demonstrator: H. C. VERSEY, M.Sc., Leeds.

Laboratory Steward: W. PLOWMAN

## FACULTY OF TECHNOLOGY

Dean of the Faculty Professor COBB

Civil and Mechanical

Engineering . Professor : JOHN GOODMAN, M. Inst. C. E., M.I.Mech.E.

> Lecturer in Civil Engineering : JAMES GILCHRIST, B.Sc., Edinburgh, A. M. Inst. C. E.

Assistant Lecturers :

T. M. NAYLOR, B.Sc., Manchester, A.M.Inst.C.E., A.M.I.Mech.E. J. MITCHELL, B.Sc., London,

A.M.I.Mech.E.

Demonstrators :

A. SOMERSCALES.

C. COLLIS, B.Sc., Manchester.

S. G. RICHARDSON.

H. C. KELLY, B.Sc. Tech., Manchester.

Electrical

Engineering . Lecturer and Acting Head of Department : WALTER E. FRENCH, A.M.Inst.C.E.

> Assistant Lecturer and Demonstrator : D. CRAIG, B.Sc., Leeds.

Mining .

Professor: GRANVILLE POOLE, B.Sc., M.I.M.E., F.G.S.

Lecturer in Mine Surveying : T. BROWN, M.Sc., Leeds.

Lecturer in Metalliferous Mining and Ore Dressing: Vacant.

Lecturer on Electricity Applied to Mining: J. BENTHAM.

Coal Gas and Fuel Industries with Metallurgy

Livesey Professor of Coal Gas and Fuel Industries: JOHN WILLIAM COBB, B.Sc., Leeds and London, C.B.E., F.I.C.

- Lecturer in Gas Chemistry: H. J. HODSMAN, M.Sc., Leeds, M.B.E., F.I.C.
- Research Assistant and Assistant Lecturer in Refractory Materials:

H. S. HOULDSWORTH, M.Sc., Leeds.

Assistant Lecturer in Metallurgy: P. F. SUMMERS, A.R.S.M.

Research Chemists: J. W. WOOD, M.Sc.Tech., Manchester. A. PARKER, D.Sc. HORACE KERR. FRANK S. TOWNEND, B.Sc., London. G. B. HOWARTH, B.Sc., Leeds.

Laboratory Steward : G. WADSWORTH.

**Textile** Industries

- Professor: ALDRED F. BARKER, M.Sc., Leeds.
- Lecturer in Textile Industries : HOWARD PRIESTMAN.
- Lecturer in Yarn Manufacture : THOMAS HOLLIS.
- Lecturer in Cloth Structure and Weaving Mechanism: ALEXANDER YEWDALL.
- Lecturer in Finishing and Cloth Analysis: W. LAW.
- Lecturer in Textile Testing: FOSTER PICKLES.
- Assistant Lecturer in Textile Design: W. A. FARLEY.
- Research Chemist and Physicist:
  - E. A. FISHER, M.A., B.Sc., Cambridge, A.I.C.
- Museum Assistant and Assistant Designer for Figured Fabrics: MISS C. BENTON.

Colour Chemistry and Dyeing

Professor : ARTHUR G. PERKIN, F.R.S., F.I.C.

Lecturer and Research Chemist: R. B. FORSTER, A.R.C.S.I., Ph.D., D.Sc., F.I.C.

Lecturer in Dyeing and Research Assistant: PERCIVAL E. KING.

Assistant Lecturer and Demonstrator in Colour Chemistry: W. G. SEWELL, B.Sc., Leeds.

Research Assistant: R. F. CARDNO.

Demonstrators: E. J. CROSS, B.Sc., London. C. DAVIS, B.Sc., Leeds.

Museum Curator: MISS M. CASSON.

Leather Industries

Professor of Applied Chemistry (Chemistry o, Leather Manufacture): DOUGLAS McCANDLISH, M.Sc., Leeds.

Assistant Lecturers and Demonstrators: W. R. ATKIN, M.Sc., Leeds. F. C. THOMPSON, M.Sc., Leeds. Demonstrator: A. M. HEY, B.Sc., Leeds.

Special Assistant : H. WHITE.

Procter International Research Labor-

Honorary Director: Emeritus Professor HENRY R. PROCTER, D.Sc., Leeds, F.I.C.

Research Assistant: F. C. THOMPSON, M.Sc., Leeds.

Agriculture .

atory .

Professor: ROBERT S. SETON, B.Sc., Edinburgh.

Professor of Agricultural Chemistry: Vacant.

Lecturer in Agriculture: CHARLES F. ARCHIBALD.

Assistant Lecturers and Demonstrators:

J. A. MCMILLAN, B.Sc., Edinburgh.

C. G. A. ROBERTSON, M.A., B.Sc., Aberdeen.

District Lecturers in Agriculture :

H THOMPSON, B.Sc., Leeds and Victoria.

- D. B. JOHNSTON-WALLACE, B.Sc., Durham, N.D.D.
- J. STRACHAN, M.A., B.Sc., Aberdeen, N.D.A.

J. C. LYNN, B.Sc.

Agriculture

Lecturer in Agricultural Chemistry and Advisory Chemist:

\*W. GODDEN, B.Sc., London, A.R.C.S., F.I.C.

Assistant Lecturers:

N. M. COMBER, B.Sc., London, A.R.C.S., A.I.C.

J. A. HANLEY, Ph.D., Munich, A.R.C.S.

Lecturer in Agricultural Botany and Advisory Mycologist :

\*W. A. MILLARD, B.Sc. Bristol.

Assistant Lecturers in Agricultural Botany: Miss LORNA I. SCOTT, B.Sc., London. F. T. BENNETT, B.Sc., London.

Demonstrator in Agricultural Botany : S. BURR.

Lecturer in Agricultural Zoology and Advisory Entomologist :

\*T. H. TAYLOR, M.A., Royal University of Ireland.

Assistant Lecturer:

H. W. THOMPSON, M.Sc., Leeds.

Lecturer in Veterinary Hygiene: II. G. BOWES, F.R.C.V.S.

Lecturer and Demonstrator on Poultry Keeping : FRED W. PARTON.

Assistant Instructress : Miss M. C. MEIN.

Poultry Assistant: Miss P. M. L. CASTLE.

Lecturer in Farm Economics : A. G. RUSTON, B.A., B.Sc., London,

D.Sc., Leeds. Lecturer and Organiser in Horticulture :

ALEXANDER S. GALT.

Instructors in Practical Horticulture :

J. W. EVES.

W. LODGE.

G. C. JOHNSON. G. H. COPLEY.

Assistant Instructor: FRANK REDINGTON.

Instructress in Dairy Work: Miss ANNIE D. McKERROW.

Assistant Instructress: Miss A. MCGLASHAN, N.D.D. Instructor in Farriery: W. JONES ANSTEY.

\* Advisory Officer under the Scheme of the Ministry of Agriculture and Fisheries for the Provision of Technical Advice to Farmers.

## FACULTY OF MEDICINE

**Dean of the Faculty** Professor JAMIESON.

Clinical Sub-Dean C. W. VINING, M.D., M.R.C.P., D.P.H.

> Dental Warden W. S. THORBURN, L.D.S.

Anatomy

Professor: J. KAY JAMIESON, M.B., C.M., Edinburgh.

Demonstrators :

F. R. LAW, M.B., B.S., London, M.R.C.S., L.R.C.P.

11. V. HORSFALL, M.B., Ch.B., Leeds. H. W. SYMONS, M.B., Ch.B., Leeds.

Honorary Demonstrators: W. CUTHBERT MORTON, M.A., M.D., Edinburgh, C.B.E. A. RICHARDSON,\* M.B., B.S., London, F.R.C.S.

Physiology and Histology Professor of Physiology and Bio-Chemistry: HENRY S. RAPER, C.B.E., D.Sc., M.B., Ch.B., Leeds.

Lecturer in Physiology and Bio-Chemistry : GEORGE WINFIELD, M.A., Cambridge.

Lecturer in Experimental Physiology and Experimental Pharmacology: R. J. S. McDOWALL, M.B., Ch.B., Edinburgh.

Demonstrator in Bio-Chemistry: H. D. KAY, O.B.E., B.Sc., Manchester.

Demonstrator in Experimental Physiology:

C. A. BOTWOOD, M.B., Ch.B., Leeds. Demonstrator in Histology:

Miss E. MORDUE, B.Sc., Durham.

Hon . Demonstrator in Physiology: E. R. FLINT, M.B., Ch.B., Leeds, F.R.C.S.

Pathology and Bacteriology Professor and City Bacteriologist : MATHEW J. STEWART, M.B., Ch.B., Glasgow, M.R.C.P.

Lecturer in Bacteriology: J. W. McLEOD, O.B.E., M.B., Ch.B., Glasgow.

\* See note under heading "Clinical Lecturers" on p. 106.

Pathology and

Bacteriology Lecturer in Pathology:

W. MACADAM, M.A., B.Sc., M.D., Ch.B., *Glasgow*, M.R.C.P., D.P.H., *Cambridge*.

Lecturer on Pathology of Industrial Diseases :

P. L. SUTHERLAND, M.B., Ch.B., Glasgow, D.Sc.

Demonstrators in Pathology :

J. GORDON, M.B., Ch.B., Leeds.

H. V. PHELON, M.B, Ch.B., Leeds.

Demonstrator in Bacteriology and Public Health: G. A. WYON, B.Sc., London, M.D., Ch.B., Edinburgh.

Demonstrator in Pathology and Bacteriology: H. H. GLEAVE, M.B., Ch.B., Leeds.

Honorary Fellow in Pathology: ROBERT CATTLEY, B.Sc., Cambridge, M.B., C.M., Edinburgh, D.P.H.

Honorary Demonstrator in Medical Pathology: R. A. VEALE,\* B.A., Oxford, M.D., B.S., London, M.R.C.P.

Honorary Demonstrator in Surgical Pathology: J. A. COUPLAND,\* M.B., B.S., London, F.R.C.S.

- Honorary Demonstrator in Clinical Pathology: Vacant.
- Research Assistant : Vacant.

Honorary Demonstrators in Pathology :

CLARA E. STEWART, M.B., B.S., London.

O. C. GRÜNER, M.D., B.S., *London*, M.R.C.S., L.R.C.P.

Medicine and Clinical Medicine Professor : T. WARDROP GRIFFITH,\* C.M.G., M.D., C.M., Aberdeen, F.R.C.P.

Lecturer in Pharmacology and Therapeutics: W. H. MAXWELL TELLING,\* M.D.,

F.R.C.P. Demonstrator in Pharmacy and Materia Medica:

Jemonstrator in Pharmacy and Materia Medica: J. H. GOUGH.

Honorary Demonstrator in Pharmacology and Therapeutics: Vacant.

Honorary Demonstrator in Pharmacology: Vacant.

Medical Tutor: J. le F. C. BURROW, M.B., Edinburgh, M.R.C.P.

\* See note under heading "Clinical Lecturers" on p. 106.

Surgery and Clinical Surgery .	Professor: Sir BERKELEY G. A. MOYNI- HAN,* K.C.M.G., C.B., M.S., London, F.R.C.S.
	Honorary Demonstrator : J. A. COUPLAND,* M.B., B.S., London, F.R.C.S.
	Surgical Tutor: E. R. FLINT, M.B., Ch.B., Leeds, F.R.C.S.
Practical Surgery	Lecturer: J. F. DOBSON,* M.S., London, F.R.C.S.
Operative Surgery	Lecturer : H. COLLINSON,* C.B., C.M.G., D.S.O., M.B., M.S., London, F.R.C.S.
Obstetrics	Professor: E. O. CROFT, M.D. Durham, M.R.C.S., L.R.C.P.
	Honorary Demonstrator in Clinical Obstetrics: W. GOUGH, B.Sc., M. B., B.S., London, F.R.C.S.
Gynæcology .	Lecturer: C. OLDFIELD,* M.D., London, M.R.C.P., F.R.C.S.
	Honorary Demonstrator in Obstetrics and Gynæ- cology: Vacant.
Administration of Public Health .	Professor : J. JOHNSTONE JERVIS, M.D., Edinburgh, D.P.H., London.
	Honorary Demonstrator: Vacant.
Forensic Medicine	Professor: F. W. EURICH, M.D., C.M., Edinburgh.
	Honorary Demonstrator in Toxicology : Vacant.
Ophthalmology .	Lecturer : H. LEE,* B.A., M.B., B.Ch., Cambridge, F.R.C.S.
Otology	Lecturer : E. W. BAIN*, M.B., B.S., London, F.R.C.S.
Mental Diseases .	Professor : J. SHAW BOLTON, M.D., D.Sc., London, F.R.C.P.
Vaccination	Instructor: F.W. M. GREAVES, M.B., Ch.B., Victoria, D.P.H.
Anæsthetics .	Lecturer : DOUGLAS SEATON, M.B., Ch.B., Victoria.

\* See note under heading "Clinical Lecturers" on page 106.

## **Clinical Lecturers**

(In addition to those of the above Professors, Lecturers and Honorary Demonstrators whose names are marked with an asterisk to denote that they take part in the Clinical teaching.)

C W WATCON M.D. L. L. F.D.C.D.

medicilie	• •	C.	W. VINING, M.D., London, M.R.C.P., D.P.H.
Surgery		W. S. L.	ALTER THOMPSON, F.R.C.S. W. DAW, M.B., B.S., London, F.R.C.S. R. BRAITHWAITE, M.B., Ch.B., Victoria, F.R.C.S.
Obstetrics Gynæcolo	and ogy	W.	MACGREGOR YOUNG, M.A., M.D., Glasgow. rs. RHODA ADAMSON, M.D., B.S., London.
Otology	• •	W.	MAXWELL MUNBY, Ch.M., <i>Edinburgh</i> , F.R.C.S.
Infectious	Disease	s A.	E. PEARSON, M.R.C.S., L.R.C.P.E.

Venereal Diseases J. P. BIBBY, M.B., Ch.B., Leeds, M.R.C.P.

#### Lecturers in the School of Dentistry

Dental Surgery .	GEOFFREY A. PHILLIPS, L.D.S.
Operative Dental Surgery	STEPHEN D. HEY, L.D.S.
Dental Anatomy and Physiology	J. W. MAWER, L.D.S.
Dental Mechanics	CHARLES RIPPON, L.D.S.
Dental Metallurgy	WILLIAM LOWSON, B.Sc., London and Leeds, F.LC.

#### Clinical Dental Lecturers

PERCIVAL T. LEIGH, L.D.S. WALTER MARSTON, L.D.S. STEPHEN D. HEY, L.D.S. DAVID SAVILLE, L.D.S. JAMES W. MAWER, L.D.S. GEOFFREY A. PHILLIPS, L.D.S. W. SINTON THORBURN, L.D.S. H. A. MAHONY, L.D.S. J. P. COCKER, L.D.S. G. C. GRUNDY, L.R.C.P., M.R.C.S., L.D.S. G. L. WILKINSON, L.R.C.P., M.R.C.S., L.D.S.

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## University Appointments Board

Demonstrator in Clinical Dentistry: Vacant. Honorary Demonstrator in Dental Histology: J. P. COCKER, L.D.S. Dental House Surgeon: E. A. ROGERSON, L.D.S. Assistant Curator: S. J. CUNNINGHAM.

#### University Tutorial Classes

Staff Tutors : A. H. DAINTON, M.A., Oxford. G. W. GIBSON, M.A., Leeds. A. N. SHIMMIN, M.A., Manchester. D. STEWART, M.A., Ireland. J. R. TAYLOR, M.A., Edinburgh. N. WALKER.

# University Library

Librarian: RICHARD OFFOR, B.A., London.

Assistants : Miss F. M. EKINS, Miss F. E. WRIGHT, G. WOLEDGE, G. WRIGHT, F. BECKWITH.

### Medical School Library

Honorary Librarian : Emeritus Professor J. B. HELLIER, M.D., London, M.R.C.S.

# University Appointments Board

Secretary: W. R. GRIST, B.Sc., London. Iutermediate Clerk: Miss D. E. CALVERT.

## University Parliamentary Constituency

Registration Officer : F. T. BAINES, B.A., Cambridge. Halls of Residence

# Halls of Residence for Men

Gledhow Hall, Roundhay Warden : Professor J. STRONG, M.A., London, LL.D., St. Andrews, C.B.E., F.R.S.E.

> De Grey Hall, De Grey Terrace Warden: W. A. MILLARD, B.Sc., Bristol. Sub-Warden: H. W. THOMPSON, M.Sc., Leeds.

# Halls of Residence for Women

University Hall Warden : Miss BARBARA E. GWYER, M.A., Oxford. Sub-Warden : Miss SYBIL GOULDING, B.A., Oxford.

Lyddon Hall Warden : Miss AGNES B. MARCHBANK. Sub-Warden : Miss LORNA I. SCOTT, B.Sc., London.

College Road Hall Waraen : Miss JANE HOLGATE, B.A., Leeds.

Weetwood Hall Warden : Mrs. W. O. REDMAN KING, B.Sc., Leeds. Honorary Warden : Miss BARBARA E. GWYER, M.A., Oxford.

> Oxley Hall Warden : Mrs. F. W. MOORMAN. Sub-Warden : Miss AGNES SHORE.

Administrative Staff

# Administrative and General

Vice-Chancellor: Sir MICHAEL SADLER, K.C.S.I., C.B., LL.D., Litt.D.

Private Secretaries: Miss G. V. M. SELBY, Miss M. E. GILBERT.

> Registrar and Secretary: A. E. WHEELER.

Private Secretary and Committee Clerk: Miss G. ILLINGWORTH. Assistant Secretary: J. J. ILETT.

Accountant :

G. R. BRENCH.

Assistant Accountant: H. W. MERRELL.

Chief Bookkeeper: J. BELL.

Clerk to the Senate: F. T. BAINES, B.A., Cambridge

Senior Clerks: Miss N. S. BENNETT, A. BATT, Miss L. WESTON.

Intermediate Clerks: Miss M. ILLINGWORTH, Miss D. BOOTH, Miss M. LORAINS.

Junior Clerks : Miss H. M. NOXON Miss D. LILEY Miss A. KIRBY Miss N. YATES Miss J. TAYLOR Miss M. SAUNDERS Miss K. L. VICKERS

> Photographer: J. MANBY.

CLERK OF WORKS: WILLIAM R. PRINCE.

> ENGINEER: J. A. BRISCOE.

ELECTRICIAN : G. W. PRIESTMAN.

### External Examiners

# **External Examiners**

## Faculty of Arts

Greek: To be appointed.

- Latin: W. C. SUMMERS, M.A., Firth Professor of Latin, University of Sheffield.
- English Language: C. T. ONIONS, M.A., Joint Editor of the Oxford English Dictionary, Oxford.

English Literature : D. NICHOL SMITH, M.A., Goldsmith's Reader in English, University of Oxford.

French: To be appointed.

- German: J. G. ROBERTSON, M.A., B.Sc., Ph.D., Professor of German, University College, London.
- Russian: G. A. BIRKETT, M.A., Lecturer in Russian, University of Sheffield.
- Spanish : J. N. BIRCH, B.A., Hughes Lecturer in Spanish, University of Sheffield.
- Hebrew: Rev. PAUL LEVERTOFF, House of the Resurrection, Mirfield.
- History: Honorary Professor J. TAIT, Litt.D., Victoria University of Manchester, and

Sir GEOFFREY BUTLER, K.B.E., M.A., Fellow of Corpus Christi College, Cambridge.

Geography: P. M. ROXBY, B.A., Professor of Geography, University of Liverpool.

Philosophy: To be appointed.

- Economics: Professor D. H. MACGREGOR, M.A., Professor of Economics, Victoria University of Manchester.
- Education: C. W. VALENTINE, M.A., D.Phil., Professor of Education, University of Birmingham.
- Music: W. G. WHITTAKER, Mus.Bac., Armstrong College, Newcastle-upon-Tyne.
- Law: W. F. TROTTER, M.A., LL.D., K.C., Professor of Law, University of Sheffield.

### Faculty of Science

Mathematics: To be appointed.

*Physics*: J. TOWNSEND, F.R.S., Professor of Physics, University of Oxford.

Chemistry: To be appointed.

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- Zoology: J. H. ASHWORTH, D.Sc., F.R.S., Professor of Zoology, University of Edinburgh.
- Botany: F. W. OLIVER, F.R.S., Professor of Botany, University College, London.
- Geology: T. FRANKLIN SIBLY, Principal of University College, Swansea.

### Faculty of Technology

Engineering: W. H. WATKINSON, M.Eng., M.I.C.E., M.I.M.E., Harrison Professor of Engineering, The University of Liverpool.

Electrical Engineering: Dr. W. E. SUMPNER, Municipal Technical School, Birmingham.

Mining: To be appointed.

Leather Industries : J. R. BLOCKEY, M.Sc., St.-Annes-on-Sea.

Fuel and Metallurgy: To be appointed.

Gas Engineering: THOMAS GRAY, D.Sc., Ph.D., Young Professor of Technical Chemistry, Royal Technical College, Glasgow.

Colour Chemistry and Dyeing: R. ROBINSON, D.Sc., Professor of Organic Chemistry, The University of Liverpool.

Agriculture: To be appointed.

### Faculty of Medicine

Anatomy : W. WRIGHT, M.D., London Hospital Medical College.

- Physiology: J. B. LEATHES, F.R.S., Professor of Physiology, University of Sheffield.
- Materia Medica and Pharmacy, Pharmacology and Therapeutics: W. E. DIXON, M.A., Professor in Pharmacology, The University of Cambridge.
- Pathology and Bacteriology and Actiology of Disease: J. H. TEACHER, M.A., M.D., Professor of Pathology, University of Glasgow.

Forensic Medicine and Toxicology: To be appointed.

Public Health : CHARLES PORTER, M.D., Public Health Department, Marylebone Road, London, N.W.I.

Medicine and Mental Diseases : To be appointed.

Surgery : E. GORDON TAYLOR, M.A., F.R.C.S.

Obstetrics and Gynacology: T. G. STEVENS, M.D., F.R.C.S., St. Mary's Hospital Medical School, London.

Psychological Medicine: R. PERCY SMITH, M.D., B.S., F.R.C.P., St. Thomas' Hospital Medical School, London.

Dental Subjects : To be appointed.

# THE UNIVERSITY OF LEEDS

### Session 1921-1922

# Faculties of Arts (including Commerce and Law), Science and Technology

## UNIVERSITY TERMS

The University session, or academic year, is divided into three terms. The first term begins on Monday, October 3, 1921, and ends on Thursday, December 22, 1921; the second term begins on Thursday, January 12, 1922, and ends on Wednesday, March 22, 1922; the third term begins on Thursday, April 20, 1922, and ends on Saturday, July 1, 1922.

## ADMISSION OF STUDENTS

The classes and laboratories are open to men and women on the same terms. Special arrangements are made to meet the convenience of women students.

Except in cases approved by the Vice-Chancellor, students must have reached the age of 17 before coming to the University.

All candidates for admission to the University are required to give a reference of whom inquiry may be made. Those who are under 19 years of age and have been at a school or other educational institution within one year of their application for admission are required to produce a certificate of good conduct and of fitness for entrance to the University from the Head Master or Head Mistress of the School, or from the Head of the Institution which they have last attended.

In all cases students are urged to consult their Head Master or Head Mistress before presenting themselves for admission to the University. Premature entry upon a University course is greatly to be deprecated. While the University has not thought fit to raise the minimum age for admission at the present time, such action may be taken in future years, and in the meantime applications from students below 17 will be considered with special care, and power is retained to refuse admission on grounds of immaturity even in the case of those who have passed the Matriculation Examination.

Applications for admission to the University from persons residing out of the United Kingdom, must in all cases be accompanied by certificates of good conduct duly authenticated. Indian students are, in addition, required to produce certificates of identity. It is generally desirable that such certificates should be furnished by all students from foreign countries.

Students are required, prior to admission, to sign a declaration that they will observe the statutes, ordinances, and regulations of the University for the time being in force.

The Vice-Chancellor will admit students on MONDAY, OCTOBER 3rd, from 9.30 a.m. to 12.30 p.m. and from 2 p.m. to 5 p.m., and on TUESDAY, OCTOBER 4th, during the same hours. The Professors and Lecturers will be present to confer with intending students and to give them advice respecting their courses of study. Women students are requested to consult the Tutor of Women Students as to their studies before presenting themselves to the Vice-Chancellor. The Accountant will be in attendance to receive the fees and to register students whose courses of study have been duly approved.

All students (excepting those entering the department of Agriculture) are expected to register their names on one of the days mentioned above.

## **REGULATIONS TO BE OBSERVED BY STUDENTS**

1. All students in regular attendance who are not living with their parents, or with relatives or personal friends, will be required to reside either at some Hall of Residence or Hostel approved by the University, or in registered lodgings, or in lodgings which, if not registered when taken by the student, shall receive the approval of the University. Students taking lodgings which have not been registered are required to report immediately to the Office the address of such lodgings.
2. Students who do not return punctually at the beginning of the term are liable to be refused permission to keep the term. In case of delay in entering, due to illness or other unavoidable cause, a communication must be made to the Vice-Chancellor.

3. When a student is absent through illness or other unavoidable cause a written explanation must at once be sent to the Vice-Chancellor, who will communicate it to the heads of the departments concerned. Students desiring leave of absence must obtain it from the Vice-Chancellor.

4. Students are required to keep the Registrar informed of their addresses. Any alteration of address must be communicated without delay.

5. Students are required to provide themselves with the books used in the classes which they attend, and with a copy of the University Calendar.

6. A student dismissed for idleness or misconduct will forfeit all fees and privileges.

7. Students are required to replace or repair any apparatus or other property destroyed or damaged by their fault.

8. The Students' Common Rooms are under the management of the University Union, and the Committee of the Union are empowered to impose fines in case of damage done to the property in their charge. An appeal against any decision of the Union may be made to the Senate.

9. All students of the University who are reading for degrees are required to enter their names in the Matriculation Register. On attending at the Office for this purpose, students must produce a certificate of having passed the Matriculation examination or of having been exempted therefrom.

ro. No student is permitted, except with the leave of the Vice-Chancellor, to attend any lecture course or laboratory work until he has received from the Accountant his class ticket, which must be presented, before his course of study is begun, to the heads of the departments which he enters 11. All students are required to present themselves for the class examinations in the subjects which they have been taking, and if they fail in these examinations they may be required to repeat their courses of study. In cases of repetition of courses the full fees will have to be paid for the repeated course.

12. Students will not ordinarily be permitted, while attending courses at the University in any Faculty except that of Law, to keep terms at the Bar during their courses of study.

13. Students are not at liberty to publish, except with the specific consent of the head of the department, the results of research work done in the University, or to publish any matter given in the lectures.

### Vacation Study

The Senate desire it to be understood that study is expected from students during vacations. Arrangements are made by which the laboratories are open during a portion of the Long Vacation to students capable of independent work. Application for admission must be made to the heads of departments, with whom the decision as to the suitability of students for admission rests.

In many cases the vacation time of students in technical departments can be most profitably employed in obtaining practical experience in works. Assistance to obtain admission to works will, so far as practicable, be given by the Professors. In other cases, before the vacation begins, Professors and Lecturers will be prepared to make recommendations to students as to the private study which should be carried on during the vacation in preparation for the next session.

# ENTRANCE EXAMINATIONS

# I. For Degree Students

All students who intend to present themselves as candidates for a degree in the University of Leeds are required, before entering upon their degree course, to produce a certificate of having passed the Matriculation examination conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham, or a certificate of exemption therefrom. The conditions which entitle a student to exemption from the Matriculation examination are fully set forth in the Matriculation syllabus. Such applications for exemption from the Matriculation examination, as are based on special grounds and are not met by the conditions set forth in the Matriculation syllabus, are considered by the Joint Board through its Applications Committee.

The Matriculation examination is held at each University in July and September. Candidates are required to satisfy the examiners in: (1) English Composition and Literature. (2) English History. (3) Mathematics. (4) *Three* of the following, one of which must be a language: (i) Greek; (ii) Latin; (iii) French; (iv) German; (v) Some one other Language approved by the Board; (vi) Mechanics; (vii) Physics; (viii) Chemistry; (ix) Geography (Physical, Political and Commercial); (x) *Either* Natural History (Plants and Animals) or Botany; (xi) General Experimental Science.

Candidates will not be admitted to the courses of study for the degree of Bachelor of Arts unless they have (1) passed the Matriculation examination in Latin, or (2) given evidence of possessing a knowledge of Latin equivalent to that required at the Matriculation examination.

A complete syllabus of the examination may be obtained from the Secretary, the Joint Matriculation Board, 315, Oxford Road, Manchester, to whom also should be addressed all applications for exemption from the Matriculation examination.

# 2. For other Students

Students under seventeen years of age who wish to pursue a course of study in the day classes of the University without proceeding to a degree are required, before entering, to have satisfied *one* of the following requirements :

(a) To have passed the Matriculation examination.

- (b) To have passed some other public examination approved by the Vice-Chancellor.
- (c) To have gained a scholarship or exhibition awarded by the University after open competition.
- (d) To have passed an Entrance examination in each of the following subjects: Arithmetic, including decimals and proportion; Algebra, to simple equations; Geometry, the first book of Euclid or its equivalent; English Composition and Dictation.

This examination will be held on Tuesday, October 4th, 1921, the English subjects at 10 a.m., and the Mathematical subjects at 2 p.m.; and no subsequent examination for entrance will be held during the session. No candidate can be examined whose name has not been notified to the Clerk to the Senate by the morning of Monday, October 3rd.

The Vice-Chancellor may dispense with the requirement of an entrance examination in the case of students who are presenting themselves for one or two lecture courses only.

# DEGREE COURSES

Candidates for degrees in Arts, Commerce, Law and Science are ordinarily required (a) to have completed not less than three years of study in the University, all of which must be subsequent to the date of passing the Matriculation examination, and (b) to have passed prescribed examinations in the subjects of study. Full particulars of the requirements of the University in these respects will be found in subsequent pages.

### FEES

All Fees are payable to the Accountant. Cheques should be made payable to "The University of Leeds," and crossed & Co."

The University reserves the right to revise the fees specified below at any time, whether in the case of new students or those who have already begun their courses.

### I. Registration Fee

All students proposing to attend at the University for more than six hours a week are required to pay a Registration Fee of  $\pounds_2$  when their application for admission to the University is accepted.

### 2. Library Fee

Students who have paid a composition fee for the year, or have paid class fees of  $\pounds_4$  or upwards, are entitled to the use of the Library during the session without further payment. All other day students will be admitted to the use of the Library on payment of 2s. 6d. a term or 5s. a session, in addition to their class fees.

### 3. University Union Fee

Students attending the University for more than six hours a week, who have not paid the composition fee for the year will, except in special cases to be determined by the Vice-Chancellor, be required to pay to the Accountant at the beginning of each session a subscription of  $\pounds 2$  to the University Union. This subscription entitles students to the use of the Common Rooms (which are supplied with daily papers, periodicals, &c.), to free instruction in the University gymnasium, and to the use of the athletic grounds, fives courts and tennis courts.

### 4. Lecture and Laboratory Fees

### (a) General Regulations

The fees for lecture and laboratory courses are payable in advance. On presentation of a form signed by the Dean of the Faculty authorising attendance upon courses of study, and upon payment of fees, the Accountant will supply a class ticket entitling the student to attend such courses. This class ticket must be presented by the student, before commencing attendance, to the Professors or Lecturers whose classes or lectures he is authorised to attend.

In the case of the withdrawal from the University of any student during the session, no claim to a return of fees is recognised.

# (b) Composition Fees for Complete Courses\*

N.B.—Any student attending a degree course, or any other course which is regarded as a full course, will be required to pay the composition fee appropriate to the Faculty in which he is a student.

Students who have paid a composition fee of  $\pounds 33$  or upwards will be admitted without further charge to any additional classes for their attendance at which they have obtained the sanction of the Vice-Chancellor and the Head of the Department.

Arts.  $f_{33}$  each session.

Science.  $f_{.41}$  each session.

Technology. £45 each session.

In the case of students who have paid a composition fee for three successive years, the fee for a fourth year, in the same Faculty, will be reduced as follows:—

Arts.  $\pounds_{27}$  a session. Science.  $\pounds_{33}$  a session. Technology.  $\pounds_{37}$  a session.

Students entitled to this reduction must inform the Accountant at the time they pay their fees.

Students who attended as full-time students before the beginning of the session 1920-21 will be allowed a reduction on the new composition fee as follows :----

Arts. £28	(or $\pounds 23$ for a fo	ourth or	later yea	ır).
Science. £.	36 (or £29	"	"	).
Technology.	$\pounds$ 40 (or $\pounds$ 33	,,	**	).

Mathematics. Candidates for the degree of B.Sc. with Honours in Mathematics will pay: first year,  $\pounds,41$ ; second year,  $\pounds,41$ ; third year,  $\pounds,33$ ; fourth year,  $\pounds,27$ .

<sup>\*</sup> These fees include the subscription to the University Union unless otherwise stated.

Students in the Faculty of Arts who take classes or laboratory work or both in the Faculty of Science for more than nine hours a week will be charged the composition fee for Science.

The composition fee for Applied Science (Technology) will be applicable to all students whose courses of study entail an average attendance of six hours a week or more per session in one or more of the Technological departments.

Students who have paid the composition fee, and who have been allowed to work in one of the laboratories during the vacation, will be charged an additional fee (see section (c) Fees).

Geography. Diploma Course:

(a) If completed in one year,  $\pounds_{22}$ .

(b) If spread over two years,  $\pounds_{13}$  a year.

Social Organisation and Public Service. Diploma Course (including practical work),  $f_{.26}$  a year.

NOTE.—Non-Diploma students taking advantage of the facilities for Practical Social work will be charged a fee of  $\pounds_3$  a year.

*Education.* Three year Course for recognised students in training,  $\pounds_{,19}$  10s. a session.

Course for Diploma in Education,  $\pounds_{22}$  a session.

One year Course or Continuation School Course,  $\pounds_{40}$  the session (reduced in cases where a grant is payable by the Board of Education).

Law (excluding Union Fee).

(1) Degree of LL.B.

Intermediate Course.  $\pounds_{12}$  12s. for the session.

Final Course (covering two sessions), £21.

(2) Final examination of the Law Society.

 $\pounds_{21}$  to be paid at the beginning of the first year of the Final Course.

Students may enter for both the Final LL.B. Course and the Final Course for the Law Society's examination on payment of one composition fee of  $\pounds_{21}$ , to be paid at the beginning of the first year of the Final Course in either case.

# Agriculture. Special Winter Course, $\pounds_{20}$ . Summer Course, $\pounds_{10}$ .

Agricultural students who are preparing for the B.Sc. degree will be charged the Science composition fee in the first year and the Technological composition fee in later years.

First Examination in Medicine and First Examination in Dental Surgery. (Parts 1 and 2.) £41.

Conjoint Board First Examination. £41.

Preliminary Examination in Science for the Diploma in Dental Surgery.  $\pounds_{25}$  for first and second terms. Students who elect to continue attendance in the third term will be charged an additional fee of  $\pounds_7$ .

Master of Arts, Science or Education.

Registration fee,  $\pounds_2$ .

- Fees at the usual scale for any attendance at lectures or classes in the University, provided that the minimum fee payable by any candidate shall be  $\pounds_4$  4s.
- (b) In the case of candidates who are graduates of the University of Leeds :---

No Registration fee.

Fees at the usual scale for any classes attended.

Doctor of Philosophy (Ph.D.) (excluding Union fee). Fees for supervision:  $\pounds 8$  in the Faculty of Arts, and  $\pounds 12$  in the Faculties of Science and Technology, per session.

# (c) Fees for lectures and laboratory work when paid for separately.

Fees

The following fees will be charged for lectures and laboratory work when paid for separately, except in the case of classes for which a special fee has been fixed.

First lecture hour per week in a course ...  $\pounds_4$  per session. Each hour per week beyond the first ...  $\pounds_2$  ,, Each hour per week of laboratory work ...  $\pounds_2$  ,,

For two terms three-quarters of these amounts will be charged. For one term half of these amounts will be charged.

Students who are deemed by the head of the department concerned to be capable of independent work may be admitted to work in vacations only (during such times as the laboratories are open), on the following scale of fees:—

I	day a	week			£I	IO	0	per month
2	days	"			£3	0	0	
3	,,	"			£4	ΙO	0	,,,
4	,,	,,	and up	wards	£6	0	0	,,,

For students who have paid a Composition Fee in the same session, half the above rates.

# (d) Fees for Research Students

Persons desiring to pursue original research may be admitted as research students to any of the University laboratories upon the following conditions :---

(1) Applications for admission as research students must be made to the head of the department concerned. The admission is subject to the approval of the Senate.

(2) Graduates and advanced students will, if admitted as research students, be charged  $\pounds_{12}$  a session,  $\pounds_4$  a term,  $\pounds_2$  a month (four weeks) in term or vacation. This scale will in no case apply to students preparing for a Bachelor's degree unless they have completed the third year course of study in the University. (3) Persons prosecuting private industrial investigations will, if admitted as research students, be charged  $\pounds 6$  a month with additional charge for any special expenditure incurred by the University in connexion with the research.

(4) Research students who attend for short periods only will not be charged the library fee unless they wish to use the library. They will not be entitled to the use of the students' Common Rooms except on payment of the subscription to the University Union.

### 5. Examination Fees

No fee will entitle to admittance to more than *one* examination. Unless otherwise stated, the fee for a second or subsequent examination is the same as that for the first.

For the Matriculation examination,  $\pounds z$ ; but a candidate who has failed in the July examination in any year will be admitted to the September examination in the same year for  $\pounds I$  I os.

For the Intermediate examination for the degree of B.A., or B.Sc., or LL.B., or B.Com.,  $\pounds_3$ .

For the Final examination for the Ordinary or Honours degree of B.A. or B.Sc., or LL.B., or B.Com.,  $\pounds_3$ .

For the Final examination for the Honours degree of B.A. or B.Sc., in cases where no fee has been paid for the Intermediate examination,  $\pounds 6$ .

For the Final examination for a degree in Honours when the Ordinary Final examination has previously been taken,  $\pounds_3$ .

For the examination or report upon dissertation for the degree of M.A., M.Sc., M.Ed. or LL.M.,  $\pounds_3$ .

For the examination or report upon dissertation for the degree of Litt.D., or D.Sc., or LL.D., or Ph.D.,  $\pm 6$ .

For the examination in Education for the Government Certificate, 5s.

For the Final examination for any Diploma in the Faculties of Arts, Science and Technology (including the final terminal examination in cases where students are not taking any special examination in the main subject of study),  $\pounds_3$ .

Candidates who are allowed to take any examination in two or more parts will be required to pay the full fee for such examination when entering for the first part.

Candidates who, having failed at an Intermediate or Final examination or an examination for a Diploma in Arts or Science, present themselves again for examination will be charged the same fee as that for the first examination. This rule is subject to the following conditions for special cases :—

When the regulations allow a candidate to take part of an Intermediate or Final examination separately, the following fees will be charged for re-examination, viz. :---

- (a) For the additional subject at Intermediate stage for B.A. or B.Sc., 15s.
- (b) For a subsidiary subject at Final stage for B.A. or B.Sc., 15s.
- (c) For the Essay for B.Sc., 15s.
- (d) For a principal subject at Final stage for B.Sc., £3, except in the case of an Honours Candidate who is taking a principal subject as a part of such Honours examination, in which case the fee will be £2.

Students who have graduated in the Faculties of Arts or Science will be required to pay an additional fee of  $\pounds_{I}$  when a Diploma is granted without further examination consequent upon the attainment of their degree.

### 6. Degree Fees

On the conferment of any degree in the Faculties of Arts (including Commerce and Law) and Science,  $\pounds 6$ .

### 7. Medical and Dental Fees

See subsequent pages.

# Entrance Scholarships

# ENTRANCE SCHOLARSHIPS

The following Scholarships, tenable from the commencement of the session 1922-23, at day classes in the University of Leeds, will probably be offered for competition to candidates who have not been registered students of the University. Attendances on University classes or laboratories not exceeding three hours a week in any session will not be held to preclude a student from becoming a candidate for an Entrance Scholarship under this regulation. The latest date of entry for these Scholarships is *April 25th*, after which no application will be received. In most instances they are awarded in connection with the July Higher School Certificate examination. Particulars of conditions, &c., may be obtained on application to the Clerk to the Senate.

Name of Scholarship.		Number offered.		Annual Value of each.	Periods for which tenable.	Departments in which tenable.						
Emsley			One	•••	£20	2 years	Arts, Sci., Tech. exc. Tex.					
Edward	Baines		One	•••	620	2 years	Arts, Sci., Tech. exc. Tex.					
Charles	Wheatley	y	One	• •	£25	3 years	Arts.					
William	Summer	s	One		£35	3 years	Arts.					
Brown			One	•••	£40	2 years	Science, Tech.					
Akroyd			Two		£60	2 years	Science, Tech.					
Craven			One		625	and renewable 3 years	Tech. (Engineering).					
Medical			One	• •	Fees for co (excluding	mplete course clinical instruc	Medicine tion).					

# I. Awarded on Results of Examinations held by the Joint Matriculation Board

# 2. Awarded by Special Examination or Selection

Corbet Woodall	One	£60	3 years and renewable	Tech. (Gas Engineering)
William Cooke & Co.	One	£21	3 years	Tech. (Mining)
*Thos. Broadbent and Sons Ltd.	One	Fees &c., main- tenance allowance	3 years	Tech. (Engineering)

\* The Scholar must have attended evening classes at the Huddersfield Technical College for at least 2 years in succession and completed at least the third year course. In addition to the above Scholarships the University offers a certain number of Advanced or Senior Scholarships, full particulars of which are given in the Scholarship Prospectus.

Scholarships tenable at the University of Leeds in scientific and technical subjects, (including Agriculture) as well as in Arts subjects, are also offered by the Leeds City Council and the County Councils of the North, East, and West Ridings of Yorkshire. In the West Riding, Exhibitions are also offered in Coal Mining and Free Studentships tenable at the University.

In certain cases assistance is offered to students in Evening Classes.

For further information application should be made as follows :----

For Leeds City Council Scholarships: To The Director of Education (Higher Section), Education Department, Leeds.

For West Riding Scholarships and Free Studentships: To The Education Department, County Hall, Wakefield. Applicants should ask for Section X of Part II. of the Handbook of the Education Committee.

For North Riding Scholarships: To The Secretary, Education Offices, County Hall, Northallerton.

For East Riding Scholarships : To The Clerk, East Riding County Council, Beverley.

# OFFICERS' TRAINING CORPS

A contingent of the Senior Division of the Officers' Training Corps was formed at the University in July, 1909, and was accepted by the War Office.

Information as to conditions of membership, &c. may be obtained from the Registrar of the University.

# UNIVERSITY LIBRARY

All registered students who have paid the Library fee (see page 118), or one of the Composition fees set forth on pages 119 to 121, are entitled to the use of the University Library. The Library is open (a) daily during term from 9 a.m. to 5.30 p.m. (on Saturday from 9 a.m. to 1 p.m.); (b) during vacation from 9 a.m. to 5 p.m.

It is closed during one week at Christmas and during the public holidays when the University is closed.

### General Regulations

1. No book shall be removed from the Library unless the borrower shall have first filled in the form provided and handed it to a member of the Library staff.

2. No mark of any kind may be made in the Library books or periodicals. Any loss of, or injury to, a book shall be reported to the Librarian, who shall require the person responsible to pay a sum not exceeding that which will be required to make the loss or injury good.

3. The Librarian, in consultation with the Library Committee, has power to suspend the Library privileges of any person who breaks the rules of the Library.

4. No atlases, dictionaries, or other books with special labels shall be taken out of the Library, except in so far as provided in subsequent paragraphs.

5. No person shall be allowed to take a book out of the Library if he has in his possession any book which he has kept beyond the time allowed by the regulations, or if any fine or charge which he has incurred has not been paid.

6. Persons not members of the University who are engaged in special studies may be given the right to use the Library by the Librarian on payment of 2s. 6d. per session. Unless in special cases, this does not include the right to take out books.

7. The Librarian shall be at liberty to grant special facilities for the use of books during a limited time to any person entitled to the use of the Library.

7*a*. No smoking shall be permitted within the precincts of the Library and the rooms appertaining thereto.

#### Regulations affecting Members of the Academic Staff

8. Any member of the Academic Staff shall be entitled to take out such books as he requires and to retain them until the end of term, unless he receives a notice that any of these books are overdue, in which case such book or books shall be returned without delay to the Library. A book shall be regarded as overdue when it has been in the possession of the borrower for a fortnight and is required by some other person. This regulation shall apply, *mutatis mutandis*, to books taken out at the beginning of, or during, any of the vacations.

9. A book which is not overdue according to Rule 8 may be renewed for the vacation on application in writing to the Librarian.

10. All books must be brought back to the Library at the end of the third term, but books not required by any other person may be renewed on presentation.

II. Current University Calendars and current serials may be taken out of the Library for one night only, and not before 5 p.m. Other unbound serials may be taken out of the Library for a period not exceeding 48 hours.

12. At the close of each session, *i.e.*, between June 15th-20th, notice shall be sent to each member of the Academic Staff of the books which at that date he has still in his possession, and a day named on or before which they must be returned to the Library. In case they are not returned by that day, a second notice shall be sent to the borrower; and, in case the books are not returned within three days after the sending of this notice, he shall be liable to a fine of 2s.6d. for each volume, or, if there be further delay, to be charged with the sum required for the replacing of the missing volume or volumes.

### Regulations affecting present and past Students of the University

13. All graduates of the University and Associates of the Yorkshire College are entitled to the free use of the Library.

14. Students who have paid a composition fee for the year, or have paid class fees of  $\int_{-4}^{-4}$  or upwards, are entitled to the use of the Library during the session without further payment. All other day students will be admitted to the use of the Library on payment of 2s. 6d. a term or 5s. a session, in addition to their class fees.

15. All evening students, and all past students who are not graduates are entitled to the use of the Library on payment of a fee of 2s. 6d. per session.

16. Not more than three volumes, whether of the same or of different works, may be entered to the same person at one time.

17. Every book must be returned to the Library on or before the Saturday in the week following that in which it was taken out. A book may, however, be renewed from week to week until four weeks have elapsed since its first issue, provided that no application for the use of the book by another person has been received in the meantime.

18. All books must be brought to the Librarian for renewal, except when an application for renewal has been made and granted on the day before that on which the return of the book falls due. Applications for renewal may be made personally or by post.

19. At the end of each term all books must be returned to the Library.

20. Books of reference and books which, owing to their constant use, are temporarily placed on the list of books of reference, may not be removed from the Library (except under Rule 21), until after 4 p.m., and then only on condition that they be returned before 10 o'clock on the following morning.

# Special Libraries

21. Students provided with a written recommendation from a Professor or Lecturer shall be entitled to take out books of reference, but books taken out under this rule must be returned to the Library before the person using them leaves the University buildings.

22. Any person borrowing a book under Rule 20 or Rule 21, and failing to return it by the time therein specified, shall be fined 4d. a day, and any person who does not comply with Rule 17, shall be fined 2d. a day for every day a book is kept out after it ought to have been returned. A notice shall be posted to the borrower on the business day following that on which the return of the book was due, informing him that a fine is being incurred.

23. Books may, subject to the provision of regulation 24, be taken out at the beginning of, or during, any of the vacations, and may be retained until the borrower receives notice that they are overdue. A book shall be regarded as overdue when, having been in the possession of the borrower for a fortnight, it is required by some other person. All books taken out at the beginning of the long vacation shall be returned not later than the first of September.

24. Students desiring to borrow books for the vacation are required to procure a recommendation signed by the head of the department concerned or his deputy. Printed forms for this purpose may be obtained from the Librarian.

25. No volume which, in the opinion of the head of the department concerned, should be included in a special list of out-of-print, or especially valuable books, may be taken out of the Library except by the permission of that head of department.

#### Regulations respecting Special Libraries

I. The following are the Special Libraries.—(a) English; (b) French; (c) German; (d) History; (e) Economics; (f) Philosophy; (g) Classics.

2. General Status.—Special Libraries, being departments of the University Library, are subject to the regulations of the University Library, except in so far as modified by the following rules.

3. Admission to Special Libraries.—(a) Academic Staff. A master key of all the Special Libraries shall be issued to the members of the teaching staff, on application to the Librarian.

(b) Students. The Librarian may further give the right of admission to each Special Library, in accordance with the procedure detailed in regulations 4 and 5, to students of the University upon the written recommendation of the professor or head of department.

(c) Occasional Use. The Librarian shall have the power provisionally to admit students to any of the Special Libraries, subject to the approval of the head of the department concerned.

4. *Issue of keys.*—A key shall be issued to students duly recommended in accordance with regulation 3 (b) for the use of a particular library, on payment of a deposit of ten shillings which shall be returned when the key is surrendered. 5. Availability of keys.—Keys thus issued to students are available until the first week of the next session. Permission to retain a key thereafter may be given to students continuing at the University, subject to the approval of the head of the appropriate department. Students desiring to continue the use of the key must accordingly notify the Librarian to that effect. Students who do not return their keys or who do not state their desire to retain them shall be notified by the Librarian, and the deposit, together with the right to the use of the Special Library in question, shall be forfeited if the key is not returned by the end of the month of December.

6. Borrowing of Books.—Members of the Special Libraries may borrow books by filling up a form and placing it in a box provided in the Special Library for the purpose. Such books shall be returned to the assistant in charge in the General Library and the borrower's form received back in exchange. The borrower is responsible for the book as long as the form is retained in the borrower's register. In other respects the same rules shall apply to books borrowed from the Special Libraries as to books borrowed from the General Library.

7. Books not to be removed. — Lists of books which must not be removed from the Special Library or be borrowed by students who are not members thereof, shall be drawn up by the Librarian in consultation with the head of the department.

8. General use.—In all other respects the books in the Special Libraries shall be under the same regulations as books in the General Library and may be consulted by all who are entitled to use the University Library, on application to the library staff.

# UNIVERSITY PARLIAMENTARY CONSTITUENCY

By the provisions of the Representation of the People Act, 1918, the University of Leeds torms part of the English University Constituency, which returns two members to Parliament.

Section 2 of the Act states: "A man shall be entitled to be registered as a Parliamentary elector for a University constituency if he is of full age," *i.e.* 21 years, "and not subject to any legal incapacity, and has received a degree (other than an honorary Degree) at any University forming, or forming part of the constituency."

Section 4 states: "A woman shall be entitled to be registered as a Parliamentary elector for a University constituency if she has attained the age of thirty years and . . . would be entitled to be so registered if she were a man."

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# Academic Dress

The University Court, in the exercise of powers conferred upon it by section 19 of the Act has laid down the following conditions of registration :—

- (a) Persons who have graduated before the passing of the Act (February 6th, 1918), and who are otherwise qualified, will only be entered on the register if
  - i. they make written application to the University.
  - ii. they have paid a registration fee of  $\pounds_1$  if they are not members of Convocation, or of 95. 6d. if they are or became before August 1st, 1918, members of Convocation.
- (b) Persons who graduate at or after Midsummer, 1918, will if they have paid before graduation a special combined fee of  $\mathcal{L}_1$ , be entered on the roll of Convocation and also entered on the Parliamentary Register as soon as they have completed the qualifying age. If this special fee is not paid at the time of graduation, they will be charged a fee of  $\mathcal{L}_1$  for registration as Parliamentary electors.

Claims may be made up to the 31st July and the 31st January in each year and the Register will come into effect from the 1st October and the 1st April following.

Application for registration must be made on the official form, which may be obtained from

The Registration Officer,

The University, Leeds.

Change of address on the part of an elector should be notified promptly to the Registration Officer.

All communications requiring a reply should be accompanied by a stamped addressed envelope.

# ACADEMIC DRESS

All Hoods are to be of a Green shade, combined with Black, White, Scarlet, or with one another, to produce the variations required for the several Degrees, namely :

B.A., a self-coloured Hood of Dark Green shade. B.Com., a Light Green Hood, lined with Dark Green. B.Sc., a self-coloured Hood of Middle Green shade. LL.B., a self-coloured Hood of Light Green shade.

- M.B. and Ch.B., a Hood of Dark Green, lined with Light Green.
- B.Ch.D., a Hood of Dark Green, lined with Middle Green.
- M.A., a Dark Green Hood, with White Lining.
- M.Sc., a Middle Green Hood, with White Lining.
- M.Ed., a Dark Green Hood, with White Lining and Band one inch of Middle Green laid on the White Silk.
- LL.M., a Light Green Hood, with White Lining.
- M.Ch., a Dark Green Hood, edged with Light Green, and lined with White.
- M.Ch.D., a Dark Green Hood, edged with Middle Green and lined with white.

All Bachelors' Hoods are to be lined, and all Bachelors' and Masters' Hoods are to be of the single or Oxford pattern.

The Gown of a Doctor (other than a Doctor of Philosophy) is to be of Scarlet, with facings and sleeve linings of the shade of Green distinctive of his faculty. The Hood is to be of Scarlet, lined with the distinctive shade or shades of Green. The Full Dress Cap is to be of the usual pattern, with a Gold Cord, and a lining of the shade of Green distinctive of the faculty.

The Gown of the Doctor of Philosophy is to be of Green, with sleeve linings of Green, and facings of Green bound with Scarlet. The Hood is to be of Green, lined with Green, and with narrow bindings of Scarlet. The Full Dress Cap will be Black Velvet of the usual pattern.

# ROBEMAKERS TO THE UNIVERSITY

Ede & Ravenscroft, 93 and 94, Chancery Lane, London. Representatives of the firm attend on Degree Days to robe those who are to be presented for degrees.

# ARMS OF THE UNIVERSITY

The Arms of the University are "Vert an open Book proper edged and clasped Gold inscribed with the words 'Et Augebitur Scientia' between in chief three Mullets

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# Lockers

Argent and in base a Rose of the last seeded proper, and for the Crest on a Wreath of the Colours A Greek Sphinx sejant Gules."

# STUDENTS' SOCIETIES

The University Union comprises the Cricket, Football (Rugby and Association), and Tennis Clubs, and undertakes the management of the Gymnasium, the Fives Courts and the Debating Society. Among other University Societies are the Women's Representative Committee, the Literary and Historical Society, the Debating Society, the Education Society, the Cavendish Society, the Natural History Society, the Engineering Society, the Textile Society, the Agricultural Society, the Society for Social Study, the Women's Discussion Society, and the Christian Union.

No Society is recognised as a University Society unless its current rules and regulations have received the sanction of the Senate.

### GYMNASIUM

The Gymnasium is free to all members of the University Union. It is reserved for the use of women students at suitable hours, which, together with those arranged for other classes, will be announced at the beginning of the session.

# LOCKERS FOR COATS AND BOOKS

The use of a coat locker during the whole or part of one session may be obtained for the session, or a part of it, by depositing 10s. with the Hall Porter, who will lend the student a key, which will, however, remain the property of the University. A charge of 5s. per session will be made, the balance of the deposit money being repaid when the key is returned, provided the return be made not later than one week after the end of the session.

Smaller lockers, for books, &c., are also provided, and the use of one of these may be obtained on a deposit of 7s. for the session or term, 5s. of which will be repaid on the above conditions being complied with.

# Refectory

A student will be charged for any damage done to the lockers while in his possession, or for loss of keys. The loss of a key should be immediately reported to the Hall Porter.

# LODGING AND BOARDING HOUSES

A Register of approved lodging-houses is kept at the University, and printed lists can be sent at any time to parents, guardians, or students who desire to take lodgings.

If a student takes lodgings which are not already on the register, he must immediately apply to the Registrar for a form of application for registration of lodgings. This form must be filled in and returned at once, when the lodgings will be visited on behalf of the University, and if they do not satisfy the prescribed conditions the student will be required to leave them.

No back-to-back houses will be regarded as fulfilling the prescribed conditions.

All communications with regard to lodgings should be addressed to The Supervisor of Lodgings, The University, Leeds.

# REFECTORY

For the convenience of students, dinners are served daily in the University Refectory, from 12.30 to 2 p.m. Cold meats may also be obtained after the latter hour; tea, coffee, and other light refreshments up to 6 p.m. The Refectory is closed on Saturdays at 2 p.m.

Term tickets may be had on application to the Accountant, entitling students to dine at the Refectory, College Road, daily (except Saturdays) during the session. The cost of these tickets will be as follows :—

For men students---

 $\pounds$ 8 per session, or  $\pounds$ 2 17s. 6d. per term for the first and second terms, and  $\pounds$ 2 15s. for the third term ; and

For women students-

£6 15s. per session, or £2 10s. per term for the first

and second terms, and  $\pounds_2$  5s. for the third term.

Places will be reserved for those who pay for their dinners by the term.

# Observatory

# CECIL DUNCOMBE OBSERVATORY

### Curator: A. GILLIGAN, D.Sc.

The Cecil Duncombe Observatory was opened on May 4th, 1906, by Dr. H. H. Turner, Savilian Professor of Astronomy in the University of Oxford. It is built on a site in Woodhouse Moor contributed by the Leeds City Council. The telescope, an  $18\frac{1}{4}$  inch reflector of the Newtonian type, was given to the University by Major Duncombe, of Nawton Grange, and formerly belonged to his father, the late Hon. Cecil Duncombe. Its large mirror, made by Mr. G. Carver, of Walpole, Sussex, for Dr. Common, was the first successful large glass mirror made in England. In addition to the large equatorial there are a 3 inch transit instrument and a sidereal clock.

The Observatory is administered by a Committee representing the University, the Leeds Astronomical Society, and the Leeds City Council.

#### Regulations

1. The Observatory and instruments shall be under the control of the Curator, and no person shall be allowed to go into the Observatory or to use the instruments unless he is present, except as provided for in Rule 6.

2. The Curator will attend at the Observatory, on an average, two nights per week during the session of the University, when persons eligible under Rule 4 may attend. All arrangements as to classes and observing nights must be made with the Curator.

3. Not more than twelve persons shall be admitted to the Observatory at any one time.

- 4. The following will be allowed to use the Observatory under Rule 2 :
  - (a) Members of the University staff;
  - (b) Students of the University, on the recommendation of heads of departments;
  - (c) Members of Astronomical Societies;
  - (d) Teachers in the schools of the Leeds Education Committee, in groups of not more than six persons;
  - (e) Senior scholars from schools of the Leeds Education Committee, if accompanied by a teacher, who should, if possible, be one interested in the subject;
  - (f) Teachers in Leeds schools other than those of the Leeds Education Committee, by special arrangement with the Curator;
  - (g) Such other persons as the Observatory Committee may from time to time determine.

# Observatory

5. Persons wishing to use the Observatory under Rule 4, sections (d) and (e), must apply for a recommendation to the Leeds Education Committee. \*

6. Permission to use the Observatory for research work in the absence of the Curator may be granted by the Observatory Committee (1) to Professors and Lecturers of the University teaching Physical Geography or Surveying, who may, subject to Rule 3, use the Observatory for class purposes, (2) to such persons as may be specially recommended by the Committee of an Astronomical Society as competent to use the instruments, it being understood that the permission will apply to the authorised person only, who may not admit any other person, and (3) to other persons approved by the Observatory Committee.

7. A list of persons authorised to use the Observatory under Rule 6 shall be supplied to the Hall Porter at the University, who will issue a key of the Observatory to the authorised observer on personal application.

The key must be returned immediately on leaving the Observatory, or before noon on the day following.

8. Permission to use the Observatory under Rule 6 may be withdrawn by the Committee at any time; and the Observatory will only be available under that rule when it is not required for class purposes.

9. Persons using the instruments under Rule 6 shall be held responsible for their proper use during the time they or their students may occupy the Observatory, and shall be liable to make good any damage they or any of them may do to the instruments.

They will also be responsible for the safe closing and locking of the building on leaving it.

10. A book shall be kept in the Observatory in which all persons using the instruments will be expected to enter their names, with the hours during which they have been present, and the nature of the work upon which they have been employed.

11. The Curator is empowered to refuse admission to any person, or to require him to withdraw from the Observatory, without giving any reason to the person concerned; but any such action shall be reported to the Committee at its next meeting.

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# MATRICULATION EXAMINATION

All communications relating to this examination should be addressed to "The Secretary to the Board, Joint Matriculation Board, 315, Oxford Road, Manchester."

The Matriculation examination is conducted by a Joint Board representing the Victoria University of Manchester, the University of Liverpool, the University of Leeds, the University of Sheffield, and the University of Birmingham. Candidates for degrees in any one of these Universities are required to have passed this examination, or to have obtained exemption therefrom, before beginning a degree course. Any application for exemption must be addressed to the Joint Matriculation Board, and must be accompanied by the certificate or certificates upon which the application is based. Grants of exemption will be subject to and conditional upon the payment of the registration fee of  $f_{2}$ . The conditions which entitle a student to exemption from the Matriculation examination are fully set forth in the Matriculation syllabus. The examination is held in July and September of each year in the buildings of each University. The July examination is held at such other centres as the Board may authorise. Information as to the conditions may be obtained from the Secretary to the Joint Board.

The fee for the examination is  $\pounds z$ ; but a candidate who has failed in the July examination in any year will be admitted to the September examination in the same year for a fee of  $\pounds I$  105. Cheques and postal and money orders should be made payable to "The Secretary, Joint Matriculation Board," and crossed "Williams Deacon's Bank, Ltd., Chorlton-on-Medlock Branch."

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# DEGREES IN ARTS

Ordinance.

1. The degrees in Arts shall be :

Bachelor of Arts (B.A.) Master of Arts (M.A.) Master of Education (M.Ed). Doctor of Philosophy (Ph.D.). Doctor of Letters (Litt.D.).

# DEGREE OF BACHELOR OF ARTS

2. The degree of Bachelor of Arts shall be conferred either as an Ordinary degree or as a degree with Honours.

3. All candidates for the degree of Bachelor of Arts shall be required to have passed the Matriculation examination, and thereafter to have pursued approved courses of study for not less than three academic years.

Regulation.

Candidates will not be admitted to the courses of study for the degree of Bachelor of Arts unless they have (1) passed the Matriculation examination in Latin, or (2) given evidence of possessing a knowledge of Latin equivalent to that required at the Matriculation examination.

Candidates of non-European descent, who are natives of Asia or Africa, may be allowed to substitute one of the following languages for Latin, provided that they shall also give evidence of possessing a sufficient knowledge of English; Arabic, Sanskrit, Persian, Pali, Classical Chinese.

# Ordinary Degree of Bachelor of Arts

Ordinance.

4. The complete course of study for the Ordinary degree of Bachelor of Arts shall be divided into two parts, called respectively the Intermediate course and the Final course.

5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

6. The Intermediate and Final examinations shall ordinarily be held in June of each year. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate. 7. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination, may be excused such part of the supplementary examination as the combined examination committee, on report from the separate examination committee concerned, may determine.

8. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination. Some modification of the amount of attendance required may, in exceptional cases, be made by the Vice-Chancellor, on the recommendation of the head of the department concerned.

N.B.—In 1922 the latest date of entry and of payment of fees for the Intermediate and Final examinations held in June will be WEDNESDAY, MARCH 1st.

### Intermediate Course and Examination

9. Every candidate shall be required, after passing the Matriculation examination, to attend during one academic year approved courses of study in four subjects, and to pass in each of the subjects selected, viz. :

- i, ii. Two languages from the following list: Greek; Latin; French; German; Hebrew; Russian; Spanish; one of which must be Greek or Latin.
  - iii. Either (a) English Literature; or (b) History (Ancient or Modern); or (c) Economics; or (d) Geography.
  - iv. Either (a) Logic; or (b) Mathematics; or (c) Preparatory Military Science; or (d) any subject under i, ii, iii, not already selected, provided that no candidate may take both Ancient and Modern History.

to. Every candidate is further required, at some time during his course, to attend an approved course of study and pass in an additional subject at the Intermediate standard, selected from the following : Logic, Mathematics, Physics, Chemistry, Zoology, Botany, Geology, Geography,

# Degrees in Arts

Preparatory Military Science. Except that when Preparatory Military Science be taken as a subject under Group iv. Article 9), then the additional subject shall be one of the other subjects named in Group iv.

The examination in each modern language shall include an oral examination.

### Regulations.

# Detailed subjects of study and of examination.

#### GREEK:

Prose composition. Translation at sight from Greek into English. Prescribed books: portions from two authors, one prose and one verse, to be studied in their literary and linguistic aspects.

#### Books prescribed for 1921-22

Demosthenes, Olynthiacs i, ii, iii; Sophocles, Electra.

#### LATIN:

Prose composition. Translation at sight from Latin into English. Prescribed books : portions from two authors, one prose and one verse, to be studied in their literary and linguistic aspects.

### Books prescribed for 1921-22

Livy xxii, 1-50 (omitting 19-22); Virgil, Aeneid ii.

#### FRENCH :

Prose composition. Syntax of the French language. Translation at sight from French into English. Prescribed books: at least two texts, including both prose and verse, to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in French.

#### Books prescribed for 1921-22

Mérimée, Chronique de Charles IX; La Fontaine, Fables, livres i, ii, xi.

#### GERMAN :

Prose composition. Syntax of the German language. Translation at sight from German into English. Prescribed books: two texts, one prose and one verse, to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in German.

#### Books prescribed for 1921-22

Droste-Hülshoff, *Die Judenbuche*, ed. Eckelmann (N.Y. Oxford University Press); Schiller's *Ballads*, ed. Johnson (Heath & Co.).

#### HEBREW:

Accidence. Easy translation from short set portion of Old Testament, and re-translation. Easy composition. Vocabulary to be given so far as not taken from the set portion. Pointing passages from set portion.

#### Book prescribed for 1921-22

I Kings, chapters 17-19.

**RUSSIAN**:

Prose composition. Grammar of the Russian Language. Translation at sight from Russian into English. Prescribed books: at least two texts to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in Russian.

SPANISH :

Prose composition. Grammar of the Spanish Language. Translation at sight from Spanish into English. Prescribed books: at least two texts to be studied in their literary and linguistic aspects. Dictation, reading aloud and conversation in Spanish.

#### ENGLISH LITERATURE:

Introduction to the study of English Literature. The study and practice of English Composition.

#### Texts selected for 1921-22

\*Chaucer, Prologue to the Canterbury Tales, (ed. Pollard, Macmillan; or Globe ed.); Spenser, Faery Queene, Book V (ed. Gough, Oxford Univ. Press; or Globe ed.); \*Shakespeare, As You Like It, Coriolanus, (ed. Gordon, Clarendon Press); Milton, Selections, (ed. Hughes, Clarendon Press); Bunyan, The Pilgrim's Progress, Part I; Dryden, Annus Mirabilis, Songs, Odes and Lyrical Pieces (Globe ed.), Anrengaebe (Mermaid Series, Dryden, Vol. I); Swift, Gulliver's Travels, Parts III and IV; Pope, Pastorals, Essay on Criticism, Epistle to Dr. Arbuthnot (Globe ed.); Burke, Selections, (ed. Hughes, Clarendon Press); Boswell, The Journal of a Tour to the Hebrides (Dent, Temple Classics); Lyrical Ballads, (ed. Sampson, Methuen); Lamb, Prose and Poetry (Clarendon Press Selection). Also Palgrave's Golden Treasury of English Songs and Lyrics (World's Classics); Johnson, Lives of Milton, Dryden, Swift and Pope (World's Classics).

NOTE.—The texts marked with an asterisk are prescribed for detailed study.

### ANCIENT HISTORY:

Introduction to Ancient History, with special reference to selected periods of Greek and Roman History.

Special Subjects for 1921-22

Plutarch's Lives of Nikias, Agesilaus, Alexander, Crassus, Cæsar.

#### MODERN HISTORY :

A selected period of Modern History.

Period prescribed for 1921-22

Modern European History from 1763.

#### ECONOMICS :

The organisation of industry and commerce. The nature of the national income. The forces governing value and distribution. Conditions of economic progress.

GEOGRAPHY :

General Principles of Geography, with special reference to the Major Natural Regions.

Practical work-about 50 hours.

LOGIC:

The elements of Deductive and Inductive Logic. \*

**MATHEMATICS** :

Trigonometry, Calculus, Statics and Dynamics.

**PHYSICS**:

The properties of matter. The chief phenomena of Sound, Heat, Light, Electricity and Magnetism, treated in an elementary manner. Practical Physics.

#### **CHEMISTRY**:

The general principles of Inorganic Chemistry and their application. The elements of Organic Chemistry. Practical Chemistry.

#### ZOOLOGY :

The structure and life-history of animals as exemplified by a progressive series of selected types. Outlines of embryology. Practical Zoology.

BOTANY :

The structure and mode of life of a flowering plant. The naming of plants with the help of a flora. Fruits and vegetables. Spring buds and branches. The mechanism of flowers. The sexual process in plants. The transmission of characters to the offspring. Mendelism. The evolution of plants. The origin of species. Bacteria and disease. Practical Botany.

# GEOLOGY :

General Physical and Stratigraphical Geology, and Geology in relation to the study of Geography. Practical Geology.

# Final Course and Examination

Regulation.

No candidate shall be permitted to enter on the Final Course, or any part thereof, until he has passed the Intermediate Examination.

Ordinance.

11. Every candidate shall be required to attend approved courses of study in three principal subjects and one subsidiary subject, and to pass in each of the subjects selected. The same subject may not be taken both as a principal and as a subsidiary subject. An essay paper shall be set for all candidates at the Final examination.

12. The course of study in each principal subject shall extend over two academic years, and the course of study in the subsidiary subject shall extend over one academic year.

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13. The principal subjects shall be selected from the following list: Greek, Latin, French, German, English Language and Literature, Hebrew, Russian, Spanish, History, Geography, Philosophy, Social Science, Economics, Education, Mathematics. Every candidate shall be required to take as a principal subject one of the following: Greek, Latin, French, German. The examination in each modern language shall include an oral examination.

14. The subsidiary subjects shall be selected from the following list: English Literature, History, Ecclesiastical History, Geography, Philosophy, Social Science, Economics, Education, Mathematics. The course of study in a subsidiary subject may be taken either in the first or second year of the Final course.

15. Candidates who have attended, during the first year of their Final course, the prescribed course of study in a subsidiary subject, may present themselves in June of that year for examination in such subsidiary subject. Part of the examination in Education, to be defined by Regulation, may also be taken at the end of the first year of the Final course.

# Detailed subjects of study and of examination

Regulations.

# 1. Principal Subjects, studied for Two Years

GREEK :

Prose composition. Translation at sight from Greek into English. The study of portions from various authors, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination.

#### Books prescribed for 1921-22

Thucydides iii; Aeschylus, Persians; Aristophanes, Birds.

LATIN :

Prose composition. Translation at sight from Latin into English. The study of portions from various authors, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination.

Books prescribed for 1921-22

Tacitus, Annals i ; Virgil, Aeneid ii ; Juvenal i, iii, iv, x.

FRENCH :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Translation at sight from French

# Degrees in Arts

into English. Principles of Phonetics and Principles of Historical Grammar. Composition and the study of style. A period or periods of French Literature. Dictation, reading aloud and conversation in French.

### Books prescribed for 1921-22

Rousseau, Lettre a D'Alembert, Extraits (Hachette); Moliere, Le Misanthrope, Les Femmes Savantes.

#### Periods prescribed for 1921-22

- (a) Rousseau's Life and Works.
- (b) French Classical Comedy to the end of the 17th Century.

### GERMAN :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Translation at sight from German into English. Principles of Phonetics and Principles of Historical Grammar. Composition and the study of style. A period or periods of German Literature. Dictation, reading aloud, and conversation in German.

### Books prescribed for 1921-22

Lessing, Hamburgische Dramaturgie, ed. Lyon (Velhagen and Klasing); Lessing, Nathan der Weise, ed. J. G. Robertson (Pitt Press); Fiedler, Book of German Verse (Clarendon Press); Schiller, Wallensteins Lager und Piccolomini, Wallensteins Tod, ed. Breul (Pitt Press).

#### Period prescribed for 1921-22

1749-1832.

#### ENGLISH LANGUAGE AND LITERATURE :

### English Literature

- Outlines of the history of English Literature to the present day. In each year the study of one or more selected periods of English Literature, with representative texts. The study and practice of English Composition.
- NOTE.—Attention is drawn to the importance, for these studies, of a knowledge of the outlines of English History.

Period selected for 1921-22 1700-1765.

### Texts selected for 1921-22

Swift, \*Tale of a Tub, Battle of the Books, Letter to a Young Clergyman, Letter of Advice to a Young Poet; Addison, Essays, ed. J. R. Green (Macmillan); Pope, \*Essay on Criticism, Essay on Man, I. Epistle to Dr. Arbuthnot; Gay, Beggar's Opera; Thomson, Winter, Castle of Indolence; Bolingbroke, Letters on the Spirit or Patriotism, and The Idea of a Patriot King (Oxford Univ. Press); Richardson, Pamela; Fielding, Joseph Andrews; Collins, Odes; Gray, Poems; Johnson, London, Vanity of Human Wishes, Preface to Dictionary, \*Preface to Shakespeare; Goldsmith, Traveller, Essays (1765), Life of Richard Nash. Also Johnson, Lives of the Poets (Addison, Gay, Swift, \*Pope, Thomson, Collins, Gray), and Boswell, Life of Johnson (to the year 1765).

NOTE.—The texts marked with an asterisk are prescribed for detailed study.

#### English Language

This course is pursued, in the last year of their studies for the B.A. Degree, by students taking English as a principal subject. It comprises an introductory study of Old and Middle English (Language and Literature) with selected texts (prose and verse) and unseen translation.

#### Texts selected for 1921-22

Sweet, Anglo-Saxon Primer; Selections from The Saxon Chronicles, 787-1001 A.D. (Oxford Univ. Press); Chaucer, Prologue to the Canterbury Tales, The Canon's Yeoman's Tale, The Tale of Sir Thopas, To Rosamounde, Truth, Gentilesse.

Candidates may, with the consent of the Board of the Faculty of Arts, be permitted to substitute a further study of English Literature for the above course in English Language.

#### RUSSIAN :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Grammar of Russian Language. Translation at sight from Russian into English. Outlines of Russian History including study of Russian Institutions. Composition and the study of style. A period or periods of Russian literature. Dictation, reading aloud and conversation in Russian.

#### SPANISH :

The study of various texts, three of which (two prose and one verse, or one prose and two verse) will be prescribed as subjects of the Final examination. Grammar of Spanish Language. Translation at sight from Spanish into English. Composition and the study of style. A period or periods of Spanish literature. Dictation, reading aloud and conversation in Spanish.

#### **HEBREW:**

- (i) Translation, exegesis, re-translation, pointing, and grammar of specified portions of the Old Testament (one paper).
- (ii) Two of the following sections, one of which must be (a), and either (b) or (c), at the choice of the candidate (one paper) :—
  - (a) Introduction and subject-matter of the books from which the specified portions are taken.

# Degrees in Arts

- (b) General questions on the contents of the Old Testament; history, religious and moral development. General introduction to the following books: Pentateuch, Isaiah, and the Books of Psalms. In case Isaiah be one of the specified portions of the Old Testament under (i) above, Jeremiah to be substituted therefor, and if Psalms be one of the set books, Job to be substituted therefor.
- (c) Unprepared translation and pointing from narrative portions of the Old Testament. Hebrew Syntax and Composition.
- NOTE.—Candidates are required to satisfy the Examiners in each paper.

#### Prescribed Books for 1921-22

I Samuel, chapters 1-19, with critical introduction to both I and II Samuel.

### HISTORY :

- First Year Course : A general sketch of European History from the third century A.D., or a special period.
- Second Year Course: Two prescribed periods of History, studied in connection with some of the original authorities and selected from the following: Greek, Roman, English, Constitutional, Economic History.

#### Books prescribed for 1921-22

- First Year Course : Either European History with special reference to Germany or English Constitutional History.
- Second Year Course: Greek History, 445-362 B.C.; Roman History, 133-31 B.C.; English History, 1815-1875; European History, The Thirteenth Century.

#### **GEOGRAPHY**:

- First Year: Regional Geography of the British Isles, together with either Physical or Economic Geography.
- Second Year: A special Region (in 1921-22 The Mediterranean Region); and either Physical or Economic Geography (if not taken in first year).

Practical work-about 50 hours each year.

#### PHILOSOPHY

Two of the following :

- History of Ancient Philosophy: general outlines of Greek Philosophy, with the special study of selected works.
- History of Modern Philosophy: general outlines of Modern Philosophy from Bacon to Kant, with the special study of selected works.
- Psychology: systematic Psychology, with more detailed study of some part of the subject.
- Ethics : the general principles of Ethics, with the special study of selected ethical systems.
- Theory of Knowledge : general outlines with the special study of selected works.

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SOCIAL SCIENCE :

Elements of Political Theory. Elements of Sociology.

### **ECONOMICS:**

General principles of Economics, together with two of the following :---

(a) Commercial and Financial Organisation.

(b) Public Finance and Administration.

(c) Social Science and Administration.

(d) Economic History.

#### EDUCATION:

The course extends over three years, and is divided into two parts. Part I., Theory of Education, extending over two years, with an examination at the end of the second year; and Part II., History of Education, extending over one year. Candidates presenting themselves for examination in Part II. must present their other principal subjects at the same examination. Candidates ordinarily attend the courses of instruction in Part I. during the year of their attendance on the Intermediate Course for the degree, and the first year of their attendance on the Final Course.

Part I. Theory of Education.

Functions and agents of Education. The ethical, logical, ane psychological bases of mental and moral Education. The general principles of teaching, with application to the primary school curriculum. The general principles of discipline, with applications to school life. School organisation. The general principles of physical training with reference to the work of the school; school hygiene.

Part II. History of Education.

General outline of the history of educational thought in Europe from the Renascence to the present time, with special reference to England and special emphasis on the Nineteenth Century. A prescribed book or subject.

MATHEMATICS :

Trigonometry, Calculus, Statics and Dynamics, Hydrostatics, Pure and Analytical Geometry of two and three dimensions, Nomography, Easier portions of Higher Algebra, Differential Equations, Attractions and Astronomical Dynamics, Other selected branches of Applied Mathematics.

### II. Subsidiary Subjects, studied for One Year.

#### ENGLISH LITERATURE:

A selected period of English Literature, with representative texts. Outlines of the History of English Literature to the present day. English Composition. Periods and texts selected for 1921-22

As for English Literature as a principal subject (including Outlines of the History of English Literature).

HISTORY :

The Constitutional History of England since 1485.

**Ecclesiastical** History :

History of the Christian Church to A.D. 451 (general paper).

**Geography** :

The first year's work for Geography as a principal subject.

**PHILOSOPHY** :

One of the subjects prescribed for Philosophy taken as a principal subject.

SOCIAL SCIENCE :

Either Elements of Political Theory or Elements of Sociology.

#### **ECONOMICS**:

General principles of Economics, together with the outlines of recent economic history.

### EDUCATION :

Part I. of the course prescribed for Education taken as a principal subject.

MATHEMATICS :

Trigonometry, Calculus, Statics and Dynamics, Hydrostatics, Pure and Analytical Geometry of two dimensions, elements of Nomography.

# Degree of Bachelor of Arts with Honours

Ordinance.

I. Candidates for the degree of Bachelor of Arts with Honours shall, except as hereinafter stated, be required to furnish certificates of having attended courses of instruction approved by the University and extending over not less than three academic years in one of the Honours Schools of the University hereafter enumerated.

2. Every candidate for the degree of Bachelor of Arts with Honours shall be required to present himself for examination at the end of the third or fourth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree, unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year. 3. Candidates for the degree of Bachelor of Arts with Honours may present themselves for examination in any of the following Honours Schools on furnishing certificates of having pursued, to the satisfaction of the Senate, the courses required for such Honours Schools in the University, viz. :

> Classics English Language and Literature Modern Languages and Literatures French Language and Literature. German Language and Literature. Russian Language and Literature History Geography. Philosophy Economic and Political Science

4. Candidates who have passed the Final examination for an Ordinary degree of Bachelor of Arts may, with the sanction of the Senate and on furnishing certificates of having attended, during the academic year following such Final examination for the Ordinary degree, the third year's, or, during the two academical years following such Final examination, the second and third years' course approved by the University for any one of its Honours Schools, present themselves for examination for the degree of Bachelor of Arts with Honours in such School.

5. No candidate for a degree of Bachelor of Arts with Honours shall be admitted more than once to examination in the same Honours School; but students who have passed the Final examination in any of the Honours Schools may be admitted to the Final examination in any other Honours School after the expiration of one or two years, on presenting certificates of having attended, during the period in question, courses approved by the University.

Provided that in the said other Honours School selected, candidates shall not present themselves for the Final examination more than two academic years after the Final examination in Honours already passed by them, and also that no candidate be admitted to examination in any
Honours School after a longer period than five years has elapsed since the date of his first entrance upon a prescribed course of study for an Honours School.

6. Names of candidates who have passed the examination for the degree of Bachelor of Arts with Honours shall be published in such form as to distinguish the Honours School in which severally they may have passed; the names of those who have passed in Honours being drawn up in three classes, and each class being arranged in alphabetical order.

7. Candidates who have not acquitted themselves so as to deserve Honours may be excused the whole or such part of the examinations for the Ordinary degree as the combined examination committee may determine.

N.B.—In 1922 the latest date of entry and of payment of fees for the examinations in the Honours Schools will be WEDNES-DAY, MARCH 1st.

## Classics

Regulations

Candidates for the degree of Bachelor of Arts with \* Honours in Classics shall be required to pursue courses of study and to submit themselves for examination in the following subjects:

Translation from prescribed Greek and Latin books.

Translation at sight from Greek and Latin authors.

Greek and Latin Composition.

Greek and Latin Literature.

Two of the following :

Ancient History

Ancient Philosophy

A special subject connected with Greek or Latin literature.

Attendance in the subjects of the school shall be required as follows: Not less than ten hours a week in the first and second years, and eight hours a week in the third year. Attendance on the full course for the Intermediate examination for the Ordinary degree of Bachelor of Arts may be accepted as the required attendance for the first year of the Honours course, provided that the subjects chosen by the

# Honours Schools

candidate are substantially and to the satisfaction of the Board of the Faculty of Arts those required for the first year's course of the Honours School of Classics.

#### Examination

Greek Prose Composition, one paper.

Latin Prose Composition, one paper.

Greek Unprepared Translation, one paper.

Latin Unprepared Translation, one paper.

Translation from prescribed Greek books, with questions on grammar and subject matter, two papers.

Translation from prescribed Latin books, with questions on grammar and subject matter, two papers.

Critical and Essay paper.

Two of the following :

Ancient History, one paper.

Ancient Philosophy, one paper.

Special subject in Greek or Latin Literature, one paper.

Greek and Latin Verse Composition, one paper (optional).

#### Books prescribed for 1921-22

GREEK: Homer, Iliad i, vi, xviii; Homer, Odyssey, v, vi, ix, xi, xiii; Pindar, Olympian Odes; Selections from the Greek Lyric Poets; Aeschylus, Prometheus Vinctus, \*Agamemnon; Sophocles, \*Antigone; Euripides, Bacchae: Aristophanes, Clouds, \*Frogs; Theocritus i-xv; Herodotus viii; Thucydides ii, \*vii; Plato, Republic i, ii, iii; Demosthenes, \*De Corona, Conon, Callicles; Aristotle, Rhetoric, Book \*iii.

Books prescribed for 1921-22

LATIN: Plautus, Captivi, Trinummus; Catullus 1-5, 11-14, 22, 31, 34, 38, 39, 46, 49, 51, 53, 61, 62, 70, 76, 84, 85, 86, 95, 96, 101;
Lucretius \*v; Virgil, Georgics ii, iv; Aeneid i, \*ii, \*iv, vi; Horace, Odes, i, \*ii, \*iii, iv, Epistles i; Satires i, 1, 5, 6, 9, ii, 5, 6; Juvenal \*i, \*iii, iv, \*x, xi, xiv; Cicero, Philippics, i, \*ii; Letters, Tyrrell's Selection, 4, 5, 8, 9, 10, 13, 14, 17, 18, 20, 23, 26, 28, 30, 38, 40, 41, 42, 50, 60, 61, 66, 67, 73; Livy, xxi, xxi, Tacitus, Annals \*i, Histories iii, Agricola.

N.B.—The books marked with an asterisk are to be studied with special care in all their bearings, textual, grammatical, literary, historical, etc.

# English Language and Literature

In this School there shall be alternative schemes of study : Scheme A, in which special attention will be paid to Literature; and Scheme B, in which special attention will be paid to Language. Under both schemes a competent knowledge of one classical and at least one modern European language, and of the outlines of English social and political history, shall be required for the attainment of high Honours.

Honours students, under either scheme, will, as a rule, be expected to take the Intermediate B.A. examination at the end of their first year.

The course of study for the first academic year shall embrace the following four subjects of the Intermediate course for the Ordinary Degree of B.A.: (i) Latin or Greek, (ii) French or German, (iii) English Literature, (iv) Modern History, or Preparatory Military Science, and in addition (v) English Language and Early English Literature, as studied in the first year of the Honours course.

(Candidates who have passed the Intermediate examination as above, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Candidates who, instead of the above-mentioned examination, have passed the Intermediate examination for the Ordinary B.A. degree, may be permitted to enter on an Honours Course in English at the beginning of their second year, on condition that (i) they take Scheme A; (ii) that, before entering on their second year course, they satisfy the head of the department that they possess a sufficient knowledge of the English Language to enable them to profit by the subsequent courses in that subject.

# Scheme A

Candidates shall be required to attend the following courses in the subjects of the School: in the first year, three hours a week in English Literature, and three hours a week in English Language; in the second year, not less than six hours a week in English Literature and Language; in the third year, not less than five hours a week in English Literature and Language.

# Honours Schools

Candidates shall also be required to attend, during the first and second years, approved courses in subjects other than English Language and Literature. Such courses shall include an approved course in Latin or Greek, and in Modern or Mediæval History, and shall average not less than five hours a week in the first year and not less than three hours a week in the second year. During the third year, a course of two hours a week shall be attended in some approved subject or subjects cognate to the general work of the School.

The first year course in English Language will comprise the outlines of the History of the English Language to the close of the Fourteenth Century, and the special study of West Saxon texts and of the language of Chaucer. The following texts will be used :---

Sweet, Anglo-Saxon Primer; Wyatt, Anglo-Saxon Reader, extracts i-v, xviii, xx, xxii, xxv; Chaucer, Minor Poens, Prologue to Canterbury Tales, The Clerk's Tale; Metcalle, Specimens of Scottish Literature, pp. 34-38, 42-57, 65-68.

### Final Examination

Essay, one paper.

Translation of unseen passages of Old and Middle English, with literary and linguistic questions, one paper.

Selected texts in Old and Middle English, with literary, historical, and linguistic questions, one paper.

Chaucer, one paper.

Outlines of the History of English Literature, one paper.

Special period of English Literature, studied in selected texts and with reference to contemporary authorities, two papers.

An English author (usually Shakespeare), or selected subject from English Literature, one paper.

History of Criticism, with selected texts, one paper.

Oral examination.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts.

Texts and Period selected for 1921-22

- (a) Selected Texts in Old and Middle English: Beowulf; The Saxon Chronicles (787-1001 A.D.) (Oxford University Press); Sir Gavaaine and the Green Knight (ed. Morris and Gollancz: Oxford University Press); Cook, Literary Middle English Reader, with special reference to the extracts beginning on pp. 219, 235, 237, 269, 316, 321, 334.
- (b) Chaucer, with special study of the following: Minor Poems, Troilus and Criseyde, The Pardoner's Tale, The Tale of Sir Thopas, The Franklin's Tale.

(c) Special Period: 1637-1700.

(d) Texts suggested for study with Special Period: Donne, Poens, Selections from Sermons (Oxford University Press); The School of Donne (ed. Grierson, Oxford University Press); Burton, Anatomy of Melancholy, Address to the Reader; Earle, Microcosmographie; Jeremy Taylor, Liberty of Prophesying; Herrick, Hesperides; Fuller, Selections (ed. Jessopp); Sir Thomas Browne, Religio Medici, Pseudodoxia Epidemica, book i; Milton, Poems (1645), Of Reformation touching Church-Discipline in England, Areopagitica, Paradise Regamed; Hobbes, Leviathan, parts i, ii; Walton, Lives; Cowley, The Mistress; Dryden, Poems, ed. Christie and Firth (Oxford University Press), Plays (Mermaid Series), Essays (ed. Ker, Oxford University Press); Butler, Hudibras; Buckingham, Rehearsal; Bunyan, Grace Abounding, Life and Death of Mr. Badman; Marvell, Satires (ed. Aitken); Sir William Temple, Miscellanea, part ii; Halifax, Advice to a Daughter, The Character of a Trimmer; Plays of Wycherley, Otway, Congreve (Mermaid Series).

Also Clarendon, History of the Rebellion (ed. Macray), books i, ii (with Macaulay, History of England, cc. i-iii); Pepys, Diary; Burnet, History of My Own Times, books iv-vi; Cibber's Apology, cc. i-viii; Characters of the XVIIth Century (Oxford University Press).

(e) Special Author : Shakespeare.

(e) History of Criticism :

Special Texts suggested for study: Aristotle, Poetics; Horace, Ars Poetica; Longinus, On the Sublime; Dante, De Vulgari Eloquentia; du Bellay, Deffence et Illustration de la Langue françoyse; Sidney, Defence of Poesy; Ben Jonson, Discoveries; Dryden, Essay of Dramatic Poesy; Boileau, L'Art poétique; Johnson, Preface to Shakespeare; Lessing, Laokoon and Hamburgische Dramaturgie; Wordsworth, Prefaces and Appendices to Lyrical Ballads; Shelley, Defence of Poetry; Coleridge, Biographia Literaia; Charles Lamb, Literary Criticisms; Victor Hugo, Préface de Cromwell; Arnold, Essays in Criticism, Second Series.

# Scheme B

Candidates shall be required to attend the following courses in the subjects of the School: (i) during three academic years courses in English Language, including the History of the Language and Early English prose and verse, such courses amounting to not less than three hours a week for the first year and not less than four hours a week for the second and third years; (ii) during three academic years courses of three hours a week on periods of English Literature; (iii) during one academic year a course on the Outlines of English Literary History.

# Candidates shall also be required

(1) to attend an approved course in *one* of the following subjects: Gothic, Old Icelandic, Old High German, Old French (with special reference to Anglo-Norman), Elementary Palaeography.

(2) to attend for two years approved courses of two hours a week in History, Mediæval *or* Modern; for two years approved courses in French *or* German; and for a third year an approved course in the History of the French Language and Literature, *or* in the History of the German Language and Literature. They are further required to attend, during the first year, an approved course in Latin *or* Greek.

First year courses in English Language : as for Scheme A.

### Final Examination

Essay, one paper.

Translation of unseen passages in Old and Middle English, with literary and linguistic questions, one paper.

Selected texts in Old and Middle English, with literary, historical, and linguistic questions, one paper.

Outlines of the History of English Literature, with selected texts, two papers.

Chaucer, one paper.

Grammar of Old and Middle English dialects, with illustrative passages for translation or comment, one paper.

- History of English, with reference to general principles of linguistic development, one paper.
- A paper on one of the following: Gothic, Old Icelandic, Old High German, Old French (with special reference to Anglo-Norman). Elementary Palæography.

Oral examination.

In addition Candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts, *or* to offer one of the above subjects (Gothic, Old Icelandic, &c.) not already taken.

Texts for 1921-22

- (a) Selected Texts in Old and Middle English : as for Scheme A.
- (b) Gothic: Wright's Gothic Grammar, with extracts.
- (c) Chaucer: as for Scheme A.
- (d) Outlines of the History of English Literature :
  - A general knowledge of English Literature from the earliest times, together with a special study of the following texts:
  - Shakespeare, Richard II, Twelfth Night, King Lear; Bacon, Advancement of Learning; Marlowe, Faustus; Jonson, Every Man in his Humour; Spenser, Shepherd's Calendar (ed. Herford); Characters of the Seventeenth Century (ed. Nichol Smith); Milton,

Samson Agonistes, Areopagitica: Dryden, Religio Laici, Essay of Dramatic Poesy, Preface to the Fables; Pope, Moral Essays; Johnson, Preface to the Dictionary, Preface to Shakespeare, Lives of the Poets (M. Arnold's selection); Selections from Boswell's Life of Johnson (Clarendon Press); Burke, Reflections on the French Revolution; Lyrical Ballads (with Wordsworth's Prefaces); Lamb, Prose and Poetry (Clarendon Press Selection); Shelley, Prometheus Unbound, Adonais; Keats, Odes; Tennyson, In Memoriam; Browning, Selections (Smith, Elder); Carlyle, Sartor Resartus; Ruskin, Unto this Last; Palgrave, Golden Treasury (with Additional Poems); English Critical Essays: 19th Century (World's Classics); Yorkshire Dialect Poems (1673-1915), ed. Moorman; Poems of To-day.

## Modern Languages

The languages studied in the School shall be French, German, English.

Candidates for the degree of Bachelor of Arts with Honours in the School of Modern Languages shall be required to pursue courses of study and to submit themselves for examination in any two of the above subjects.

Candidates shall also be required to study auxiliary subjects, of which Latin shall ordinarily form part. Exemptions may be granted to specially qualified candidates.

The names of candidates, who, being placed in the First or Second Class, have shown conspicuous merit shall be distinguished in the class list by some mark to indicate the subject or subjects in which they have shown such merit.

I. FRENCH AND GERMAN :

The course of study and subjects of examination in French or German shall be: Prescribed texts of before 1500, studied from a literary and linguistic standpoint; prescribed texts of after 1500, studied in the same way; unprepared translation; literature (outlines and special periods); the history of the language (including phonetics, versification, &c.); composition.

Candidates taking French or German shall be required to attend for at least two years classes in composition, translation and phonetics; for one hour a week for each of three years a class in Literature; for three hours a week for two years, and at least two hours a week for one of the three years classes on the history of the language, and the linguistic and literary study of texts prior to 1500; for one hour a week for two terms in one year a class in French or German Institutions.

II. ENGLISH :

The courses of study and subjects of examination in English are as follows:

- Language. During the first year, a course of not less than three hours a week in the English Language. During the second and third years, a course, or courses, in the English Language of not less than two hours a week.
- *Literature.* During each year, a course in English Literature of not less than two hours a week, together with an additional course of one hour a week, during one of these years.

#### Examination

The examination in each subject of the School shall consist of an oral examination and of the following papers :

FRENCH OR GERMAN :

Composition and Essay, one paper.

Unprepared Translation, one paper.

- Prescribed Texts of before 1500, with literary and linguistic questions, one paper.
- Prescribed Texts of after 1500, with literary and linguistic questions, one paper.

Literature, one paper.

Grammar : History of the language and versification, one paper.

ENGLISH:

- Translation of unseen passages in Old and Middle English, with literary and linguistic questions, one paper.
- Translation from selected English texts in Old and Middle English, with literary, historical, and linguistic questions, one paper.
- Special period of English literature studied in selected texts, and with reference to contemporary authorities, two papers, or Chaucer and Shakespeare, two papers.

Outlines of the History of English literature, one paper.

### I. FRENCH :

Books and Periods prescribed for 1921-22

Books before 1900: E. Koschwitz, Les Plus Anciens Monuments (Serments, Eulalie, St. Leger); Chretien de Troyes, Le Chevalier au Lion, 1406–2165; Beroul, Tristan, La Chastelaine de Vergy Philippe de Novare, Memoires; Villon, Oeuvres.

Books after 1900: Darmesteter and Hatzfeld, Morceaux Choisis au XVI<sup>o</sup> S<sup>o</sup> and other selected authors of the Sixteenth Century; Corneille, Le Cid, Polyeucte; Moliere, Le Misanthrope, Les Femmes Savantes; Racine, Phedre; Pascal, Pensees; Rousseau, Lettres sur les Spectacles and Extraits; Chateaubriand, Genie du Christianisme; Victor Hugo, Notre Dame; Sully Prudhomme. Poésies de 1866 à 1872.

Periods of Literature : French Classical Tragedy from 1550-1700 French Comedy from 1550-1700 The Life and Works of Rousseau.

## II. GERMAN :

Books and Periods prescribed for 1921-22

- Books before 1500: Braune, Althochdeutsches Lesebuch, ii, iv, vi, ix, xv, xvi (1-8), xvii, xxiii (1-5), xxviii-xxxi, xxxii (1, 4, 21), xxxiii, xxxiv, xxxvi, xxxx; Kudrun, as contained in Kudrun und Dietrich-Epen (ed. Jirikzek, Sammlung Göschen); Bartsch, Liederdichter, xxi; Wright, Middle High German Primer iii, vii (Clarendon Press); Meier Helmbrecht, ed Panzer.
- Books after 1500: Martin Luther (in Auswahl aus deutschen Schriften, ed. Carruth, Ginn & Co., pp. 14-71); Goethe, Faust I (ed. Thomas, Heath & Co.); Schiller, Torquato Tasso, ed. Robertson (Manchester University Press); Wallensteins Lager und Piccolomini, Wallenstein's Tod, ed. Breul (Pitt Press); Lessing, Hamburgische Dramaturgie, ed. Lyon (Velhagen & Klasing); Nathan der Weise, ed. Robertson (Pitt Press); Fiedler, Book of German Verse (Clarendon Press); Heines Prosa, ed. Buchheim (Clarendon Press).

Period of Literature: 1740-1832.

Books and Periods prescribed for 1922-23

- Books before 1500: As for 1921-22, but substituting Bartsch, Das Nibelungenlied (Deutsche Klassiker des Mittelalters) for Kudrun.
- Books after 1500: as for 1921-22, but substituting Goethe, Iphigenie (ed. Breul, Pitt Press) for Goethe, Torquato Tasso; Heine, Buch der Lieder (ed. Lees, Manchester University Press) for Heines Prosa.

Period of Literature: 1740-1832.

**III.** ENGLISH:

#### (a) Language

Texts selected for 1921-22

Old and Middle English : as for English Honours, Scheme A.

## (b) Literature

#### Texts and Period selected for 1921-22

- (a) Outlines of the History of English Literature.
- (b) Special period and texts as for English Honours, Scheme A.

# Honours Schools

### French Language and Literature

Candidates for the degree of Bachelor of Arts with Honours in French Language and Literature shall be required to pursue the following courses of study and to submit themselves to the following examinations.

The course of study for the first academic year shall as a rule embrace the following subjects, as for the Intermediate examination for the Ordinary degree of B.A.: (1) French Language and Literature; (2) Latin or German or Spanish; (3) Latin or German or Spanish (if not taken under (2) or English Literature, or Economics or another approved subject; (4) Modern History with special reference to France. An examination will be held in these subjects at the end of the first year.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Students who have passed the Higher School Certificate examination in any of these subjects will be excused attendance and examination in such subjects, except that all candidates will be required to attend the lectures upon the History of France.

During the second year candidates shall be required to attend courses in the subjects of the School of not less than eight hours a week, such courses to include lectures on (a) French Institutions, (b) the Geography of France.

The third term of the second year will normally be spent at the University of Caen.

During the third year candidates shall be required to attend courses in the subjects of the School of not less than eight hours a week, such courses to include additional lectures on Literature.

Candidates may be required in any year to attend courses of lectures given in other Departments which may be helpful to their studies in the subjects of the School.

#### Final Examination

The examination shall consist of an oral examination and of the following papers :---

Prescribed texts of before 1500 with literary and linguistic questions, one paper.

Prescribed texts of after 1500 with literary and linguistic questions, one paper.

Essay and Composition, one paper.

Unprepared translation, one paper.

History of the language and versification, one paper.

Literature, two papers.

History and Institutions of France, one paper.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts.

# German Language and Literature

Candidates for the degree of Bachelor of Arts with Honours in German Language and Literature shall be required to pursue the following courses of study and to submit themselves to the following examinations :—

The course of study for the first academic year shall as a rule embrace the following subjects, as for the Intermediate examination for the Ordinary degree of B.A.: (I) German Language and Literature; (2) Latin or French or English Language; (3) a second subject from (2) or English Literature, or Economics, or another approved subject; (4) Modern History, with special reference to Germany. An examination will be held in these subjects at the end of the first year.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Students who have passed the Higher School Certificate examination in any of these subjects will be excused attendance and examination in such subjects, except that all candidates will be required to attend the lectures on the History of Germany.

## Honours Schools

During the second year candidates shall be required to attend courses in the subjects of the School of not less than eight hours a week, such courses to include lectures on (a) German Institutions, (b) the Geography of Germany.

The third term of the second year will normally be spent at some University where the medium of intercourse is German.

During the third year candidates shall be required to attend courses in the subjects of the School of not less than eight hours a week.

Candidates may be required in any year to attend courses of lectures given in other departments which may be helpful to their studies in the subjects of the School.

## Final Examination

The examination shall consist of an oral examination and of the following papers :—

Prescribed texts of before 1500 with literary and linguistic questions, one paper.

Prescribed texts of after 1500 with literary and linguistic questions, one paper.

Essay and Composition, one paper.

History of Literary Criticism or Gothic, or Anglo-Saxon, or Old Saxon, one paper.

Unprepared translation, one paper.

History of the language and versification, one paper.

Literature, two papers.

History and Institutions of Germany, one paper.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts.

#### History

Candidates for the degree of Bachelor of Arts with Honours in History shall be required to pursue courses of study as follows:

The course of study for the first academic year shall embrace the following subjects of the Intermediate course for the Ordinary degree of B.A.: ( $\tau$ ) Latin or Greek; (2) French or German; (3) Logic or English Literature, or a third Language; (4) History; (5) Economics. An

examination will be held in these subjects at the end of the first year, which must be passed by candidates before they proceed to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate examination for the Ordinary degree of Bachelor of Arts may also be accepted by the Senate as the required attendance for the first year of the Honours course.

At the end of the second academic year candidates will be examined as follows :

#### Honours Examination (Part I)

Outlines of European History, two papers.

General British History or Historical Geography, one paper.

Set Books, one paper.

Candidates must satisfy the examiners in this examination before proceeding with further study.

At the end of the third year candidates will take the following examination:

#### Honours Examination (Part II)

Essay in General History, one paper.

English (including Constitutional) History, two papers.

Special period, studied in connection with the original authorities, two papers.

Political Theory, one paper.

In addition, candidates shall be required to present a dissertation on some subject approved by the Board of the Faculty of Arts.

Candidates shall also be required to show in the examination some knowledge of at least one foreign language (ancient or modern).

Oral Examination.

#### Special Periods for 1921-22

(1) Roman History, 31 B.C.-37 A.D.; (2) European History, 1789-1804; (3) The Life and Times of Saint Francis of Assisi;
(4) The Age of Elizabeth (1558-1603); (5) England and France 1660-1690; (6) Life and Times of Saint Bernard of Clairvaux;
(7) England and France (1865-1875). The following is the list (subject to revision) of the original authorities set for the Honours periods:

- Selections from Tacitus, Annals, books i-vi; Suetonius, Augustus and Tiberius; Velleius Paterculus, Historia Romana, book ii, cc. 84-131, Res Gestae Divi Augusti (ed. Cagnat-Peltier or Diehl); selected Inscriptions illustrating the period.
- S. Bernhardi, Vita Prima (5 books) ap. Migne, Pat. Lat. t. clxxxv; selected letters of S. Bernard ib. t. clxxxii; Exordium Cisterciensis Coenobii, Carta Caritatis and Consuetudines, ap. Guignard, Monuments Primitifs de la regle Cistercienne. Dijon 1878.
- S. Francisci Opera in Böhmer's Analekten zur Geschichte des Franciscus von Assisi;
   S. Francisci Assisiensis Vita Prima, auct. Celano, ed. E. d'Alençon; Speculum Perfectionis, ed. Sabatier;
   Legenda Trium Sociorum, ed. M. Faloci-Pulignani.
- 4. Statutes and Constitutional Documents relating to the Reign of Queen Elizabeth (Prothero); The Leicester Correspondence (Camden Society); Selection from Hakluyt's Voyages (in Payne and Beasley's "Voyages of the Elizabethan Seamen"); Spenser's View of the State of Ireland; Selections from the Spanish Calendars, and from Catherine de Medici's Correspondence.
- 5. Selections from Pepys' Diary (the edition used will be that in Bohn's Library); Burnet's History of My Own Times, chap. iii; Halifax, Letter to a Dissenter; Grant-Robertson's Constitutional Documents; Dryden, Absalom and Achitophel and The Hind and Panther; Mignet, Negotiations relatives à la Succession d' Espagne, part iv, section i.
- 6. The Constitutional Documents in Legge's Select Documents of the French Revolution; a selection from Morse Stephen's Orators of the French Revolution; England and Napoleon in 1803 (Oscar Browning's edition of Lord Whitworth's despatches); a selection from Napoleon's correspondence.
- Morley's Life of Gladstone; Ollivier, L'Empire Libéral, vol. xiv.; Bismark, Reflections and Recollections; Oakes and Mowat, Great Treaties of the Nineteenth Century.

### Geography

Candidates for the degree of Bachelor of Arts with Honours in Geography shall be required to pursue approved courses in Geography, and they shall also be required to attend approved courses in other subjects.

Subject to the approval of the Board of the Faculty of Arts, the first year's course may be modified in the case of students who have obtained the Higher School Certificate.

The full course for the Intermediate examination for the ordinary degree of B.A. may be accepted by the Board of the Faculty of Arts as a substitute for the first year of this Honours course.

## Final Examination

Essay, one paper.

General and Regional Geography, two papers.

- Physical Geography, including Geomorphology and Climatology, two papers.
- Human Geography, including Economic Geography, three papers.

A practical and oral examination.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts. Candidates shall be required to show in the examination a knowledge of at least one modern foreign language.

## Philosophy

Candidates for the degree of Bachelor of Arts with Honours in Philosophy shall be required to pursue the following courses of study, and to submit themselves to the following examinations :

The course of study for the first year is the same as that for the Intermediate examination for the Ordinary degree, provided that Logic must be taken as the fourth subject, and that a second philosophical subject may be taken as the fifth subject. Candidates must pass an examination on the first year's course before proceeding to further study.

(Candidates who have taken the second philosophical subject in the above examination, and have passed the examination, but who are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.A.)

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

# Honours Schools

Subject to the approval of the Board of the Faculty of Arts, suitably qualified candidates may be permitted to proceed to the course for Honours without taking the Intermediate course and examination.

During the second and third years candidates shall be required to attend approved courses in Philosophy of not less than five hours a week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to not less than two hours a week in each year.

#### Examination

Essay, one paper.

General Questions, one paper.

Logic, Deductive and Inductive, one paper.

Psychology, one paper.

Ethics, one paper.

Advanced Psychology or Moral and Political Philosophy, one paper. Either History of Ancient Philosophy, one paper, and two papers

on one of the following :

Descartes, Malebranche, Spinoza.

Spinoza and Leibniz.

English Philosophy from Locke to Hume, with reference to Bacon and Hobbes and to Reid and the Scottish Philosophy.

Kant.

Some other subject approved by the Board of the Faculty of Arts.

Or, History of Modern Philosophy, one paper, and two papers on one of the following:

Greek Philosophy before Socrates.

Socrates and Plato.

Aristotle.

Post-Aristotelian Philosophy.

Some other subject approved by the Board of the Faculty of Arts.

## Economic and Political Science

Candidates for the degree of Bachelor of Arts with Honours in Economic and Political Science shall be required to pursue courses of study, and to submit themselves to examination, as follows :—

The course of study for the first academic year shall include the following subjects of the Intermediate

course for the Ordinary degree of B.A., (1) Latin or Greek; (2) French or German; (3) Modern History; (4) Economics; (5) Geography or English Literature, or Mathematics, or, if not taken under (2) French or German. An examination will be held in these subjects at the end of the first year, which must be passed by candidates before they proceed to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final Course and examination for the Ordinary degree of B.A.).

Some modification of the First Year Course and Examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate examination for the degree of B.A. may also be accepted by the Senate as the required attendance for the first year of the Honours course.

During the second and third years candidates shall be required to attend approved courses in the subjects of the school of not less than five hours a week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to not less than two hours a week in each year.

#### Examination

Essay, one paper.

Principles of Economics, two papers. History of Economic Theory, one paper. Economic History, one paper. Political Theory, one paper. Constitutional Law, one paper. A special Economic subject, one paper.

In addition, candidates shall be required to present a dissertation on a subject approved by the Board of the Faculty of Arts.

## Master of Arts

# DEGREE OF MASTER OF ARTS

1. The degree of Master of Arts may be conferred, on pay- Ordinance. ment of the proper fee, upon registered Bachelors of Arts when of not less than one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Arts who have graduated with Honours may proceed to the degree of Master of Arts on presenting a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts.

3. Bachelors of Arts who have obtained the Ordinary degree shall be required to pass an examination in a subject or group of subjects upon which instruction is given in the Faculty of Arts, and to present a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts, or, if they do not present a dissertation, to pass a more extended examination. In special cases it shall be in the power of the Senate, on the application of the candidate and on the special recommendation of the Board of the Faculty of Arts, to award the degree upon a dissertation only. Candidates wishing to apply for such remission must make application to the Board of the Faculty of Arts not later than the end of the October preceding the examination. Regulations shall determine the subjects and groups of subjects in which the examination will be held. Certificates of attendance on courses of study in the University shall not be required. Bachelors of Arts who have obtained Honours in any school after the Ordinary degree shall be held to have satisfied the requirements of this clause.

4. All candidates who offer a dissertation either as sole test or in combination with other tests, may be called upon to present themselves for an examination--written, or oral, or both—in the theme of their dissertation.

5. The names of candidates who have passed the examination for the degree of Master of Arts shall be arranged in alphabetical order without distinction of classes.

6. Graduates or persons who have passed the Final examination for a degree of other approved Universities shall, if they present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.A., without taking the B.A. degree, after not less than two years of such advanced study or research.

7. Persons who are not graduates (nor have passed the Final examination for a degree) of an approved University, may, if they satisfy the Senate that their educational attainments are adequate and that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.A., without taking the B.A. degree, after not less than three years of such advanced study or research.

8. Candidates admitted under the provisions of either of the two paragraphs preceding shall be required to fulfil the following conditions :—

- (a) To be registered as students of the University.
- (b) To pursue a course of advanced study or research under the supervision of the Head of the Department concerned.
- (c) To attend a course or courses of lectures at the University for at least one year, except so far as this requirement is suspended or reduced by the Senate.

They shall be further required to give evidence to the Senate at the end of the first year of their period of study that their work has been satisfactory, and at the end of their course they shall be required to present a dissertation, and to satisfy such further test, if any, as the Senate shall deem expedient. They will, as a rule, be called upon to present themselves for an examination written, or oral, or both—in the theme of their dissertation.

Regulation.

The following fees will be payable by candidates for the degree of M.A.:—

(a) In the case of candidates who have not graduated in the University of Leeds :---

Registration fee,  $f_{,2}$ .

- Fees at the usual scale for any attendance at lectures or classes in the University, provided that the minimum fee payable by any candidate shall be  $\pounds_{4}$  4s.
- (b) In the case of candidates who are graduates of the University of Leeds :---

No Registration fee.

Fees at the usual scale for any classes attended.

N.B.—In 1922 the latest date of entry and payment of fee for candidates presenting themselves for examination will be WEDNESDAY, MARCH 1st, and the examination held under I, 3, will be held in June. Candidates proceeding to the degree of M.A. by dissertation only must make their entry, pay the prescribed fee, and send in their dissertations not later than MONDAY, MAY 1st. It is desirable that all candidates who present a dissertation should furnish at least two copies of such dissertation.

## Examination

Bachelors of Arts who have obtained the Ordinary degree Regulations. and are candidates for the degree of Master of Arts may present themselves for examination *either* in *one* of the following subjects, viz., Greek, Latin, French, German, English Language and Literature, History, Philosophy. Economics, Education, *or* in *two* of the following: Greek, Latin, French, German, English Language and Literature, History, Philosophy, Economics. Candidates who offer two subjects must submit their choice of subjects for approval by the Board of the Faculty of Arts.

### Greek

I. As a single subject.

Translation from Greek books selected, as a rule, from those prescribed for Honours in Classics, one paper.

Translation at sight and questions on the subject matter of the specified books, one paper.

Translation at sight and Greek prose composition, one paper.

A dissertation on some subject approved by the Board of the Faculty of Arts.

II. In combination with another subject.

As above, with the omission of the dissertation.

Books prescribed for 1921-22

Homer, Iliad i, vi, Odyssey ix; Sophocles, Antigone; Euripides, Bacchae; Aristophanes, Clouds; Herodotus viii; Thucydides vii; Plato, Republic ii, iii.

G

### Latin

I. As a single subject.

Translation from Latin books selected, as a rule, from those prescribed for Honours in Classics, one paper.

Translation at sight and questions on the subject matter of the specified books, one paper.

Translation at sight and Latin prose composition, one paper.

A dissertation on some subject approved by the Board of the Faculty of Arts.

11. In combination with another subject.

As above, with the omission of the dissertation.

Books prescribed for 1921-22

Plautus, *Captivi*; Lucretius v; Catullus 1-5, 11-14, 31, 34, 39, 49, 51, 61, 84, 85, 86, 101; Horace, *Odes* iii, *Epistles* i; Virgil, *Aeneid* i, ii, iv, vi; Cicero, *Philippics* i, ii; Livy xxii; Tacitus, *Annals* i; Juvenal i, iii, iv, x, xi, xiv.

#### French

I. As a single subject.

Composition and essay, one paper.

Prescribed texts in Old and Modern French, including literary and linguistic study, one paper.

Unprepared translation and historical grammar, one paper.

French Literature (general outlines and special period or periods), one paper.

Oral examination.

- A dissertation on some subject approved by the Board of the Faculty of Arts.
- 11. In combination with another subject.

As above, with the omission of the dissertation.

Books prescribed for 1921-22

G. Paris et Langlois, Chrestomathie du Moyen Age; Darmesteter et Hatzfeld, Morceaux Choisis des Ecrivains du 16° Siècle (verse only); Molière, Le Misanthrope, Les Femmes Savantes; Racine, Britannicus; Rousseau, Extraits; Victor Hugo, Notre Dame.

Period of Literature prescribed for 1921-22 French Comedy from 1550-1700.

#### German

I. As a single subject.

Composition and essay, one paper.

Prescribed texts in Middle High German and New High German, including literary and linguistic study, one paper.

Unprepared translation and historical grammar, one paper.

German Literature (general outlines and special period or periods), one paper.

Oral examination.

A dissertation on some subject approved by the Board of the Faculty of Arts.

11. In combination with another subject.

As above with the omission of the dissertation.

Books prescribed for 1921-22

Bartsch, Liederdichter xxi; Wright, Middle High German Primer; iii, vii; Lessing, Laokoon, ed. Hamann (Clarendon Press), Schiller, Withelm Tell, ed. Breul (Pitt Press); Goethe, Faust i, ed. Thomas (Heath & Co.); Goethe, Tasso, ed. Robertson (Longmans, Green & Co.); Keller, Zwei Novellen, ed. Kip (Clarendon Press); Poems by Goethe, Schiller, and Uhland, in Fiedler, Book of German Verse (Clarendon Press).

Period of Literature prescribed for 1921-22 1700-1832.

### English Language and Literature

I. As a single subject.

Either

- A (a) A dissertation.
  - (b) Examination, written or oral or both, in subjects connected with the candidate's dissertation.
  - (c) Outlines of the History of English Literature with selected texts, two papers.

Or

- B (a) An essay, one paper.
  - (b) Translation from selected texts in Old and Middle English, and unseen translation, two papers.
  - (c) Outlines of the History of English Literature with selected texts, two papers.
  - (d) One of the following :
    - (i) Old and Middle English Dialects, with Gothic, one paper. or (ii) Shakespeare, one paper.
- 11. In combination with another subject.

Either

- A (a) An essay, one paper.
  - (b) Outlines of the History of English Literature with selected texts, two papers.
  - (c) A special author or subject, one paper.
  - Or
- B (a) An essay, one paper.
  - (b) Translation from selected texts in Old and Middle English, and unseen translation, two papers
  - (c) Gothic, one paper.

Texts and Periods for 1921-22

- I. As a single subject.
  - A (a) Outlines of the History of English Literature, with selected texts, as for English Honours, Scheme B.

- B (b) Selected texts in Old and Middle English, as for English Honours, Scheme A.
  - (c) Outlines of the History of English Literature, with selected texts, as for English Honours, Scheme B.
  - (d) Either (i) Wright's Gothic Grammar, or (ii) a general knowledge of Shakespeare's Plays and Poems.

11. In combination with another subject.

- A (b) Outlines of the History of English Literature, with selected texts, as for English Honours, Scheme B.
  - (c) Shakespeare, Tragedies.
- B (b) Selected texts in Old and Middle English, as for English Honours, Scheme A.
  - · (c) Wright's Gothic Grammar

### History

I. As a single subject.

An essay, one paper.

- Either Ancient History (to 337 A.D.) General, two papers with special period in Ancient History, two papers.
- Or Mediæval History (300 to 1500 A.D.), General, two papers, with special period in Mediæval History, two papers.
- Or Modern History (since 1500 A.D.), General, two papers, with special period in Modern History, two papers.

Candidates may substitute a dissertation for the essay and the two papers on the special period.

# II. In combination with another subject.

- (a) Ancient or Medieval or Modern History, one paper.
- (b) A special subject in the period taken under (a), two papers.

Candidates must in every case satisfy the Board of the Faculty of Arts that the subjects they offer under (a) and (b) form a suitable combination.

## Special Periods prescribed for 1921-22

 Roman History (31 B.C.-37 A.D.); (2) Life and Times of Saint Francis of Assisi; (3) The Age of Queen Elizabeth; (4) European History, 1789-1804 A.D.; (5) England and France (1865-1875).

# Philosophy

I. As a single subject.

- (a) General Questions, one paper.
- (b) Three of the following:

Logic, one paper.

Psychology, one paper.

Ethics, one paper.

- History of Philosophy, Ancient or Modern, one paper.
- Advanced Psychology or Moral and Political Philosophy, one paper.

Master of Arts

(c) One of the following special subjects, one paper.

Greek Philosophy before Socrates. Socrates and Plato.

Aristotle. Post-Aristotelian Philosophy.

Descartes, Malebranche, Spinoza

Spinoza and Leibniz.

English Philosophy, from Locke to Hume, with reference to Bacon and Hobbes, and to Reid and the Scottish Philosophy.

Kant.

Candidates may as an alternative present a dissertation on a subject approved by the Board of the Faculty of Arts and present themselves for examination in three papers from section ( $\delta$ ) or in two papers from section ( $\delta$ ) and one paper from section (c).

## II. In combination with another subject.

History of Philosophy, Ancient or Modern, one paper.

Logic, or Ethics, or Psychology, or History of Philosophy, Modern or Ancient, one paper.

A special subject, approved by the Board of the Faculty of Arts, one paper.

#### Economics

#### I. As a single subject.

- (a) An essay, one paper.
- (b) English Economic History, including the special study of a set period, two papers.
- (c) One of the following :

General Principles of Economics, two papers.

A special Economic subject, two papers.

History of Economic Theory, including the special study of the work of a particular economist, two papers.

Candidates who have taken Economics as a subject for the degree of B.A. may not offer General Principles of Economics.

Candidates may as an alternative present a dissertation on a subject approved by the Board of the Faculty of Arts, and present themselves for examination in  $(\delta)$  or in one subject of (c). Such candidates may not offer a special Economic subject and a dissertation on the same subject.

#### II. In combination with another subject.

English Economic History or History of Economic Theory, one paper.

A special Economic subject, two papers.

The 19th Century Economist for special study for 1921-22. Adam Smith.

#### Education

- (A) A dissertation on some subject related to Education and approved by the Board of the Faculty of Arts.
- And (B) Either The Theory of Education, two papers, one of the following topics:
  - (1) The ultimate aim of education, and its relation to subordinate aims, with special consideration of the concepts of liberal culture, formal discipline, and vocational training.
  - (2) Heredity and environment in education.
  - (3) The general process of psychical development in relation to education, with a detailed investigation of the psychical processes involved in some one form of educative influence.
  - (4) The literature and practice of experimental investigation as applied to education, with records (if any) of personal investigation.
  - (5) The theoretical bases of the process of learning, with special study of methodology applied to some part of the curriculum approved by the Board of the Faculty of Arts.
  - (6) The principles and methods of religious and moral education.
  - (7) The aim and organisation of systems of education as determined by social, economic, political, moral and religious conditions and ideals, with a study of the functions and relations of educational agencies.
  - (8) Physical development, including the study of fatigue.
  - (9) Psychology and physiology of skill with its educational implications.
  - (10) Any specific educational problem approved by the Board of the Faculty of Arts.
- Or The History of Education—two papers on one of the following periods, with study of certain original authorities, as arranged after consultation with the Professor, viz:
  - (1) From beginnings of Greek education to 400 A.D.
  - (2) 400 A.D.—1000 A.D.
  - (3) 1000 A.D.—1400 A.D.
  - (4) 1400 A.D.-1760 A.D.
  - (5) 1760 A.D. to present time.
    - Or a detailed study, based on personal knowledge, of the educational system of any one country, selected by the candidate with the approval of the Board of the Faculty of Arts. The examination on this subject may consist of an inspection of the reports and note books presented by the candidate.

# Master of Education

# DEGREE OF MASTER OF EDUCATION (M.Ed.)

1. The degree of Master of Education (M.Ed.) may be Ordinance. conferred, upon payment of the proper fee, on graduates of the University of not less than two years' standing from the date of their graduation as Bachelors, who have obtained the Diploma in Education of the University, subject to the conditions contained in the following paragraphs.

2. Each candidate for the degree of M.Ed. shall be required to present a thesis, consisting of a record of original work or research, or independent study or criticism, on some educational subject approved by the Senate. Each candidate shall further be required to submit himself for examination (oral or written, or both) in the subject of his thesis, unless the Senate on application waives this requirement.

3. (a) Candidates who have obtained the Diploma in Education of the University shall be entitled to present the thesis not less than one academic year after obtaining the Diploma with or without further attendance at the University.

(b) Graduates of the University who have satisfied the examiners in the subjects of Education at the Final examination for the degree of Bachelor of Arts or Bachelor of Science, may become candidates for the degree of M.Ed., notwithstanding that they have not obtained the Diploma in Education, provided that they have had, after graduation, either (I) not less than one year's approved study, or (2) not less than one year's experience in the practical work of education and have proved efficient therein, and, subsequently shall have pursued for an additional year an approved course of advanced study or research in Education.

(c) Graduates of the University, may, by permission of the Senate, substitute for the Diploma in Education of the University, the Diploma or Certificate in Education of another approved University. Such candidates shall be required to pursue a course of advanced study or research in Education in the University for one year.

4. Graduates, or persons who have passed the Final examination for a degree of other approved Universities shall, if they produce evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research be permitted to enter the University and to become candidates for the degree of M.Ed. without having previously graduated in this University. Such candidates shall be subject to the requirements set forth in paragraph 2 above, and shall further be required to pursue a course of study and research in Education in the University for a period of two years, except in so far as the Senate approves of study and research conducted in some other institution during one of the required years.

N.B.—In 1922 candidates must make their entry, pay the prescribed fee, and send in their thesis not later than MONDAY, MAY 1st. It is desirable that at least two copies of the thesis submitted should be furnished.

# DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.)

Ordinance

1. The Degree of Doctor of Philosophy (Ph.D.) is conferred, on payment of the proper fee, on persons who are registered graduates of the University of Leeds, or who have obtained at an approved University or Institution of University rank a degree or appropriate diploma awarded upon an approved course of study extending over not less than three years, or have passed the Final examination for such a degree at an approved University, provided that in all cases the conditions laid down in the following paragraphs have been satisfied.

2. All Candidates for the Degree of Doctor of Philosophy are required to pursue in the University for at least two academic years an approved full-time course of advanced study and research, under the direction of the Head of the Department concerned or of a member of the University staff appointed by the Senate on his recommendation;

provided that, after completion of the first year of the course, candidates may be permitted to devote such

periods as may be deemed advisable by the Senate to fulltime study and research in other approved Universities or institutions, while remaining under the direction of the University or of persons nominated by the University.

3. Before entering on the course of advanced study and research, candidates are required

(a) To have attained the age of 21 years.

- (b) To submit to the Senate for its approval the course of advanced study and research proposed by them and to present evidence satisfactory to the Senate that they are qualified to undertake the proposed course.
- (c) To register as students of the University and to pay the prescribed fees for tuition.

4. On completing the course of advanced study and research candidates are required

- (a) To present a thesis on the subject of their advanced study and research, and to satisfy the examiners that it contains original work worthy of publication, and that it is of a sufficient standard of merit to qualify for the degree of Doctor of Philosophy.
- (b) To submit themselves for an oral examination on matters relevant to their thesis and, if required, for a written examination and to satisfy the examiners in the examination as well as in the thesis presented.

5. The application of a candidate for admission to the Regulations course for the degree must give particulars of his educational career and qualifications as well as the subject of his proposed course of advanced study and research. The application should be addressed to the Clerk to the Senate.

NOTE.-A candidate is advised, before making application to the Clerk to the Senate, to consult the Head of the Department which is concerned with the subject which he proposes to study.

6. A candidate is required during his course to devote his whole time to his advanced study and research; but in exceptional cases the Senate is prepared to allow the candidate to undertake a limited amount of outside work which, in its judgment, would not interfere with the prosecution of his proposed course of advanced study and research.

# Doctor of Letters

7. A candidate will not be permitted to submit as his thesis one for which a degree has been conferred upon him in this or any other University; but he shall not be precluded from incorporating in his thesis any part of the work already submitted by him with a view to a degree for which he has been a successful candidate, provided that in his application to the University for admission to the course he states his desire to do so, and in the thesis itself indicates the part of the work which has been so incorporated.

8. It will be generally convenient that the candidate's course should begin either at the opening of the academic year in October, or during the previous Long Vacation; but the Senate is prepared to consider applications for leave to begin the course at some other time in the academic year. The course must in any case extend over two academic years or their equivalent.

9 Towards the completion of his course the candidate, giving if possible three months' notice to the Clerk to the Senate, must make application to be examined and must submit, as soon as possible afterwards, at least one copy of his thesis, which should be accompanied by a short abstract. The copy of the thesis will be retained by the University.

## DEGREE OF DOCTOR OF LETTERS

Ordinance.

1. The degree of Doctor of Letters shall be conferred by the University upon registered Masters of Arts or Doctors of Philosophy of the University who shall be deemed by the Senate, after considering a report from the Board of the Faculty of Arts, to have distinguished themselves by special research or learning.

Provided that the Senate may, in such cases as it shall think fit, after considering a report from the Board of the Faculty of Arts, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Arts or a Doctor of Philosophy of the University may-make application for the degree of Doctor of Letters in the sixth or any subsequent year from the date of his admission to the Bachelor's degree.

# Diplomas in Arts

3. Such applications shall be made in writing to the Registrar, and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any thesis, whether in print or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—In 1922 the latest date for application and payment of fee will be WEDNESDAY, MARCH 1st.

# DIPLOMAS IN ARTS

Diplomas shall be granted by the University, in such Ordinance subjects as the Council may from time to time determine, to students who pursue the courses of study and pass the examinations prescribed.

The Council is empowered to make from time to time Regulations under which such Diplomas shall be awarded.

The award of Diplomas under the provisions of this Ordinance is delegated to the Senate.

Candidates for Diplomas are required to give satisfactory Regulations. attendance upon all the subjects which form part of their course of study, and to present themselves for any class examinations that may be held in the same. Those who do not pass satisfactorily in these examinations in any year will be disqualified for the Diploma unless they repeat the course in whole or in part, as may be required by the Senate.

At the close of the course, candidates will be required to present themselves for such examination in the main subject of study as may be prescribed.

Some deviation from these courses may be sanctioned in special cases, and students who on entering upon a Diploma course produce evidence that they possess a sufficient knowledge of the work done during a part of the course will be allowed to dispense with a certain amount of attendance. Applications for exemption from attendance should be made to the head of the department concerned, who shall bring them before the Standing Committee of the Senate appointed to deal with such matters.

# Diploma in Education

Regulations

Candidates for the diploma in Education must be graduates of some University in the United Kingdom or must have obtained such other academic qualifications as shall be approved by the Senate of the University.

The session for students in this department will open about the beginning of September and will close about the middle of July.

The course is both theoretical and practical. At least sixty days will be devoted to class work in school.

Students will attend the following lectures :

(a) Psychological Bases of Education.

(b) Physical Education.

(c) Intellectual Development.

(d) Moral Development and School Discipline.

(e) History of Education, with study of special work.

(f) The aims and organization of the Educational Systems of Great Britain.

(g) Principles and Methods of Teaching.

(h) Phonetics and Voice Production.

NOTE.—All the courses may be taken in one academic year, or they may be spread over two years.

# II. Practical Work

This will be carried on under the immediate supervision of members of the staff, and of certain teachers of special subjects in the practising schools.

Students who wish to specialise in one or more subjects of the school curriculum will be definitely attached throughout the year to certain selected schools which provide special opportunities for the required training.

For some time previous to the opening of the ordinary University session at the beginning of October, students may be in continuous attendance at selected schools for the purpose of observing methods of organisation, teaching, discipline, &c.

Throughout the University session systematic observation and teaching in school will be done by each student.

The written examination for the diploma will take place in June, at the same time as the degree examinations. The papers—except in the Practice of Education will, as a rule, be the same as those set for the degree.

The tests in practical skill will consist in the delivery of lessons and in an inspection of records of the candidates' practical work in school Importance will be attached to reports on the candidates' work and skill from the teacher of the school under whom they have worked, and from the staff of the University Education department.

Graduates in Arts or Science of this University who have included Education in the Final examination for their degree may obtain the diploma in Education after a further year's attendance on a course approved by the Board of the Faculty in which the degree was taken. Such course must include :

(a) Attendance in schools as specified in II above;

(b) Attendance on course I (g);

 (c) Attendance on a course of study in Arts or Science (not included in those taken for a degree), approved by the Board of the Faculty as at least equivalent to the subject of Education taken as part of the Final course for the degree.

The examination for the diploma in Education will in these cases consist of the tests of practical skill, and the paper in the Practice of Education, but the diploma will not be issued until the candidate has also passed the degree examination in the subject or subjects included under (c).

The list of successful candidates will be issued in alphabetical order, and no special honours will be assigned to any candidate.

# Diplomas in Arts

No diploma will be issued until the candidate has passed in both the written and the practical parts of the examination; but a candidate who fails in the practical part only may, on the recommendation of the examiners, be allowed by the Senate to present that part at a subsequent date without further written examination. In such cases the candidate must produce a satisfactory report from the head teacher of the school in which she has been teaching, and must submit records of work done.

The fees payable are

Diploma Course	e (inc	luding	Union	fee)	£22	0	0
Examination	•••				£3	0	0

N.B.—If additional courses are taken the usual fees for those courses will be charged.

The following have been recognised as efficient Practising Schools for students :

Leeds: Girls' High School.

" Thoresby School.

" Notre Dame Collegiate School.

" Modern (Girls') School.

" West Leeds High School.

" Cockburn High School.

" Mount St. Mary's College

"Girls' High School, Chapel Allerton

Bradford : Girls' Grammar School.

Wakefield : Girls' High School.

# Diploma for Teachers of French

The examinations for the diploma, to be conducted annually, will be:

1. The First examination of the same standard as the Final examination in French for the Ordinary degree of B.A., including the study of prescribed authors in their literary and linguistic aspect. The study of periods of literature will not be required.

2. The Second examination, in methods of teaching and in phonetics.

Candidates for the diploma will be required

- (1) To pass the First examination, or to give satisfactory evidence that their knowledge of the French language is not below the standard of that examination.
- (2) To attend for at least one year the University class preparatory to the Second examination.
- (3) To pass the Second examination.

Fee for the whole examination (First and Second),  $\pounds_3$ .

# Diploma for Teachers of German

The regulations for this diploma are the same as above, with the substitution of "German" for "French" throughout.

N.B.—In 1922 the latest date of entry and of payment of fees for the First and Second examinations held in June will be WEDNESDAY, MARCH 1st.

# Diplomas for Teachers of Geography

Candidates for the diploma must be graduates of a recognised University or must be on the Teachers' Register or have obtained such other academic qualifications as shall be approved by the Senate.

Candidates must give full time attendance for one year, or an equivalent amount of time spread over a longer period. If the course is completed in one year, full time attendance will be required.

If the course is spread over two years, a student will attend on Saturday morning (three hours) and on one evening or one afternoon in each week on a day to be arranged after consultation with the students.

All intending students are invited to meet the Reader in Geography (Mr. C. B. Fawcett) in the Department of Geography at the University on Saturday, the 1st October, at 10 a.m.

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# Diplomas in Arts

The course will consist of two parts— the first comprising the work required of a student in Geography when taking that subject as a Principal subject for the Ordinary Degree of B.A. The examination will be of the same standard and normally on the same papers as in the Final Examination for the degree. The second part of the course will comprise methods of teaching Geography, and will include teaching practice in School. The examination on this part will also include a practical test. (If a student is actually engaged in teaching Geography in an approved school his work in that school may be recognised, after inspection by the University, for the purposes of the practical portion of Part II of the diploma course).

The fees payable by students will be as follows :--

Registration fee, payable by all students

of the University ... ... ... Composition fee, including subscription to the University Union—

(a) If the course is completed in one year
(b) If the course is spread over two years

 $f_{13}$  a year.

f.2

Examination fee, including first and second parts

N.B.—In 1922 the latest date of entry and of payment of fees for the First and Second examinations held in June will be WEDNESDAY, MARCH 1st.

# COURSES IN ARTS

# CLASSICS

# Professor Rhys Roberts Professor Connal Mr. Bibby Mr White

# GREEK LANGUAGE AND LITERATURE

# Int. Intermediate Course

The work in this course will comprise composition, trans lation at sight and the special study of Demosthenes *Olynthiacs* i, ii, iii; Sophocles, *Electra*.

Four hours to be arranged later.

#### Books recommended

Jebb, Primer of Greek Literature (Macmillan). Macgregor's Olynthiacs of Demosthenes (Cambridge Press); Jebb and Davies, Electra of Sophocles (Cambridge Press). North and Hillard's Greek Prose Composition (Rivington).

# F1. Final Course (First Year)

The work in this course will comprise composition, translation at sight, and the special study of Plato's *Protagoras* and of other books to be selected when the class meets.

Four hours to be arranged later.

#### Books recommended

 Murray's, Jevons's, or Mahaffy's History of Greek Literature; or Croiset's (the abridged edition).
 Sidgwick's Greek Prose Composition (Rivington).
 Adam's edition of Plato's Protagoras (Cambridge Press).

# F2. Final Course (Second Year)

The work in this course will comprise composition, translation at sight, and the special study of Thucydides iii; Aeschylus, *Persians*; Aristophanes, *Birds*.

Four hours to be arranged later.

#### Books recommended

Murray's, Jevons's, or Mahaffy's *History of Greek Literature*; or Croiset's (the abridged edition).

Sidgwick's *Persians* of Aeschylus (Oxford Press), Merry's *Birds* of Aristophanes (Oxford Press).
## H. Honours and M.A. Course

The work in this course will comprise composition, translation at sight, and the study of books prescribed for the examinations for Honours in Classics, and for the M.A. degree in Greek.

Six hours to be arranged later.

## SPECIAL CLASSES

### S1. Elementary Class

This class is intended for beginners; it will not be held unless there is a reasonable number of promising applicants.

Tuesdays and Thursdays at 9 a.m.

Special fee, £,2.

### S2. Higher Elementary Class

The work in this class will comprise grammar, elementary composition, translation at sight, and the special study of two Greek books. The class will not be held unless there is a reasonable number of promising applicants.

Text books will be recommended by the lecturer at the beginning of the session.

Tuesdays and Thursdays at 9 a.m.

### LATIN LANGUAGE AND LITERATURE

## Int. Intermediate Course

The work in this course will comprise composition, translation at sight, and the special study of Livy xxii, cc. 1-50 (omitting 19-22) and Virgil, *Aeneid* ii.

Mondays and Wednesdays throughout the session and Fridays during the first and second terms, at 10 a.m., with a composition class on *either* Tuesdays at 11 a.m. or Thursdays at 10 a.m. throughout the session.

### Books recommended

Livy xxii, Dimsdale (Pitt Press). Virgil, *Aeneid* ii, Page (Macmillan).

## Latin

### F1. Final Course (First Year)

The work in this course will comprise composition, translation at sight, and the special study of selected books, one of which will be Virgil, *Aeneid* ii.

Mondays, Wednesdays, and Fridays, at 12 noon, and a composition class on Tuesdays, at 12 noon.

Books recommended Virgil, Aeneid ii, Page (Macmillan).

### F2. Final Course (Second Year)

The work in this course will comprise more advanced composition, translation at sight, and the special study of Tacitus, *Annals* i, and Virgil, *Aeneid* ii.

Mondays and Fridays at 3 p.m., and Wednesdays at 12 noon, and a composition class on Tuesdays at 12 noon.

Books recommended Tacitus, Annals i, Furneaux (Clarendon Press). Virgil, Aeneid ii, Page (Macmillan).

### H. Honours and M.A. Course

The work in this course will comprise composition, translation at sight, and the study of books prescribed for the examinations for Honours in Classics and for the M.A in Latin.

Mondays at 12 noon, Tuesdays at 3 p.m., and Fridays at 12 noon, and a composition class at a time to be arranged.

### Books recommended for Classical Students

Such books as the following will be found useful by classical students:

- Murray's Ancient Greek Literature, Jevons's Greek Literature, Mahaffy's Greek Classical Literature, Croiset's Abridged History of Greek Literature, Mackail's Latin Literature, Cruttwell's History of Roman Literature, Wight Duff's Literary History of Rome.
- Sandys' History of Classical Scholarship, Saintsbury's History of Criticism, Evelyn Abbott's Hellenica, Butcher's Aspects of the Greek Genius and Harvard Lectures on Greek Subjects, lebb's Essays and Addresses, Dickinson's Greek View of Life, Tucker's Life in Ancient Athens, Whibley's Companion to Greek Studies, G. F. Hill's Greek and Roman Coins,

P. Gardner's Grammar of Greek Art, E. A. Gardner's Handbook of Greek Sculpture, Michaelis' Century of Archaeological Discoveries, Reinach's Apollo, Marquand's Greek Architecture, Burrows' Discoveries in Crete, Hawes' Crete the Forerunner of Greece.

- Jebb's Growth and Influence of Classical Greek Poetry, Symonds' Studies of the Greek Poets, Mackail's Lectures on Greek Poetry, Butcher's Aristotle's Theory of Poetry and the Fine Arts, Jebb's Introduction to Homer, Gilbert Murray's Rise of the Greek Epic, Browne's Homeric Study, Haigh's Attic Theatre and Tragic Drama of the Greeks, Decharme's Euripide et l'esprit de son Théatre, Jebb's Attic Orators.
- Tyrrell's Latin Poetry, Sellar's Roman Poets of the Republic and Roman Foets of the Augustan Age (Virgil, Horace), Glover's Studies in Virgil, Martha's Poeme de Lucrèce, Boissier's Cicéron et ses amis, Warde Fowler's Social Life in the Age of Cicero, and Religious Experience of the Roman People, Greenidge's Roman Public Life, Sandys' Companion to Latin Studies.
- Giles's Comparative Philology, V. Henry's Comparative Grammar of Greek and Latin, Goodwin's Greek Moods and Tenses, Gildersleeve's Greek Syntax, Monro's Homeric Grammar, the Latin Grammars of Roby, Madvig, Gildersleeve and Lodge, Sidgwick's Lectures on Greek Prose Composition.

### HEBREW LANGUAGE AND LITERATURE

Rev. Principal BLOMFIELD, at Rawdon College Rev. Professor LIGHTLEY, at Headingley College\*

### Int. Intermediate Course

The work in this course will include (1) the mastery of the Elements of Hebrew Grammar (McFayden's Edition of Davidson's Grammar), (2) the translation and exegesis of a selected portion of prose from the Old Testament. For the session 1921-22, I Kings, chs. 17-19, (3) (a) the history of the Hebrews from the Conquest to Ezra; OR (b) easy composition, vocabulary to be given so far as not taken from the prescribed chapters, and pointing passages from the prescribed chapters.

Tuesdays and Thursdays, two hours, at times to be arranged throughout the session.

<sup>\*</sup>Headingley College is at present closed, and the courses in Hebrew at that College are therefore temporarily suspended.

## English

### F1. Final Course (First Year)

The work in this course will comprise composition, translation at sight, pointing, and the special study of I Samuel, chs. I-19 with critical introduction to both I and II Samuel.

Tuesdays, Wednesdays and Fridays, one hour each at times to be arranged, with an additional class for unseens and composition, at Rawdon College.

Books necessary: Hebrew English Lexicon, by Brown, Driver & Briggs, Davidson's Hebrew Syntax, and Robertson's Hebrew Exercises. An unpointed Hebrew Bible must also be procured.

### F2. Final Course (Second Year)

The work will comprise more advanced composition, translation at sight and the special study of Isaiah, chapters 40-55, with critical introduction to the whole book of Isaiah.

Four hours weekly as may be arranged, in some of which the classes of the First Final Year and the Second Final Year meet together, at Rawdon College.

Books as above. Gesenius-Kautzsch Hebrew Grammar (Collins & Cowley) and Driver's Hebrew Tenses are strongly recommended.

# ENGLISH LANGUAGE AND LITERATURE

## Professor GORDON

Mr. Tolkien Mr. Cowling Mr. Davis

### Int. I Intermediate Course (Literature)

The work in this course is intended to serve as an introduction to English Literature, and will comprise the study of the following representative texts :---

\*Chaucer, Prologue to the Canterbury Tales (ed. Pollard, Macmillan; or Globe ed.); Spenser, Faery Queene, Book V (ed. Gough, Oxford Univ. Press; or Globe ed.); \*Shakespeare, As You Like It, Coriolanus (ed. Gordon, Clarendon Press); Milton, Selections (ed. Hughes, Oxford Univ. Press); Bunyan, The Pilgrim's Progress, Part I; Dryden, Annus Mirabilis, Songs, Odes and Lyrical Pieces

(Globe ed.), Aurengzebe (Mermaid Series, Dryden, Vol. I); Swift, Gulliver's Travels, Parts III and IV; Pope, Pastorals, Essay on Criticism, Epistle to Dr. Arbuthnot (Globe ed.); Burke, Selections (ed. Hughes, Oxford Univ. Press); Boswell, The Journal of a Tour to the Hebrides (Dent, Temple Classics); Lyrical Ballads (ed. Sampson, Methuen); Lamb, Prose and Poetry (Clarendon Press Selection). Also, Palgrave's Golden Treasury of English Songs and Lyrics (World's Classics); Johnson, Lives of Milton, Dryden, Swift and Pope (World's Classics).

Nore.—The texts marked with an asterisk are prescribed for detailed study. A minute annotational study of the other texts is at this stage neither expected nor desired.

Mondays and Wednesdays, at II a.m. throughout the session.

### Int.2. Intermediate Course (Composition)

The work in this course will comprise the study and practice of English Composition.

Fridays at II a.m., and in weekly tutorial groups at times to be arranged.

### Text-books recommended

Fowler, The King's English, abridged ed. (Oxford Univ. Press).

Pearsall Smith, The English Language (Home Univ. Library).

Note.—A limited number of students from other Departments will be admitted to this course on application.

### F1. Final Course (English Literature)

Students taking English in the Final course may offer English Literature and Language as a principal subject; or English Literature alone as a subsidiary subject. Attention is drawn to the importance for these studies of a knowledge of the outlines of English History.

The work of the course will comprise :

(i) The continued study and practice of English omposition.

## English

(ii) The History of English Literature from 1700 to 1765, with special reference to the following selected texts: Swift, \*Tale of a Tub, Battle of the Books, Letter to a Young Clergyman, Letter of Advice to a Young Poet; Addison, Essays (ed. J. R. Green, Macmillan); Pope, \*Essay on Criticism, Essay on Man, I, Epistle to Dr. Arbuthnot; Gay, Beggar's Opera; Thomson, Winter, Castle of Indolence; Bolingbroke, Letters on The Spirit of Patriotism, and The Idea of a Patriot King (Oxford Univ. Press); Richardson, Pamela; Fielding, Joseph Andrews; Collins, Odes; Gray, Poems; Johnson, London, Vanity of Human Wishes, Preface to Dictionary, \*Preface to Shakespeare; Goldsmith, Traveller, Essays (1765). Life of Richard Nash. Also, Johnson, Lives of the Poets (Addison, Gay, Swift, \*Pope, Thomson, Collins, Gray) and Boswell, *Life of Johnson* (to the year 1765).

Note.—The texts marked with an asterisk are prescribed for detailed study.

(iii) In alternate years:

- (1) Outlines of the History of English Literature (1922-23);
- (2) The Literary and Social History of the Nineteenth Century (1921-22).

In the third term Short Courses will usually be given, open to all students of the School, on such subjects as Contemporary English Literature and the Art of Writing.

Mondays, Wednesdays and Fridays, at II a.m. throughout the session.

### Books recommended

Green, Short History of the English People (Macmillan). Saintsbury, Short History of English Literature (Macmillan). Chambers' Cyclopædia of English Literature. Saintsbury, Manual of English Prosody (Macmillan). Raleigh, Style (Arnold).

For consultation on Special Period: Lecky, History of England in the Eighteenth Century, vols. i-iii.

Note.—The rotation of Periods is as follows: 1579– 1637, with iii (2) above [1923–24]; 1637–1700, with iii (1) [1924–25]; 1700–1765, with iii (2) [1921–22]; 1765–1832, with iii (1) [1922–23].

## Fz. Final Course (English Literature and Language)

The work in this course is intended for students taking English as a principal subject, and will comprise, in addition to what is entered under FI, an introductory study of Old and Middle English (Language and Lite:ature). The following texts will be used :--

Sweet, Anglo-Saxon Primer; Selections from The Saxon Chronicles: 787-1001 A.D. (Oxford Univ. Press); Chaucer, Prologue to the Canterbury Tales, The Tale of Sir Thopas, The Canon's Yecman's Tale, To Rosamounde. Truth. Gentilesse.

Two hours a week throughout the session for students in the second year of their Final course.

### Books recommended

Jespersen, Growth and Structure of the English Language (Teubner).

Bradley, The Making of English (Macmillan).

Ker, English Literature, Mediæval (Home Univ. Library). Coulton, Chaucer and his England (Methuen).

NOTE.—Students taking English as a principal subject may, with the consent of the Board of the Faculty of Arts, be permitted to substitute a further study of English Literature for the above course in English Language.

### HONOURS AND M.A. COURSES

### A. Language.

## HI. First Year

The work in this course will comprise the outlines of the history of the English Language to the close of the fourteenth century, and the special study of West Saxon texts and of the language of Chaucer.

The following texts will be used in 1921-22: Sweet, Anglo-Saxon Primer; Wyatt, Anglo-Saxon Reader, extracts i-v, xviii, xx, xxii, xxv; Chaucer, Minor Pocms, Prologue to Canterbury Tales, The Clerk's Tale; Metcalfe, Specimens of Scottish Literature, pp. 34-38, 42-57, 65-68.

Mondays and Fridays at 3 p.m.

## English

### Books Recommended

Wright, Old English Grammar (Oxford Univ. Press).
Wyld, Short History of English (Murray).
Jespersen, Growth and Structure of the English Language (Teubner).
Bradley, The Making of English (Macmillan).
Ker, English Literature, Mediæval (Home Univ. Library).
Pollard, Chaucer Primer (Macmillan).
Coulton, Chaucer and his England (Methuen).

### H2. (Scheme A and B) Second and Third Year

Old English Verse, with special study of *Beowulf*, *The Fight at Finnsburg*, *Widsith*, *Waldere*, *Deor's Lament*. Mondays at 10 a.m.

H3. (Scheme A and B) Second and Third Year The History of English. Wednesdays at 10 a.m.

H4. (Scheme A and B) Second and Third Year Old and Middle English texts. Mondays at 12 noon.

H5. (Scheme B) Second and Third Year Old and Middle English Dialects. Fridays at 12 noon (fortnightly).

### H6. (Scheme B) Third Year

Introduction to Germanic Philology, with special reference to Old English.

Wednesdays at II a.m.

### H7 (Scheme B) Second Year

Gothic.

Tuesdays at 2 p.m.

### Text-book: Wright's Gothic Grammar

Note.—Students under Scheme B who desire to offer one of the alternatives to Gothic are requested to give notice of their intention not later than the beginning of their second year, when appropriate courses will be arranged.

B. Literature.

### H8. (Scheme A and B) First Year

Essays and Discussions. In tutorial groups at times to be arranged.

H9. (Scheme A and B) Third Year Early English Literature. Thursdays at II a.m.

## H10. (Scheme A and B) Third Year

Chaucer.

Weekly, at an hour to be arranged.

HII. (Scheme A) Second Year Shakespeare. Wednesdays at 12 noon.

### H12. (Scheme A) Third Year

History of Literary Criticism. Fridays at 12 noon.

## H13. (Scheme A) Third Year

Essay Class.

Fridays from 9.30 to 11 a.m. The work will take the form of discussions, following upon papers read by students to the Class. Subject for 1921-22: The Seventeenth Century.

## H14. (Scheme B) Third Year

Essay Class.

Fridays at 12 noon (fortnightly). This Class will be conducted on the same principles as H13, and will be chiefly concerned with Early English Literature and Civilization.

NOTE.-M.A. students may attend any of the courses prescribed for Honours students.

# French

# FRENCH LANGUAGE AND LITERATURE

# Professor BARBIER Dr. GUNNELL Mr. SOLTAU

### Int. 1, Int. 2, Int. 3. Intermediate Courses

The work done in these two courses is the same in every respect. It will comprise grammar, composition, dictation, translation at sight, conversation in French, and the special study of Mérimée, *Chronique de Charles IX*, and La Fontaine, *Selected Fables*.

Course Int.1 and course Int.2 will be held on Mondays, Wednesdays and Fridays at 12 noon, and course Int.3 on Mondays, Tuesdays and Fridays at 9 a.m.

### Books recommended

Merimee, Chronique de Charles IX (Hachette, with notes). La Fontaine, Selected Fables (ed. Hugon, Clarendon Press). Vigny, Poemes Choisis (Manchester University Press).

## Int.4. French Literature (B)

Lectures in French on the French Romantic movement will be given on Tuesdays at 3 p.m. during the first term.

Students taking French for the Intermediate examination are expected to join this class.

Fee, *f*, 2.

### F1. Final Course

The work in this course will comprise more advanced syntax and composition, translation at sight, the elements of historical grammar and phonetics, and the special study of Molière, *Misanthrope and Les Femmes Savantes*.

Mondays, Tuesdays and Fridays, at 2 p.m.

Books recommended

### F2. French Literature (A)

Lectures on French Comedy (1550-1700) will be given in French on Tuesdays at 3 p.m. during the session.

No entry will be taken for less than two terms. Fee,  $\pounds_4$  for the session;  $\pounds_3$  for two terms.

### H. Honours Course

Honours lectures on Monday, 3 p.m., 4 p.m.; Tuesday, 9 a.m., 10 a.m., 12 noon; Thursday, 2 p.m.; Friday, 2 p.m.; Saturday, 10 a.m.

Students taking Honours should consult the Head of the Department as to the lectures they must attend.

## SPECIAL CLASSES

### S1. Saturday Morning Training Course (A)

This class will meet on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 8th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in language required for the First examination in connection with the University Diploma for teachers of French, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

There will be a short examination at the first meeting of the class for students wishing to enter for the first Diploma examination at the end of the session.

Special fee,  $\pounds$ .

Books recommended

Molière, Le Misanthrope. Voltaire, Lettres Philosophiques. Paul and Victor Margueritte, Le Desastre.

### S2. Saturday Morning Training Course (B)

This class usually meets on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 8th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in phonetics and methods of teaching required for the Second examination in connection with the University Diploma for teachers of French, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

Special fee, £4.

### German

# GERMAN LANGUAGE AND LITERATURE

# Dr. Gough Miss Caldwell Miss Scott

### Int. Intermediate Course

Mondays and Fridays at 3 p.m., and Thursdays at 11 a.m. or 2 p.m. (If necessary, the hours of this class on *Thursdays* will be altered).

This course is intended for candidates entering for the Intermediate examination in Arts, Science, and Commerce, and for general students who wish to acquire a greater proficiency in German. In addition to the prescribed work, syntax, dictation, and composition will be studied, and the class will have practice in German conversation.

### Books recommended

Kuno Meyer, German Grammar, parts i and ii (Sonnenschein). Third German Reader and Writer (Sonnenschein).

Droste-Hülshoff, *Die Judenbuche* (ed. Eckelmann (N.Y. Oxford University Press).

Schiller's Ballads (ed. Johnson, Heath and Co.).

### F. Final Course

Mondays, Wednesdays and Fridays, at 10 a.m.

The work of this class comprises revision of German syntax, the elements of historical grammar and phonetics, study of advanced texts, and composition. The class will be taught in German.

### Books recommended

Schiller, *Wallenstein*, i, ii (ed. Breul, Pitt Press). Fiedler, *Book of German Verse* (Clarendon Press). Behaghel, *Die deutsche Sprache* (Leipzig, Freytag).

### H. Honours and M.A. Course

Mondays, Wednesdays and Fridays at 11 a.m.

The work of this class will comprise Historical Grammar, Old and Middle High German Grammar and Literature, and interpretation of Old High German and Middle High German texts. Part of the work taken in this course is also suitable for graduates reading for the M.A. examination.

Books and periods will be found under the Honours School of Modern Languages and Literatures for the B.A. degree with Honours.

# SPECIAL CLASSES

## S1. Lower Elementary Class

Mondays and Fridays at 2 p.m.

This class is intended for beginners. Special attention will be given to students of science and technology.

## Books recommended

Fiedler-Sandbach, First German Course for Science Students (Clarendon Press).

Twenty Stories from Grimm (ed. Rippmann, Pitt Press).

### S2. Higher Elementary Class

Mondays and Fridays at 4 p.m.

This course is intended for students who already possess an elementary knowledge of German. In addition to the study of grammar and composition, the work of this class will include books of general literary interest, as well as texts bearing on various branches of science. German conversation will be practised.

### Books recommended

Kuno Meyer, German Grammar, parts i and ii (Sonnenschein). Second German Reader and Writer (Sonnenschein). Seidel, Aus goldenen Tagen (ed. Bernhardt, Heath & Co). Helmholtz, Populäre Vorträge (ed. E. S. Shumway, Heath & Co.)

### S3. German Literature

Lectures on the Life and Works of Goethe will be given on Tuesdays, at 4 p.m.

Fee,  $\pounds_4$  for the session ;  $\pounds_3$  for two terms ;  $\pounds_2$  for one term.

### S4. German Institutions

One hour a week at a time to be arranged.

## S5. Saturday Morning Training Course (A)

This class will meet on Saturdays, from 10 a.m. to 12 noon, beginning on October 8th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work required for the First examination in connection with the University Diploma for teachers of German, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified.

## Russian

There will be a short examination at the first meeting of the class for students wishing to enter for the first Diploma examination at the end of the session.

Special fee,  $\pounds, 4$ .

Books recommended Heyse, L'Arrabiata (Heath). Freytag, Die Journalistan (Heath). Scheffel, Trompeter von Säkkingen (Macmillans). Longman's German Composition (Longman). Meyer's German Grammar, part i and ii (Sonnenschein). Behaghel, Die deutsche Sprache (Leipzig, Freytag).

## S6. Saturday Morning Training Course (B)

This class will meet on Saturdays, from 10 a.m. to 12 noon, beginning October 8th. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

The course will cover the work in phonetics and methods of teaching required for the Second examination in connection with the University Diploma for teachers of German, but students who are not candidates for the Diploma will also be admitted on satisfying the Professor that they are sufficiently qualified. The titles of the books used in this class will be announced at the beginning of the first term.

Special fee, £4.

# RUSSIAN LANGUAGE AND LITERATURE

## Mr. Kolni Balozky

The School of Russian Studies was founded in 1917. Its object is to study the language, literature, history, institutions, economy, and the achievements of Russian scholars in art and science.

The subject is recognised for a University degree both for the ordinary degree and for the degree with Honours. Russian can also be taken under the regulations for the Degree or Diploma in Commerce.

The donor, in endowing the "School of Russian Studies," wrote that he "was of opinion that it would be an illusion

to expect that adequate advantage could be taken of Russia as an outlet for our manufactures unless we can be represented out there by our own countrymen equipped with the knowledge of the Russian language."

### Int. Intermediate Course

Three hours a week at times to be arranged.

This course is intended for candidates entering for the Intermediate examinations in Arts, Science, and Commerce, and for general students who wish to acquire a greater proficiency in Russian. In addition to prescribed books, grammar, composition, dictation, and commercial correspondence, there will be practice in Russian conversation.

### F. Final Course

Three hours a week at times to be arranged.

The work of this class comprises the study of prescribed texts (both prose and verse), the outlines of Russian History, a period or periods of Russian literature, together with grammar, composition, commercial correspondence, and conversation in Russian.

### SPECIAL CLASSES

### S1. Lower Elementary Class

Hours to be arranged.

This class is intended for beginners. The work of the first year will consist of acquiring a vocabulary (about 800 words), the study of grammar, reading and writing. There will also be practice in Russian conversation.

## S2. Higher Elementary Course

Hours to be arranged.

This course is intended for students who already possess an elementary knowledge of Russian. The work will comprise grammar, composition, commercial correspondence, the reading of Russian books and conversation. Special attention will be given to students of Science, Technology, and Commerce.

### S3. Russian Literature

One hour a week (to be arranged).

## Spanish

# SPANISH LANGUAGE AND LITERATURE

## Senor PEDRO PENZOL

## Int. Intermediate Course

Three hours a week at times to be arranged.

This course is intended for candidates entering for the Intermediate examinations in Arts, Science, and Commerce, and for general students who wish to acquire a greater proficiency in Spanish. In addition to prescribed books, grammar, composition, and dictation will be studied and there will be practice in Spanish Conversation.

### Books recommended

First Spanish Course, by Mills & Ford. Lecturas Españolas-Azorin (Nelson). Las Cien Mejores Poesias (Gowans & Grey, Edinburgh).

## F. Final Course

Three hours a week at times to be arranged.

The work of this class comprises the study of prescribed texts (both prose and verse), a period or periods of Spanish literature, together with grammar, composition and conversation in Spanish.

### Books recommended

The Spanish American Reader, by Ernesto Nelson. Manual of Spanish Commercial Correspondence, by Macdonald. El Buscon-Guevedo (Nelson).

### SPECIAL CLASSES

### SI. Lower Elementary Class

Hours to be arranged. This class is intended for beginners.

### S2. Higher Elementary Class

Hours to be arranged

This course is intended for students who already possess an elementary knowledge of Spanish. The work will comprise grammar, composition, the reading of Spanish books and conversation.

S3. Spanish Literature

One hour a week (to be arranged).

## HISTORY

#### Professor GRANT Miss COOKE Mr WOODWARD Mr DAINTON

## INTERMEDIATE COURSES

## Int. I. Outlines of Greek and Roman History

Tuesdays and Thursdays at 12 noon. Greek History to the death of Alexander. Roman History from 390 B.C. to 14 A.D.

Text Books recommended

For Greek History :

Oman, A History of Greece (Longmans) or Bury, History of Greece for Beginners (Macmillan).

For Roman History :

J. L. Myres, A History of Rome (Rivingtons), or J. Wells, A Short History of Rome to 14 A.D.

The following Lives in Plutarch will be studied in connection with this course :- Nikias, Agesilaus, Alexander, Crassus, Cæsar.

The text used will be the translation of Stewart and Long in Bohn's Library. The above Lives are all contained in Vol. III, which can be procured separately.

## Int.2. Modern History from 1763 to 1900

Tuesdays and Thursdays at 12 noon.

N.B.-No students will be admitted to the Honours course in History who have not completed their Intermediate examination including the additional subject at the end of the first year.

## FINAL COURSES

## First Year : Final

## F1. English Constitutional History from 1485

Tuesdays and Thursdays, at 11 a.m.

This is also a course for candidates for the Intermediate examination for the Ordinary B.Sc. degree and for the Special Intermediate examination for candidates for the B.A. degree with Honours in English. Candidates taking History as a subsidiary subject are also recommended to take this course.

## History

## F2. European History (Germany)

Tuesdays and Thursdays at 12 noon.

The course will be devoted to the history of Germany from the Sixth Century until modern times.

## Second Year : Final

F3. Greek History 445-362 B.C. Mondays and Fridays at 12 noon.

## F4. Roman History 133-31 B.C.

Tuesdays and Thursdays at 10 a.m.

## F5. The History of Europe from 1789 to 1815

Tuesdays and Thursdays at 10 a.m.

Candidates for the Final examination for the B.A. degree are recommended to take F5, and any one of the other courses.

### Ecclesiastical History

# Rev. A. C. UNDERWOOD, M.A., B.D., B.Litt., at Rawdon College.

Rev. J. W. LIGHTLEY, M.A., at Headingley College.\*

The regular course of instruction in Ecclesiastical History at Rawdon College deals with the period from 70 A.D. to 451 A.D. This is divided into two sections, viz., (a) 70 A.D. to 313 A.D., and (b) 313 A.D. to 451 A.D., which are taken in alternate years. Two lectures are given each week, at times arranged at the beginning of each session. The text-book is Pullan's *The Church of the Fathers*, with Gwatkin's *Selections from Early Christian Writers* and Bindley's *The Oecumenical Documents of the Faith* as source-books.

Other books recommended are Gwatkin's Early Church History to A.D. 313, Rainy's The Ancient Catholic Church, Lindsay's The Church and the Ministry in the Early Centuries, and Harnack's The Mission and Expansion of Christianity in the First Three Centuries. For the general social and religious background the student may read with advantage Dill's Roman Society from Nero to Marcus Aurelius, Glover's Life and Letters in the Fourth Century, and Dill's Roman Society in the Last Century of the Western Empire.

Courses on other periods of Ecclesiastical History are given from time to time by special arrangement.

\*Headingley College is at present closed, and the courses in Ecclesiastical History at that College are therefore temporarily suspended.

HONOURS AND M.A. COURSES

## HI. Roman History 31 B.C. to 37 A.D.

Mondays and Wednesdays at 11 a.m.

## H2. The same

For students in their third year. Fridays at 10 a.m.

H<sub>3</sub>. English Constitutional History from 1485 Tuesdays and Thursdays at 11 a.m.

H4. Supplementary Class on the Life and Times of Saint Bernard of Clairvaux for students in their third year

At times to be arranged.

H<sub>5</sub>. The History of England and France from 1570 to 1603 Mondays and Wednesdays at 11 a.m.

H6. The History of England and France from 1863 to 1874 A supplementary class for students in their third year. Fridays at 10 a.m.

### H7. Essay Class

One hour a week at times to be arranged.

H8. **Political Theory** (Professor GILLESPIE) At times to be arranged.

### H9. Historical Geography

At times to be arranged.

## H10. Special Class on other Set Books for Honours Students in their second year

One hour a week.

The following is a provisional list of the books to be studied:—Aristotle's *Politics* (selections); Pliny's *Letters* (selection); *The Speeches of Thucydides*; Dante's *Divine Comedy*; Machiavelli's *Prince*; Burke's *American Speeches*; Dickinson's *New Symposium*. Geography

# GEOGRAPHY

## Mr. FAWCETT

Miss Heslop

### INTERMEDIATE COURSE

Tuesdays and Fridays at 9 a.m.

Laboratory work at times to be arranged. This applies also to Final and Honours Courses.

General principles of geography, with special reference to the Major Natural Regions.

## FINAL COURSES

### Times to be arranged.

F1. A detailed study of the British Isles Two hours per week at times to be arranged.

### F2. Physical Geography

One hour per week at a time to be arranged.

F3. Detailed study of a Special Region—in 1921-22 The Mediterranean Region.

Two hours per week at times to be arranged.

## F4. Elements of Economic Geography

One hour per week at a time to be arranged.

## F5. Economic Geography

Two hours per week at times to be arranged.

### HONOURS COURSES

## H1. Human Geography

Four hours per week at times to be arranged.

## H2. Physical Geography

Two hours a week at times to be arranged.

### H<sub>3</sub>. History of Geography

One hour per week at a time to be arranged.

### Seminar

One hour per week at a time to be arranged.

# PHILOSOPHY

# Professor GILLESPIE

# Mr. HALLETT

## Int. Intermediate Course : Logic

Two Lectures a week throughout the session at times to be arranged.

This course deals with the elements of logic, deductive and inductive. Students will find it useful to familiarise themselves with the elementary formal logic, in some such text-books as *Mellone* or *Foculer*, before entering the class.

## F1. Final Course: Ethics

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

Subjects: The outlines of ethical theory, together with the elementary psychology of the will, and the study of selected ethical systems.

### F2. Final Course : History of Ancient Philosophy

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

*Subjects* : The outlines of the history of Greek philosophy with more detailed study of special books.

Candidates for Honours in Classics attend this class.

### F3. Final Course : History of Modern Philosophy

Two lectures and a tutorial class each week throughout the session, at hours to be arranged.

*Subjects* : The outlines of the history of modern philosophy from Descartes to Reid.

### H. Honours Courses

Lectures will be delivered on Kant and other subjects for the Honours degree, as required, at hours to be arranged.

Lectures on Social Philosophy will be delivered as required by candidates for the Diploma in Social Organization and students attending courses for Welfare Supervision. Particulars on application to the Professor.

## Economics

# **ECONOMICS**

## Professor Jones Mr. Shimmin Mr. Happell

## INTERMEDIATE COURSE

### Int. General Economics

The evolution of modern economic conditions. Modern industrial, commercial and social organisation. The national income. Value and distribution.

Tuesday and Thursday at 10 a.m.

### FINAL COURSES

### F1. Financial and Commercial Organisation

Business Organisation and management; Large and small businesses; joint stock enterprise; the trust movement. Land and Water Transport. Insurance. Currency and banking, the money market, stock exchange and foreign exchanges. The organisation of foreign trade.

Tuesday and Thursday at 11 a.m.

## F2. Public Finance and Administration

Public expenditure and revenue. Rates, taxes, and public debts. The Budget. Relations of central and local administration. Local Rates. Grants in Aid. Municipal finance and administration. National and Municipal Industries.

Two hours a week at times to be arranged.

### F3. Social Science and Administration

The influence of industrial conditions on social life; the problems of poverty, housing, sweating and unemployment. Some social aspects of industry. Employment of women and children. Schemes of industrial betterment. Industrial and social legislation.

Two hours a week at times to be arranged.

### F4. Economic History

Two hours a week at times to be arranged.

### F5. Labour Organisation

Methods of remuneration; trade union organisation; conciliation and arbitration; joint industrial councils, works committees, etc. Industrial fatigue. Trades Boards. Factory legislation.

Friday at 10 a.m.

### F6. Economic Theory

Tutorial instruction at a time to be arranged.

## HONOURS AND M.A. COURSES

### HI. Advanced Economic Theory

### H2. History of Economic Thought

## H3. Economic History: Special Period

Classes in the above subjects will be held at times to be arranged.

### H4. Political Theory

The nature and duties of the State and the basis of Citizenship.

Two hours a week at times to be arranged.

## H<sub>5</sub>. Constitutional Law

Two hours a week at times to be arranged.

### Special Courses

Students in the Economics department may attend other courses provided for students in the department of commerce and social organisation. Courses will normally be offered on The Theory of Statistics; The interpretation of Social Statistics, Local Government, and The Social History of the XIXth century. When required special courses will be given on The Organisation of Foreign Trade; Business Finance; The Banking systems of the chief modern states; and on the economics of the following industries: mining, engineering, iron and steel manufacture, textile manufacture, and transport by land and sea.

## Education

# EDUCATION

## Staff

Principal – – – Sir MICHAELE. SADLER, K.C.S	.I
Chancellor of the University.	00-
Professor J. STRONG, C.B.E., M.A., Lond LL.D., St. Andrews, F.R.S.E	on
Lecturer in Education and Master of Method – W. P WELPTON, B.Sc., London	
Tutor of Women Students and Mistress of Method Miss H. ROBERTSON, B.A., Londo	m.
Lecturer in Experimental	
Education – – Ll. WYNN JONES, M.A., Oxfo Ph.D., Leipsig.	rd.
Lecturer in Education – A. J. MONAHAN, M.A., Leeds.	
Assistant Master of Method and Assistant Lecturer in Education S. J. CURTIS, B.A., London.	
Assistant Lecturer in Education and Assistant Mistress of Method – Miss E. M. BLACKBURN, M. Leeds.	A.,
Assistant Lecturer in Education – – Miss R. F. SHOVE, M.A., Dublin	n.
Assistant Lecturer in Education – – Miss J. HOLGATE, B.A., Leeds.	
Teacher of Phonetics - Miss S. M. GOULDING, B.A., Oxfo	rđ.
Teacher of Music, Reading and Elocution – – T. J. HOGGETT, Mus.B., Durha	m.
Teacher of Needlework – Miss WALL.	
Medical Officers – – R. G. HANN, M.R.C.S., L.R.C. 46, Virginia Road, Leeds.	P.,
Mrs. RHODA H. B. ADAMSON, M. 1, Ashwood Villas, Headingle Leeds.	В., еу,

# COURSES OF STUDY

The courses of study organised in connection with the Department of Education are (1) a Four Year Course, (2) a Three Year Course, (3) a Course for the Diploma

in Education, (4) a One Year Course, (5) A Post-graduate Course for the higher degree of M.A. (Education) or M.Ed. Students may enter upon one or other of the first four courses either as Recognised Students in Training under the Regulations of the Board of Education or without such recognition. In the former case, subject to certain conditions, grants are paid by the Board of Education towards tuition and maintenance; in the latter case no such grants are paid. Recognised Women Students must reside either at home or in a University Hall of Residence; Men Students who cannot live at home reside in a University Hall of Residence or in registered lodgings. Further details are given below.

## I. Four Year Course

This course leads to the degree of B.A., B.Sc., or B.Com., together with the Diploma in Education. It is open to students who have passed the matriculation examination or its equivalent. The first three years are mainly occupied with academic work for the degree, one half-day a week being set apart for professional work. The fourth year is post-graduate and wholly devoted to professional training for the Diploma. This is the regular and normal course for Recognised Students.

Students may be admitted to the second, third or fourth year of this course if they have completed the degree work of the first, second, or third year respectively.

The work in this course is divided into (a) Academic (leading to a degree), and (b) Professional (leading to the Diploma).

## (A) ACADEMIC

The academic Courses are those for the Degrees of B.A., B.Sc., and B.Com. of the University of Leeds. Honours Courses may be taken by those qualified to enter upon them. The standard of attainments for admission to an Honours Course is that of a satisfactory pass at one of the Higher School Certificate Examinations.

## Education

## (B) PROFESSIONAL

### I. Lectures and Laboratory Work

- (a) The principles and methods of teaching.
- (b) The psychological bases of education.
- (c) Physical, intellectual and moral development of the child.
- (d) The History of Education (with selected work or works).
- (e) The Educational Systems of Great Britain.
- (f) Phonetics and voice production.
- (g) Experimental Education (with laboratory practice.)
- (h) Modern Problems in Education (open to the public).

## II. Practical Training

The training includes (a) demonstrations in teaching by members of the staff of the Department, by other members of the University, and by teachers in the University Demonstration Schools; (b) Criticism lessons and other teaching exercises by the students themselves; (c) Visits to various schools, elementary, continuation, central and secondary, for observation and practice; (d) visits to special schools and institutions, such as schools for the blind and the deaf and dumb, open-air schools, school clinics, feeding centres, play-centres, and social clubs for girls and boys.

There are also courses in Drawing, Music, Physical Training, Handwork and Needlework, each of which has special application to teaching in schools.

## II. Three Year Course

This course leads to the degree of B.A. or B.Sc. or B.Com., together with the Teachers' Certificate of the Board of Education. It is open to students who have passed the Matriculation Examination or its equivalent.

The Teachers' Certificate is granted on the results of the degree examinations coupled with satisfactory work in the professional subjects. The Academic work and the Professional work are taken concurrently, and Education is one of the subjects for the Final examination. In consequence, the course is not so wide as the Four Year Course, nor is a student allowed to read for Honours in any subject. Otherwise the details are the same. As the demands of the course are very heavy it will probably be discontinued in the near future.

Recognised students taking a Four Year or a Three Year Course who fail in the Intermediate Examination are required to relinquish their Academic work for a degree and to spend a further year in training for the Teachers' Certificate of the Board of Education.

## III. Course for Diploma in Education

This course is open to graduates of the University of Leeds or other approved University, and normally extends over one year. The scope of the work is practically the same as given above under (B) Professional. For those who wish to teach in Secondary Schools the course is arranged to lead to the Diploma in Education for teachers in Secondary Schools. The practical training is taken mainly in Secondary Schools under specialist teachers.

Candidates for the Diploma in Education who have graduated with Honours, may, if they so desire, be admitted as Recognised Students. Under these circumstances they will be eligible for tuition and maintenance grants subject to certain conditions as to future teaching.

### IV. One Year Courses

The following courses are open to students :---

- (a) CONTINUATION SCHOOL COURSES (see special circular).
  - i. Lectures on the Principles of Education with special reference to the aims, social life and instruction in Continuation Schools together with relative practical training.
  - ii. Lectures on Economics and Social Science.
  - iii. Practical Work in Social Science.
  - iv. One or more subjects chosen from the following groups :
    - (a) English Literature, History, Geography, a Modern Language.
    - (b) The Physical or Natural History Sciences.
    - (c) Mathematics, Mechanics, Technical Drawing, Engineering, Mining, Textile Industries.

### Education

(d) Agriculture, Horticulture, Commercial Subjects.

## (b) SPECIAL COURSES (Third Year Course, Central School Course, etc.)

The nature of the course will depend on the particular requirements of the student, but will include advanced study in the principles of education and practical training with visits to specially selected schools. Additional subjects may be chosen from the following :---

- (a) English Language, History, Geography, a Foreign Language.
- (b) Physics, Chemistry, Botany, Zoology, Geology.
- (c) Economics, Social Science, Commerce.
- (d) Mathematics, Mechanics, Engineering, Mining.
- (e) Agriculture, Horticulture.

### V. Post-graduate Courses

### M.A. (EDUCATION)

Education is one of the subjects which may be taken for the degree of M.A. which is open to graduates in Arts of at least one year's standing, of the University of Leeds or other approved university. It is awarded for a dissertation or thesis on some educational subject approved by the Board of the Faculty of Arts, together with an examination in one of the branches of the Theory or History of Education given below. In special cases it is within the power of the Senate on the application of the candidate and on the special recommendation of the Board of the Faculty of Arts, to award the degree on submission of a dissertation only. All candidates may be called upon to present themselves for examination, written or oral, on the theme of their dissertation.

Graduates of approved universities are required to present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or

The granting of a Certificate by the Board of Education will depend upon the results of examinations conducted by the University.

research in Education, and to present themselves for the degree of M.A. after not less than two years of such advanced study or research.

For details of the subjects for the examination in Education for the degree of M.A., see page 174).

## M.Ed.

The degree of Master of Education has been established to promote advanced study, independent criticism, and original research in education. The conditions on which the Degree is awarded to graduates of the Leeds or other University are given on page 175).

## RESIDENCE

### (Recognised Students)

Men students who do not live with parents or guardians are required to live in lodgings registered and inspected by the University Authorities, or may apply to reside in the University Hall of Residence for Men. A list of registered lodgings may be obtained on application. The charge for board and lodgings varies from about 35s. to 55s. or 6os. a week, according to position, catering and accommodation.

Women students who do not live with parents or guardians are required to reside in one of the University Halls of Residence for Women.

Recognised Students who live at home or in lodgings receive a maintenance grant from the Board of Education ( $\pounds$ 20 per annum for men and  $\pounds$ 15 for women). These grants are paid to the University and are handed over to Recognised Students after deductions have been made for University and Union fees in cases where these are due.

## THE UNIVERSITY HALLS OF RESIDENCE

The University has provided a number of Halls of Residence for men and women respectively. Students from all departments of the University are admitted,

### Education

and the residents of each Hall are encouraged to take an active part in the social as well as the academic life of the University, and to maintain within the Halls the necessary discipline for themselves. Places are reserved in the Halls of Residence for Women for Recognised Students who are accepted by the Department of Education and cannot reside at home.

### For Women

UNIVERSITY HALL ... Warden : Miss B.E. GWYER, M.A. LYDDON HALL ... .. Warden : Miss A. B. MARCHBANK, COLLEGE ROAD HALL Warden : Miss J. HOLGATE, B.A. These Halls are close to the University and

near the University Tennis and Fives Courts.

WEETWOOD HALL .. Warden: Mrs. REDMAN KING, B.Sc. Situated in its own grounds, near the University Athletic Grounds, and provided with its own tennis courts.

OXLEY HALL .. .. Warden : Mrs. MOORMAN.

For Men

GLEDHOW HALL .. Warden : Professor STRONG. Situated at Gledhow, Roundhay, in its own grounds and provided with its own tennis courts

### Fees for Residence

(a) Ordinary Students.

Men: £72 per session of 32 weeks.
Residence beyond the above period, £2 5s. per week.
Women: £56 to £65 (according to the accommodation chosen) per session of 32 weeks.

Residence beyond the above period,  $f_{155}$ . per week.

(b) Recognised Students.

Grants are paid to the University by the Board of Education on behalf of Recognised Students who reside in the Halls of Residence. The fees for the departmental session, covering tuition, maintenance, and Union subscription, are:

Men-

Four Year Students ... .. £39 Three Year and One Year Students ... £50 Women—

Four Year Students ... £29 to £38 Three Year and One Year Students £40 to £49

Residence beyond the period of the departmental terms is charged for at the rate for ordinary students.

## FEES

The University reserves the right to revise the fees specified below at any time whether in the case of new students or those who have already begun their courses.

All students are required to pay a Registration fee of  $\pounds 2$  when their application for admission to the University is accepted.

## (a) Ordinary Students

The fees for lectures and classes are as prescribed in the Calendar of the University.

For a Class :	meeting—		Pe	r Session.
One hour	per week		 	£4
Two hours	per week	• •	 	£6
Three ,,			 	£8
Four "	,,,		 	fio

Laboratory work is charged at the rate of  $f_{.6}$  each session for each half-day a week on which the student uses the laboratory.

The payment of the fee  $(f_2 \text{ a year})$  for membership of the Students' Union is compulsory for all Registered Students.

A composition fee, which includes the Union Subscription is charged to all students who take a full course for a degree or diploma.

Arts Course	• •	• •	£33	a session.
Science Course	••	• •	£41	,,
Diploma in Education			£22	,,

### Education

In the case of students who have paid a composition fee for three successive years, a reduced fee is charged for a fourth year.

Continuation 3	School	Course	••	••	£40	(inclusive).
Special Course	es			•••	£40	(inclusive).

These fees will be reduced in cases where a grant is payable by the Board of Education.

[Non-resident students taking these courses, if eligible, will receive maintenance grants of  $\pounds_{20}$  (men) and  $\pounds_{15}$  (women).

## (b) Recognised Students.

The fees for Recognised Students are reduced by the grants paid on their behalf by the Board of Education to the University; the resultant fees (including subscription to the Students' Union) are :—

Four Year and Secondary Diploma

Students .. .. No fee.

Three Year Students .. .. £19 Ios. a session.

Recognised Students who live in one of the Halls of Residence pay a yearly inclusive fee to cover tuition, maintenance and Union subscription (see Fees for Residence).

### EXAMINATION FEES

The University examination fees to be paid by all students are :---

Intermediate Examination in Arts and Science	£3			
Final Examination (B.A., B.Sc.)	£3			
M.A., M.Sc., or M.Ed	£3			
Litt.D., D.Sc., or Ph.D	£6			
Diploma in Education	£3			
Teachers' Certificate of the Board of Education				

A graduation fee of  $\pounds 6$  is paid on the conferring of a degree of the University.

## ADMISSION AS RECOGNISED STUDENTS

A. Application for Three and Four Year Courses

I. Candidates must be over 18 years of age on August 1st of the year in which they wish to be admitted, except that candidates who are over 17 years of age and under 18 years on that date may be admitted to a Four Year Course.

2. The qualifying examination must have been passed, as a rule, within the two years and six months preceding the 1st of August in the year of entering the Training Department.

3. Persons who have been recognised as Bursars or as Pupil Teachers under the Board's Regulations for the Preliminary Education of Elementary School Teachers, will not be admitted to the Training Department until the termination of their period of recognition.

4. A candidate is required to have qualified for admission to the University as an undergraduate. This means that he is required to have passed the Matriculation Examination of the Joint Board or to have qualified for a Matriculation Certificate of the Joint Board by passing with credit in the necessary subjects at the School Certificate Examination of the Joint Board, or to have qualified, by means of some other examination or examinations, for exemption from the Matriculation Examination of the Joint Board.

A candidate who proposes to read for a degree in Arts must pass in Latin and one other language at one of the qualifying examinations.

A student may obtain exemption from the Matriculation Examination of the Joint Board if he has passed at one of the following examinations in the necessary subjects :---

- (a) The Matriculation Examination of the London University.
- (b) The Examination for the Higher Certificate or Higher Certificates of the Oxford and Cambridge Schools Examination Board.
- (c) The Examination for the School Certificate of the Oxford and Cambridge Schools Examination Board.
- (d) The Senior Local Examinations of the Universities of Oxford and Cambridge.
- (e) The Senior School Certificate of the Central Welsh Board.
  - For fuller information see the Regulations for the Matriculation Examination of the Joint Blard, to be obtained from the Secretary, Joint Matriculation Board, 315, Oxford Road, Manchester).

5. The qualification for admission as a Recognised Student in Training is covered by the qualification for admission as an undergraduate, provided the candidate has passed in *either* 

## Education

History or Geography at the qualifying examination, or passed in either of these subjects at a supplementary examination.

- The Board of Education recognises-
  - A Certificate of the Matriculation examination of the Joint Board of the Northern Universities, or a School Certificate of the Joint Matriculation Board which dispenses from Matriculation, without any conditions as to passes in specific subjects.

Full information of the Examination Qualifications required by the Board can be obtained from List 176 of the Board of Education, which gives the conditions of admission to Training Colleges (price 1d. from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2).

6. In the selection of candidates, preference is given to those who desire to enter on a Four Year Course of Training and to those who have been placed in the First Division at the Matriculation Examination or have passed in one of the groups at a Higher Certificate Examination, or have obtained High Honours at one of the Senior Local Examinations.

Candidates who have passed one of the qualifying Examinations previous to the year in which they seek admission are required to give evidence of progress in their studies during the year before admission. They are advised to widen their reading in English Literature and History (English or European). Those proposing to take up an Arts Course should in addition progress in their study of Latin and one other language; those proposing to undertake a Science Course should similarly make progress in Physics, Mathematics and a branch of Natural Science. A pass in one of the groups of subjects at a Higher Certificate Examination will be considered as satisfying the above requirement and may be considered as satisfactory evidence for entering on an Honours Course.

### B. General Conditions for all Recognised Students

I. Candidates, before being accepted, are required by the Regulations of the Board of Education to be examined by the Medical Officer of the Department, and can only be admitted if reported as without physical defect or organic disease, strong and in good health and capable of entering on their course without undue strain.

2. Candidates will be required to furnish certificates of good character.

3. Candidates on admission will be required to give an undertaking to the Board of Educaton for the purpose of securing that, in return for the grant payable under the Board's Regulations, they will complete their training in the Department, and thereafter actually follow the profession of teacher in an approved school for such period or periods, or repay to the Board such proportion of that grant, as may respectively be specified in the undertaking.

An approved school includes any Public Elementary School, and any Secondary Continuation or Central School, Pupil Teacher Centre or Training College in respect of which grants are paid by the Board out of moneys provided by Parliament.

4. Candidates who are in any doubt as to the nature of their qualifications for admission, or for exemption from the Matriculation Examination of the Joint Board, should forward to the Lecturer in Education an exact and full account of the examinations they have passed, giving date of passing, subjects passed, standard attained in each subject and class obtained. The Lecturer in Education will be pleased to advise them as to the nature of their qualification and of the steps to be taken to qualify for admission.

## LECTURE COURSES

## F1. Education

Mondays and Fridays at 4 p.m.

An additional class on Teaching Method is taken at an hour to be arranged.

Principles and Methods of Teaching.

Each Term—Exercise in Practical Teaching or Visits to Schools, Thursdays, 2–5 p.m.

### F2. Education

Tuesdays, Thursdays and Saturdays at 10 a.m.

The Psychological Basis of Education and its Application to Physical, Moral, Intellectual and Social Development.

*Each Term*—Exercise in Practical Teaching. One and a half hours a week, Tuesdays at 2 p.m. or Thursdays at 3 p.m.

## F3. Education

A. History of Education, Thursdays at II a.m.

B. Experimental Education, Thursdays at 2 p.m. Laboratory Practice at times to be arranged.

## Education

C. Special Method. Tuesdays at II a.m.

*Each Term*—Exercise in Practical Teaching. One and a half hours per week on Thursdays at 3 p.m.

## S1. Drawing

This course consists of one hour a week in the first year and two hours a week in the second at times to be arranged.

## S2. Phonetics and Voice Production

Classes will be held at times to be arranged.

## S<sub>3</sub>. Music

Classes will be held at times to be arranged. Choral class at 2 p.m. on Thursdays.

## S4. Needlework

Classes will be held at times to be arranged.

### S5. Physical Exercises

Classes at times to be arranged.

## S6. Modern Problems in Education

Ten or twelve lectures will be given on Saturday mornings (10—11 a.m.), during the session. Fee, £1 1s.
# DEGREES IN COMMERCE

# Degree of Bachelor of Commerce

Ordinance.

# I. The degree in Commerce shall be that of— Bachelor of Commerce (B.Com.)

2. The degree of Bachelor of Commerce shall be conferred as an Ordinary degree or as a degree with Honours.

3. All candidates for the degree of Bachelor of Commerce shall be required to have passed the Matriculation examination, and thereafter to have pursued approved courses of study for not less than three academic years.

#### Ordinary Degree of Bachelor of Commerce

4. The complete course of study for the Ordinary degree of Bachelor of Commerce shall be divided into two parts, called respectively the Intermediate course and the Final course.

5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

6. The Intermediate and Final examinations shall ordinarily be held in June. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate.

7. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination may be excused such part of the supplementary examination as the combined examination Committee, on report from the Examination Committee of the degree of Bachelor of Commerce, may determine.

8. All students shall be required, before presenting themselves for the Intermediate or Final examination,

#### Degrees in Commerce

to furnish certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturers, in each of the subjects which they offer at the examination.

N.B.—These regulations do not entitle a candidate to the Regulations. right of presenting himself for examination in a subject in which the University may, for the time being, be unable to provide instruction.

#### Intermediate Course and Examination

Every candidate shall be required, after passing the Matriculation examination, to attend, during not less than one academic year, approved courses of instruction and to pass an examination in each of the following subjects :---

i. Economics.

ii. Commercial Law.

- ii. One of the following groups (a) and (b):-
  - (a) (i.) Mathematics, and (ii.) Physics or Geology or Chemistry.
  - (b) (i.) Mathematics or Geography, and
    - (ii.) *Two* of the following:—French, German, Spanish, Russian, English Literature, Modern History, Logic, Geography (if not selected under (i.)), Mathematics (if not selected under (i.)).

The examination in each modern foreign language shall include an oral examination.

#### Final Course and Examination

Every candidate shall be required to attend approved courses of instruction, and to pass an examination in each of the following subjects, studied either for two years as principal subjects or for one year as subsidiary subjects as hereinafter prescribed, viz. :—

i. Economics: principal subject.

ii. Commercial Law: subsidiary subject.

## Degrees in Commerce

iii. Accountancy: subsidiary subject.

- iv. Either Statistics or Economic Geography: subsidiary subject.
  - v. One of the following :--
    - (a) Engineering (principal subject).
    - (b) Textile manufacture (principal subject).
    - (c) Mining (principal subject).

(d) Agriculture (principal subject).

(e) One principal and one subsidiary subject from the following lists :---

Principal subjects: French, German, Spanish, Russian, English, History, Philosophy, Law (including Constitutional and International).

Subsidiary subjects: French, German, Spanish, Russian, English, History, Philosophy, International Law, Constitutional Law, Mathematics, Geography.

Provided that no candidate shall be admitted to the Final courses (a) in Statistics unless he has taken Mathematics in the Intermediate course; (b) in Engineering or Textile manufacture unless he has taken Mathematics and Physics in the Intermediate course; (c) in Mining, unless he has taken Mathematics and Geology in the Intermediate course; (d) in Agriculture, unless he has taken Chemistry in the Intermediate course.

The examination in each modern foreign language shall include an oral examination.

An English essay shall **al**so form part of the examination.

Candidates who have taken the course of study in a subsidiary subject in the first year of the Final course may present themselves at the end of that year for

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examination in such subject. The same subject may not be taken as a principal and subsidiary subject. The course in Accountancy may not be taken before the third year.

# Degree of Bachelor of Commerce with Honours

r. Candidates for the degree of Bachelor of Commerce Ordinance with Honours shall, except as hereinafter stated, be required to furnish certificates of having attended courses of instruction approved by the University and extending over not less than three academic years in the Honours School hereinafter specified.

2. The Honours School referred to in this Ordinance shall be, unless otherwise stated, the Honours School of Economics as defined by the Regulations for the Degree of Bachelor of Commerce with Honours.

3. Every candidate for the degree of Bachelor of Commerce with Honours shall be required to present himself for examination at the end of the third or fourth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year.

4. Candidates for the degree of Bachelor of Commerce with Honours may present themselves for examination in the Honours School on furnishing certificates of having pursued, to the satisfaction of the Senate, the courses required for such Honours School.

5. Candidates who have passed the Final examination for an ordinary degree of Bachelor of Commerce may, with the sanction of the Senate, and on furnishing certificates of having attended, during the academic year following such Final examination for the ordinary degree, the third year's, or during the two academic years following such Final examination, the second and

# Degrees in Commerce

third years' course approved by the University for the Honours School, present themselves for the degree of Bachelor of Commerce with Honours.

6. No candidate for a degree of Bachelor of Commerce with Honours shall be admitted more than once to examination in the Honours School.

7. Students who have passed the Final examination for the degree of Bachelor of Science with Honours, or the degree of Bachelor of Arts with Honours in any other School than that of Economic and Political Science, may be admitted to the Final examination for the degree of Bachelor of Commerce with Honours after the expiration of one or two years, on presenting certificates of having attended, during the period in question, courses approved by the University.

Provided that candidates shall not present themselves for the Final examination in the Honours School more than two academic years after the Final examination in Honours already passed by them, and also that no candidate shall be admitted to examination in the Honours School after a longer period than five years has elapsed since the date of his first entrance upon a prescribed course of study for an Honours School.

8. Names of candidates who have passed the examination for the degree of Bachelor of Commerce with Honours shall be published in three classes, each class being arranged in alphabetical order.

9. Candidates who have not acquitted themselves so as to deserve Honours may be excused the whole or such part of the examination for the Ordinary degree as the Combined Examination Committee may determine.

#### Honours Course and Examination

. Candidates for the degree of Bachelor of Commerce with Honours in Economics shall be required to pursue

Regulations.

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courses of study, and to submit themselves to examination, as follows:

The course of study for the first academic year shall include the following subjects: (1) Economics, (2) Mathematics, (3) Modern History, (4) French or German or Spanish or Russian, and (5) one of the following:—Logic, English, Geography, Constitutional Law, International Law, Modern Language (if not already taken), Physics, Chemistry or Geology. An examination will be held in these subjects at the end of the first year, and must be passed before proceeding to further study.

(Candidates who have passed the above Intermediate examination, but are unable to continue their Honours course, may apply to the Senate for permission to proceed to the Final course and examination for the Ordinary degree of B.Com.)

Some modification of the First Year course and examination may be made, subject to the approval of the Board of the Faculty of Arts, in the case of students who have obtained a Higher School Certificate.

Attendance on the full course for the Intermediate Examination for the Ordinary degree of B.Com., or (if Mathematics has been taken as one of the subjects) B.A., may also be accepted by the Senate as the required attendance for the first year of the Honours Course.

During the second and third years candidates shall be required to attend approved courses in the subjects of the School of not less than five hours per week in each year.

They shall also be required to attend, during the second and third years, approved courses of lectures on other subjects amounting to not less than two hours a week in each year.

# Diploma in Commer

#### Examination

Essay, one paper.

Economics (including Industrial and Commercial Organisation), three papers.

Economic History, one paper.

Geography or Statistics, one paper.

Commercial Law, one paper.

A special economic subject, one paper.

In addition candidates shall be required to present a dissertation on some subject approved by the Board of the Faculty of Arts.

Candidates shall also be required to show in the examination some knowledge of at least one foreign language.

# Diploma in Commerce

Regulations

In addition to the degree of Bachelor of Commerce the University offers a diploma in Commerce, the course of study for which extends over two years. Candidates for the diploma must have passed the Matriculation examination, with at least one modern foreign language as one of the subjects, or some other public examination, which in the opinion of the Senate is of sufficiently high standing, and must thereafter have pursued approved courses of study for not less than two years, and passed the prescribed examinations.

#### First Year Course and Examination

Economics.

A modern foreign language.

Geography.

Commercial Law.

Mathematics or a second language or some other course to be approved by the Senate.

## Second Year Course and Examination

I. Compulsory Subjects :

Economics, more advanced general course.

A modern foreign language.

Economic Geography.

Accountancy.

Commercial Law.

II. Optional Subjects :

- Candidates for the diploma may also take, in their second year, an optional course in a second foreign language or a short course in the Textile, Engineering, or other Technological Department of the University.
- N.B.—The First Year and Second Year Examinations will be held in June. The latest date of entry and payment of fees will be MARCH 1st.

# Separate Classes in Commercial Subjects

Those who are unable to spare the necessary time for the acquisition of a degree or diploma in Commerce may be admitted to such of the classes in the department as may suit their requirements and their other engagements during the day, on payment of the fees for the separate classes, in addition to the library fee.

# Diploma in Social Organisation and Public Service

The University offers a diploma in Social Organisation and Public Service, the course of study for which extends over two years. The object of the scheme of work is to combine specialised training for particular careers with a general grounding in the principles of Economics and Sociology, and with a wide knowledge of social history, industrial conditions, and the machinery of central and local government in its social aspects. Candidates for

## Diploma in Social Organisation

the Diploma must have passed the matriculated examination of the Joint Matriculation Board, or have passed some equivalent examination. Non-matriculated candidates will be required to present evidence to show that their experience and education have been such as to enable them to profit by the Course.

An examination will be held at the end of each year of the course. The Diploma will be awarded to students who have passed both first and second year examinations and have presented a satisfactory short thesis on their practical work.

The course will begin in October in each year.

## Separate Classes in Social Organisation and Public Service

Those who are unable to spare the necessary time for the full diploma course are admitted to such of the classes as may suit their requirements and their other engagements on payment of the fees for the separate classes, in addition to the library fee. Arrangements can be made for practical work in connection with the classes,

# Ordinary Degree of B.A.

The Ordinary degree of B.A. can be taken with Economics as a Principal Subject at the Final Standard.

# Honours Degree of B.A.

Economic and Political Science

(See page 165).

# Syllabus of Lecture Courses

(See pages 207 and 208).

Ordinance.

# DEGREES IN LAW

 The degrees in Law shall be: Bachelor of Laws (LL.B.) Master of Laws (LL.M.) Doctor of Philosophy (Ph.D.) Doctor of Laws (LL.D.)

## Degree of Bachelor of Laws

2. The degree of Bachelor of Laws shall be conferred either as an Ordinary degree or as a degree with Honours.

3. All candidates for the degree of Bachelor of Laws shall be required to have passed the Matriculation examination, except those who may have been exempted therefrom, and thereafter to have pursued approved courses of study for not less than three academic years.

#### Ordinary Degree of Bachelor of Laws

4. The complete course of study for the Ordinary degree of Bachelor of Laws shall be divided into two parts, called respectively the Intermediate course and the Final course.

5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

6. The Intermediate and Final Examinations shall ordinarily be held in June of each year.

7. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination. Some modification of the amount of attendance required may, in exceptional cases, be made by the Vice-Chancellor, on the recommendation of the head of the department concerned.

Ordinance.

### Intermediate Course and Examination

8. Every candidate shall be required, after passing the Matriculation examination or after obtaining exemption therefrom, to attend during one academic year courses of instruction approved by the University, and to pass in each of the subjects of the course so approved.

Regulations.

Every candidate shall be required after passing the Matriculation Examination, or securing exemption therefrom, to attend during one academic year approved courses of study and to pass in each of the following subjects :—

i. Constitutional Law.

ii. Elements of English Law.

iii. Roman Law.

Detailed Subjects of study and of examination

#### CONSTITUTIONAL LAW :

Dicey's Law of the Constitution; Anson's Law of the Constitution, Part I.

ELEMENTS OF ENGLISH LAW:

Stephen's Commentaries, vols. I., II., III.

#### ROMAN LAW:

The Institutes of Gaius, edited by Poste. The subjects of Intestate Succession and procedure are to be studied in outline only. The students will from the lectures gain a historical outlook on Roman Law, regarding it especially from the point of view of the growth of legal ideas and institutions.

# Intermediate Examination

Constitutional Law, one paper. Elements of English Law, two papers. Roman Law, one paper.

# Final Course and Examination

Ordinance. 9. Every candidate shall be required to attend during two academic years courses of study approved by the University, and to pass in each of the subjects of the course so approved.

No candidate shall be permitted to enter for the Final Regulation examination, or any part thereof, until he has passed the Intermediate examination.

Every candidate shall be required to attend during two academic years the following courses of study, and to pass in each of the subjects of the course :—

- i. Property, Real and Personal (including Conveyancing).
- ii. Equity (including Company Law).
- iii. Common Law (including Criminal Law and Bankruptcy).

iv. Evidence and Procedure.

v. Jurisprudence.

## Final Examination

Common Law, Evidence and Procedure, two papers. Property, real and personal, two papers. Equity, two papers. Jurisprudence, one paper.

# Degree of Bachelor of Laws with Honours

I. Candidates for the degree of Bachelor of Laws with Ordinance. Honours shall, except as hereinafter stated, be required to furnish certificates of having attended courses of instruction approved by the University and extending over not less than three academic years in the Honours School of Law.

2. Every candidate for the degree of Bachelor of Laws with Honours shall be required to present himself for examination at the end of the third or fourth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year.

3. Candidates who have passed the Final examination for an Ordinary degree of Bachelor of Laws may, with the sanction of the Senate, and on furnishing certificates of

having attended, during the academic year following such Final examination for the Ordinary degree, the third year's course approved by the University for the Honours School of Law, present themselves for examination for the degree of Bachelor of Laws with Honours.

Provided that where the Ordinary degree of Bachelor of Laws was conferred prior to the existence of the Honours School of Law the certificate of attendance at the third year's course above-mentioned need not show that such attendance has immediately followed the passing of the Final examination for the Ordinary degree.

4. No candidate for a degree of Bachelor of Laws with Honours shall be admitted more than once to examination in the Honours School of Law, but students who have passed the Final examination in any of the other Honours Schools of the University may be admitted to the Final Examination in the Honours School of Law after the expiration of two years, on presenting certificates of having attended, during the period in question, courses approved by the University.

5. Names of candidates who have passed the examination for the degree of Bachelor of Laws with Honours shall be published in three classes, each class being arranged in alphabetical order.

6. Candidates who have not acquitted themselves so as to deserve Honours may be excused the whole or such part of the examination for the Ordinary degree as the Combined Examination Committee may determine.

Regulations. Candidates for the degree of Bachelor of Laws with Honours shall be required to pursue courses of study and to submit themselves for examination as follows.

## Intermediate Course and Examination

Every candidate shall be required after passing the Matriculation Examination, or securing exemption therefrom, to attend during one academic year approved courses of study and to pass in each of the subjects, as required for the Intermediate Course and Examination for the Ordinary degree of Bachelor of Laws.

#### Final Course and Examination

No candidate shall be permitted to enter for the Final examination or any part thereof until he has passed the Intermediate examination.

Every candidate shall be required to attend during two academic years courses of study and to submit himself for examination, according to the following regulations; that is to say, either :—

- (a) Candidates may attend courses and submit themselves for examination in the subjects approved for the Ordinary degree of Bachelor of Laws; or
- (b) Candidates may elect to pursue courses of study and to submit themselves for examination according to the following groups. They must take all the subjects in Group I, and one subject from each of Sections (i.) and (ii.) in Group II.

#### Group I

- i. Real and Personal Property (including Conveyancing).
- ii. Equity (excluding Company Law).
- iii. Contract and Tort.

## Group II

i. One subject chosen by the candidate for special treatment and development from the following branches of English Law—

Conveyancing, Law and Practice.

Commercial Law.

Trusts and Settled Estates.

Company and Partnership Law.

Local Government Law.

Any other branch of English Law may be suggested, and chosen by the candidate, with the approval of the Board of the Faculty of Arts.

ii. One subject chosen by the candidate, from the following branches of legal study, or from allied branches of study—

Jurisprudence.

International Law.

The Law of England upon matters involving a foreign element (conflict of Laws).

Comparative Constitutional Law.

Industrial Law.

Political Science.

Public Finance.

Economics.

Roman Law.

- Any other branch of legal or allied study may be suggested and chosen by the candidate with the approval of the Board of the Faculty of Arts.
- N.B.-These Regulations do not entitle a candidate to the right of presenting himself for examination in a subject in which the University may for the time being be unable to provide instruction.

#### Honours Examination

- (a) For candidates who submit themselves for examination in the subjects approved for the ordinary degree, special honours papers will be set, the same in number and distribution as for the candidates for the Ordinary degree.
- (b) For candidates who submit themselves for examination under the alternative scheme, papers will be set as follows :--
  - i. Real and Personal Property, one paper. Equity, one paper. Contract and Tort one paper.

  - ii. A general paper upon Common law, equity and property, one paper.
  - iii. The subject chosen from Group II.
  - i. in the above regulations, two papers. iv. The subject chosen from Group II.

ii. in the above regulations, one paper.

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## Degree of Master of Laws

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r. The degree of Master of Laws may be conferred, Ordinance. on payment of the proper fee, upon registered Bachelors of Laws, when of not less than one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Laws who have graduated with Honours may proceed to the degree of Master of Laws on presenting a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts.

3. Bachelors of Laws who have obtained the Ordinary degree shall be required to pass an examination in a subject or group of subjects upon which instruction is given in the Department of Law, and to present a dissertation satisfactory to the Senate on a subject approved by the Board of the Faculty of Arts, or if they do not present a dissertation, to pass a more extended examination. In special cases it shall be in the power of the Senate, on the application of the candidate and on the special recommendation of the Board of the Faculty of Arts, to award the degree upon a dissertation only. Candidates wishing to apply for such remission must make application to the Board of the Faculty of Arts not later than the end of October preceding the examination. Regulations shall determine the subjects and groups of subjects in which the examination will be held. Certificates of attendance on courses of study in the University shall not be required.

4. All candidates who offer a dissertation either as sole test or in combination with other tests, may be called upon to present themselves for an examination written, or oral, or both—in the theme of their dissertation.

5. The names of candidates who have passed the examination for the degree of Master of Laws shall be arranged in alphabetical order without distinction of classes.

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Graduates in Law or persons who have passed the Final examination for a degree in Law, of other approved Universities shall, if they present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of LL.M. without taking the LL.B. degree, after not less than two years of such advanced study or research.

Such candidates shall be required to fulfil the following conditions :—

- (a) To be registered as students of the University.
- (b) To pursue a course of advanced study or research under the supervision of the Head of the Department of Law.
- (c) To attend a course or courses of lectures at the University for at least one year, if required by the Professor of Law.
- (d) To pay a minimum fee (including Registration and Library fee) of three guineas per annum.

They shall be further required to give evidence to the Senate at the end of the first year of their period of study that their work has been satisfactory, and at the end of their second year they shall be required to present a dissertation, and to satisfy such further test if any as the Senate shall deem expedient. They will as a rule be called upon to present themselves for an examination, written, oral, or both, in the theme of their dissertation.

Note.—A Member of the University who graduated as Bachelor of Laws before the institution of the degree of LL.B. with Honours, may proceed to the degree of Master of Laws under the old Regulations.

# Degree of Doctor of Philosophy (Ph.D.)

See page 176.

#### Ordinance.

# Degree of Doctor of Laws

I. The degree of Doctor of Laws shall be conferred by the University upon registered Masters of Laws or Doctors of Philosophy of the University who shall be

deemed by the Senate, after considering a report from one or more of the Boards of Faculties, to have distinguished themselves by special research or learning.

Provided that the Senate may, in such cases as it shall think fit, after considering a report from one or more of the Boards of Faculties, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Laws or a Doctor of Philosophy of the University may make application for the degree of Doctor of Laws in the sixth or any subsequent year from the date of his admission to the Bachelor's degree.

3. Such application shall be made in writing to the Registrar, and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any thesis, whether in print or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—The latest date of entry and of payment of fees will be MARCH 1st. The LL.M. examination and the LL.D. examination, if required, will be held in June.

# Syllabus of Lecture Courses

Courses have been arranged to give preparation for the Intermediate LL.B. Examination in one session and for the Final LL.B. Examination in two sessions.

Courses in preparation for the Intermediate and Final Examinations of the Law Society have also been arranged.

# DEGREES IN SCIENCE

Ordinance.

 The degrees in Science shall be : Bachelor of Science (B.Sc.) Master of Science (M.Sc.) Master of Education (M.Ed.) Doctor of Philosophy (Ph.D.) Doctor of Science (D.Sc.).

#### DEGREE OF BACHELOR OF SCIENCE

2. The degree of Bachelor of Science shall be conferred either as an Ordinary degree or as a degree with Honours.

3. All candidates for the degree of Bachelor of Science shall be required to have passed the Matriculation examination, and thereafter to have pursued approved courses of study for not less than three academic years.

# Ordinary Degree of Bachelor of Science

4. The complete course of study for the Ordinary degree of Bachelor of Science shall be divided into two parts, called respectively the Intermediate course and the Final course.

5. Every candidate shall be required to pass two examinations, the Intermediate and the Final.

6. The Intermediate and Final examinations shall ordinarily be held in June of each year. There shall also be a supplementary Intermediate examination in September, at which those candidates only may present themselves who have obtained the permission of the Senate.

7. Candidates who have failed at an Intermediate examination in June, and have obtained permission to present themselves at the following supplementary examination, may be excused such part of the supplementary examination as the combined examination committee, on report from the examination committee concerned, may determine.

8. All candidates shall be required, before presenting themselves for the Intermediate or Final examination, to furnish to the Registrar certificates testifying that they have regularly attended the prescribed courses of study, and performed the class exercises to the satisfaction of the Professor or Lecturer, in each of the subjects which they offer at the examination. Some modification of the amount of attendance required may, in exceptional cases, be made by the Vice-Chancellor, on the recommendation of the head of the department concerned.

9. The proficiency of candidates in laboratory work may be determined by inspection of their laboratory note books and the consideration of terminal or sessional reports from their laboratory teachers. Candidates may also be called upon to undergo a special practical examination at the Intermediate and Final stages of the degree course.

It shall always be in the power of the External Examiner to impose a practical or *viva voce* examination on such occasions as he may think desirable.

## Intermediate Course and Examination

10. Every candidate shall be required, after passing the Matriculation examination, to attend during not less than one academic year approved courses of study in three subjects, viz. :

Physics Two of the following : Mathematics Chemistry Zoology Botany Geology Preparatory Military Science,

and to pass in each of the subjects selected.

Candidates who propose to take an Applied Science (see section 15) in the Final course must pass in the subjects of the Intermediate course specified in section 20.

11. Every candidate is further required, at some time during his course, to attend an approved course of study and pass in an additional subject at the Intermediate standard, selected from the following : Greek, Latin, French, German, Hebrew, Russian, Spanish, English Literature, Ancient or Modern History, Logic, Economics, Geography, Mathematics, Chemistry, Zoology, Botany, Geology, Preparatory Military Science. Except that when Preparatory Military Science is one of the subjects of the Intermediate course, then the Additional subject shall be chosen from the list of subjects named in Article 10. In the case of candidates taking an Applied Science as a principal subject in the Final course (section 20 below), this list is increased by the addition of Applied Mechanics and General Engineering.

12. A descriptive essay relative to the scientific or technical work of the candidates will be set as part of the Intermediate examination, and will be examined by the Examiners in English in co-operation with the Examiners in the scientific department concerned, and in the event of a student failing in this portion of the Intermediate examination, he shall be permitted to take it again at any subsequent Intermediate examination.

N.B.—In 1922 the latest date of entry and of payment of fees for the Intermediate and Final examinations held in June will be WEDNESDAY, MARCH 1st.

#### Detailed subjects of study and of examination

Regulations

The scope of the work required may be understood from the following references to the courses of study preparing for this examination (see pages 278, etc.). The amount of laboratory work mentioned below is that ordinarily required. It may be varied on special grounds with the sanction of the Senate.

MATHEMATICS: Intermediate Course.

Physics : Chemistry : Zoology : Botany : Geology :

Intermediate Course. Laboratory work, three hours a week.

APPLIED MECHANICS: The work covered by Part I of Engineering Course I, together with graphical constructions, strength of materials, transmission of power and mechanics of machines as given in Engineering Course VI. GENERAL ENGINEERING: Course II A, with Engineering Drawing.

- GREEK, LATIN, FRENCH, GERMAN, ENGLISH LITERATURE, ANCIENT OR MODERN HISTORY, LOGIC, ECONOMICS, GEOGRAPHY: The same as for Intermediate Arts.
- N.B.—The amount of Laboratory work prescribed for Chemistry is an absolute minimum. Students will ordinarily be advised to give not less than six hours a week attendance in the Chemical Laboratory.

Candidates who have passed the Intermediate examination for the degree of Bachelor of Science in Chemistry, Physics, Zoology and Botany will, on payment of the required additional fee, be regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

Candidates who have not passed in all the above four subjects will be required to pass at the Intermediate examination or at the First examination in such subjects as they have omitted before being regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

#### Final Course and Examination

No candidate shall be permitted to enter for the Final Regulation. examination, or any part thereof, until he has passed the three subjects of the Intermediate examination prescribed in Clause 10 of the Ordinance. In special cases, this prohibition may be waived by the Senate, acting on the recommendation of the head of the department concerned.

13. Every candidate will be required to attend approved Ordinance. courses of study either in two principal subjects, or in one principal subject and two subsidiary subjects, provided that the same subject shall not be taken both as a principal and a subsidiary subject.

14. The course of study in each principal subject shall extend over at least two years beyond the Intermediate standard, and the course of study in a subsidiary subject shall extend over at least one year beyond the Intermediate standard.

# Principal Subjects

15. The principal subjects shall be selected from the following lists:

Pure Sciences:

Mathematics Physics Chemistry Zoology Botany Physiology Geology. Geography.

Applied Sciences:

Mechanical Engineering Civil Engineering Electrical Engineering Gas Engineering Fuel and Metallurgy Agriculture Applied Chemistry (Colour Chemistry and Dyeing) Applied Chemistry (Chemistry of Leather Manufacture).

Every candidate taking Physics as a principal subject is required to have passed in Mechanics at the Matriculation examination, or to satisfy the Professor of Physics that he possesses an adequate knowledge of the subject.

In the event of Physiology being chosen as a principal subject, the second principal subject or the two subsidiary subjects shall be chosen from among the following: Physics, Chemistry, Zoology, Botany. In any case, six months' instruction in Human Anatomy will be required.

Every candidate taking an Applied Science as a principal subject is required to pursue one of the courses specified in section 20.

Regulation.

Geology and Geography shall not be taken together as principal subjects.

# Ordinary Degree of B.Sc.

In the case of candidates who present Geology and Geography (including the Physical section) at the Final standard, the Geology paper shall be divided into three sections, of which the first shall be taken by all candidates, the second (based upon a short course of Biology) by Geography candidates only, and the third by candidates not offering Geography.

## Subsidiary Subjects

16. The subsidiary subjects shall be selected from the Ordinance following list:

Mathematics Physics Chemistry Zoology Botany Physiology Geology Geography. Human Anatomy Bacteriology Education (includ

Education (including the teaching of Elementary Science).

17. The following subjects shall rank as subsidiary subjects in connection with courses where Mechanical or Civil or Electrical or Mining Engineering is taken as a principal subject:

Mechanical Engineering Civil Engineering Electrical Engineering Mining Engineering.

18. The course of study in the subsidiary subjects may be taken either in the first or second year of the Final course.

19. Candidates who have attended, during the first year of their Final course, the prescribed course of study in a subsidiary subject, may present themselves in June of that year for examination in such subsidiary subject. When Education is taken as a subsidiary subject, part of the examination may be taken at the end of each of the two years of the Final course. Candidates who fail to satisfy the examiners in such parts of the Final examination as they have taken at the end of the first year of their Final course shall be required to repeat this part of the examination at a subsequent June examination.

#### Courses for candidates taking an Applied Science

20. Candidates selecting an Applied Science as a principal subject are required to attend courses of study and to present themselves for examination in definite subjects, as specified below :

## Mechanical Engineering:

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, Applied Mechanics.
- Final—Principal subject, Mechanical Engineering; subsidiary subjects, Mathematics, and either Physics or Civil or Electrical or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Physics.

Civil Engineering :

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, Applied Mechanics.
- Final—Principal subject, Civil Engineering; subsidiary subjects, Mathematics, and either Geology or Mechanical or Electrical or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Geology.

Electrical Engineering :

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, Applied Mechanics.
- Final—Principal subject, Electrical Engineering; subsidiary subjects, Mathematics, and either Physics or Mechanical or Civil or Mining Engineering, but in any case the candidate shall produce a certificate of having satisfactorily attended a prescribed course in Physics.

## Mining Engineering :

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, Applied Mechanics.
- Final—Principal subject, Mining Engineering; subsidiary subjects, two of the following: Mathematics, Geology, Mechanical, or Electrical Engineering, but candidates shall produce certificates of having satisfactorily attended prescribed courses of study in each of these four subjects.

Gas Engineering :

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate Standard, Applied Mechanics.
- Final—Principal subject, Gas Engineering; subsidiary subjects, Chemistry and Engineering.

Fuel and Metallurgy:

- Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, Applied Mechanics.
- Final—Principalsubject, Fueland Metallurgy; subsidiary subjects, Chemistry and Mechanical Engineering.

Agriculture :

- Intermediate—Physics, and two of the following: Chemistry, Zoology, Botany, Geology; together with an additional subject at Intermediate standard (see section 11).
- Final—Agriculture, as principal subject, together with one of the pure sciences specified under section 15 above as the second principal subject, or two of the pure sciences specified under section 16 as subsidiary subjects.

Applied Chemistry (Colour Chemistry and Dyeing):

Intermediate—Mathematics, Physics, and Chemistry; additional subject at Intermediate standard, General Engineering. Final—Two principal subjects, viz.: Colour Chemistry and Dyeing, and Chemistry.

Candidates presenting Applied Chemistry (Colour Chemistry and Dyeing) may not present this subject, except with the special permission of the Senate, until the end of the fourth year of study. Candidates who have obtained the special permission of the Senate, may take the examination in Chemistry at the end of the second year.

Applied Chemistry (Chemistry of Leather Manufacture):

- Intermediate—Physics, and two of the following: Mathematics, Chemistry, Zoology, Botany, and an additional subject at Intermediate standard (see section 11).
- Final—Two principal subjects, viz. Chemistry of Leather Manufacture, and Chemistry.

# Detailed subjects of study and of examination

Regulations.

In the Final examination a paper will be set containing passages of French and German for translation into English, relating to the principal subject or subjects of a candidate's degree course. All candidates may take this paper, and marks will be awarded for correct renderings of such passages.

The scope of the work required may be understood from the following references to the courses of study preparing for this examination (see pages 278, etc.) The amount of laboratory work mentioned below is that ordinarily required. It may be varied on special grounds, with the sanction of the Senate.

#### I. Principal Subjects, studied for Two Years

MATHEMATICS: Courses F1, F2, F3, and F4.

- PHYSICS: Courses FI and F2. Laboratory work, six hours a week for two sessions.
- CHEMISTRY: Three of the Courses FI, F2, F3, H1 and H3. Laboratory work, twelve hours a week for two sessions.

ZOOLOGY: Course FI (A and B). Laboratory work, nine hours a week for two sessions.

**BOTANY:** Course FI (A and B). Laboratory work, six hours a week for two sessions.

PHYSIOLOGY : Courses I, II, and IV.

- GEOLOGY: Courses F1 and F2, and one of courses F3, F4, and F5. Laboratory work, six hours a week for two sessions, together with an approved course of Field Geology.
- GEOGRAPHY: Courses F1 and F2 and two of F3, F4, F5. Laboratory work, six hours a week for two sessions, with Field work.
- MECHANICAL ENGINEERING: Courses I, VI, VII, VIII, VIII a, VIII b, and IX.
- CIVIL ENGINEERING: Courses I, III, IV, VI (the parts relating to graphical constructions, strength of materials, air, transmission of power, and hydraulics), VII (the parts relating to hydraulics and compressed air), VIII, VIII a, VIII b, and IX.
- ELECTRICAL ENGINEERING: Courses I, II, III, and IV. Laboratory work, nine hours a week for two sessions.
- MINING ENGINEERING: Courses F1, F2, F3 and F4. Practical work, fifteen hours a week for one session.
- GAS ENGINEERING: Fuel and Metallurgy courses I, II, III, IV, V, VI, VII and VIII. Laboratory work, six hours a week in the second year, and twenty-four hours a week in the third year.
- FUEL AND METALLURGY: Courses I, II, III, VI, VII, IX, X, and XI. Laboratory work, six hours a week in the second year, and twenty-four hours a week during the third year.
- AGRICULTURE: General Agricultural courses, and special courses in two of the following :--Agricultural Chemistry, practical work, six hours a week for four terms; Agricultural Botany, practical work, thirty-six hours; Agricultural Zoology, practical work, thirty-six hours; Agricultural Geology, practical work, thirtysix hours; Veterinary Science; Surveying, practical work, thirty-six hours. Practical work equivalent to 130 days of six hours each at the Manor Farm, Garforth.
- APPLIED CHEMISTRY (COLOUR CHEMISTRY AND DYEING): Lecture Courses I, II, III, and IV. Laboratory work, equal to twelve hours a week for two sessions.
- APPLIED CHEMISTRY (CHEMISTRY OF LEATHER MANUFACTURE): Courses I, II, III, IV, V, and VI. Laboratory work, twelve hours a week for two sessions.

II. Subsidiary Subjects, studied for One Year

MATHEMATICS: Courses FI and F2.

- PHYSICS: Course F1. Laboratory work, six hours a week for one session.
- CHEMISTRY: Course F1 or F2 or F3. Laboratory work, twelve hours a week for one session.
- ZOOLOGY: Course FI, either A or B. Laboratory work, six hours a week for one session.

BOTANY: Course FI, either A or B. Laboratory work, six hours a week for one session.

PHYSIOLOGY: Courses I and IV.

GEOLOGY: Course FI. Laboratory work, six hours a week for one session, together with an approved course of Field Geology.

GEOGRAPHY: Courses F1 and F2. Laboratory work, six hours a week for one session, with Field work.

HUMAN ANATOMY: Courses I (Part I) and II.

- BACTERIOLOGY: Course I. Laboratory work, forty-five hours during one session.
- EDUCATION: Parts I and II. Instruction in the method of teaching elementary science will be regarded as equivalent to laboratory attendance (three years' course).

MECHANICAL ENGINEERING : Courses VI, VIII, and IX.

- CIVIL ENGINEERING: Portions of Courses III, IV, VIII, and VIII a.
- ELECTRICAL ENGINEERING: Course Ia. Practical work, three hours a week for two terms.
- MINING ENGINEERING: Course II. Practical work (either Mine Surveying, or Ore Dressing, or Assaying), six hours a week for one session.

# Degree of Bachelor of Science with Honours

Ordinance. I. The degree of Bachelor of Science with Honours will be awarded in the following subjects :

Mathematics Physics Chemistry Zoology Botany Physiology Geology **Civil Engineering** Mechanical Engineering **Electrical Engineering** Mining Engineering Gas Engineering. Fuel and Metallurgy. Applied Chemistry (Chemistry of Leather Manufacture) Applied Chemistry (Colour Chemistry and Dyeing) Agriculture.

2. Candidates will be required to present certificates of attendance upon approved courses of study extending over three or four years, as defined under the regulations for each Honours School. Such certificates of attendance shall only be granted when the candidate has regularly attended to the work of the classes and has acquitted himself satisfactorily at the class examinations.

3. Candidates for admission to an Honours examination will be required to have passed the Intermediate and the Final examinations as prescribed for the Ordinary Degree of B.Sc., subject to the qualifications contained in the Clauses 5 and 6 *infra*.

4. Such candidates as, prior to entrance to the University, declare their intention of proceeding to the degree of B.Sc. with Honours in one of the Honours Schools, may be admitted to the Intermediate examination prescribed in the Regulations for the Honours School in question, without previous attendance at the University. In this case, they will be required to pass simultaneously in all of the three subjects prescribed, and will also be required then or during their course of study to pass the examination in a fourth subject at the Intermediate stage as required by Ordinance.

5. Candidates who have not passed the Intermediate examination prior to entrance at the University shall be required to pursue courses of instruction in the subjects of the Intermediate examination (including the fourth, or additional subject) as prescribed in the regulations of the several Honours Schools, but (a) they shall not be required to pass simultaneously in all the subjects prescribed at the Intermediate examination, and ( $\delta$ ) they shall be excused from presenting themselves at the Intermediate examination in any subject which they will subsequently offer at a higher standard.

6. All candidates shall be required to pursue courses of instruction in the subjects of the Final examination as prescribed in the regulations of the several Honours Schools, but they shall be excused from presenting themselves for examination in any subject which they will subsequently offer at a higher standard. 7. A special Honours examination, hereinafter called the Honours examination, shall be held in the subjects of the Honours stage.

8. Candidates who shall present evidence satisfactory to the Senate that they are qualified to enter upon a course of research may receive permission to pursue such a course, and to offer a thesis of their work in place of part or the whole of the Honours examination; but no candidate shall be excused the whole of the Honours examination unless he has satisfied the examiners in the subject of his Honours School as a principal subject for the Ordinary degree, in addition to the one principal subject or two subsidiary subjects required for such degree.

Each application for the recognition of research work must be made to the Senate not later than the last day of the October preceding the Honours examination, together with a statement of the intended subject of research, and a summary of the course of work actually pursued must be sent in to the examiners not later than the first day of the May preceding the Honours examination.

Candidates whose thesis does not satisfy the examiners shall not receive the Honours degree, but may be recommended for the Ordinary degree.

9. Names of candidates who have passed the examination for the degree of Bachelor with Honours will be published in such form as to distinguish the Honours School in which severally they may have passed; the names of those who have passed in Honours being drawn up in three classes, and each class being arranged in alphabetical order.

10. Candidates who have not acquitted themselves so as to deserve Honours, but have reached the standard of the Ordinary degree, may be recommended for that degree.

11. Candidates who have passed the examination for the Ordinary degree of Bachelor of Science may, during the following session, proceed with the course of study in an Honours School and may present themselves for examination for the Honours degree in the fourth or fifth session of their University course.

#### Honours Schools

12. Every candidate for the degree of Bachelor of Science with Honours shall be required to present himself for examination at the end of the third or fourth or fifth academic year from the time when he has entered upon one of the courses of instruction approved by the University for such degree, unless he shall present a medical certificate of illness satisfactory to the Senate. This examination shall ordinarily be held in June of each year.

13. Students who have passed the Final examination in any of the Honours Schools shall be admitted to the Fina examination in any other Honours School after the expiration of one or two years, on presenting certificates of having attended, during the period in question, courses approved by the University, provided that in the said other Honours School candidates shall not present themselves for the examination more than two academic years after the examination in Honours already passed by them, and also that no candidate be admitted to examination in any Honours School after a longer period than five years has elapsed since the date of his first entrance upon a prescribed course of study for an Honours School.

14. Candidates who have passed the Second M.B. examination may, with the sanction of the Senate, and on furnishing certificates of having during the academical year following such Second M.B. examination attended the third year's, or during the two academical years following such Second M.B. examination of having attended the second and third year's course approved by the University for one of its Honours Schools in Science, present themselves for examination for a B.Sc. degree with Honours in such school.

N.B.—In 1922 the latest date of entry and of payment of fees for candidates presenting themselves for the Honours examination, will be WEDNESDAY, MARCH 1st. Candidates who have received permission to offer a thesis in place of part or the whole of the examination must make their entry and pay the prescribed fee not later than MONDAY, MAY 1st. The thesis must be sent in to the examiners not later than WEDNESDAY, MAY 31st.

#### Degrees in Science

# Prescribed Courses of Study

Regulations.

The following regulations apply to candidates who have not passed the Intermediate examination before entering the University. Candidates who have already satisfied the requirements of that examination will be exempted from attendance at the Intermediate classes in the subjects in which they have passed. It should be noted that preparation for the additional Intermediate subject is not mentioned in the following schemes, as it may be taken at such time in the undergraduate course as is most convenient to the candidate.

Laboratory work will be required in each subject, except Mathematics. The amount required in each Honours subject will be prescribed by the Professor, with the sanction of the Board of the Faculties of Science and Technology. In the remaining subjects offered by candidates laboratory work will also be required, the amount being that prescribed for such subjects at the Intermediate and Final stage of the Ordinary degree.

In the following regulations the words *Intermediate course* or *examination* and *Final course* or *examination* indicate respectively the Intermediate and the Final courses or examinations for the Ordinary degree of Bachelor of Science

In the Final examination a paper will be set containing, for translation into English, a passage of French and a passage of German, relating to the subject in which the candidate is presenting himself for Honours. All candidates will be required to take this paper, and to satisfy the examiners in the translation of both these passages. Candidates will be allowed the use of dictionaries at this Language Test Examination.

The Courses set forth in the following schedules are those that will ordinarily be taken by Honours students, but they may be modified by the Vice-Chancellor in the case of any individual student on the recommendation of the head of the department concerned. Honours Schools

# **Mathematics**

- Examinations prescribed for students taking this Honours School.
  - (a) Intermediate Examination (together with additional subject and essay):

Mathematics, Physics, and *one* of the following, viz. : Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

Physics as a second principal subject.

(c) Honours Examination.

Ten papers will be set on the general range of subjects customarily included in an Honours course in Mathematics, and of these one will be an Essay paper (with a choice of questions in Pure and Applied Mathematics); two further papers will be set on the special subjects which are offered by the various students year by year.

Lecture Courses prescribed for students taking this Honours School.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year : Mathematics H1, Physics F1, and one of the following, viz. : Chemistry Int., Zoology Int., Botany Int., Geology Int.

Second year : Mathematics H2, Physics F2

Third year: Mathematics H3.

FOUR YEARS' COURSE.

First year: Mathematics Int., Physics Int., and one of the following, viz.: Chemistry Int., Zoology Int., Botany Int., Geology Int.

Second year: Mathematics HI, Physics FI.

Third year : Mathematics H2, Physics F2

Fourth year : Mathematics H3.

#### Degrees in Science

# **Physics**

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

(a) Intermediate Examination (together with additional subject and essay):

Physics, Mathematics, and Chemistry.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

Mathematics as a second principal subject.

(c) Honours Examination.

Experimental and Theoretical Physics, requiring a knowledge of the Calculus, three papers

One of the following :

Mathematical Physics, more advanced portions, one paper Physical Chemistry, one paper

Technical Electricity, one paper

Practical examination in the Physical laboratory extending over two days

Lecture Courses prescribed for Students taking this Honours School.

> For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year: Physics Int. and F1, Mathematics F1 and F2, Chemistry F1.

Second year: Physics F2 and H, Mathematics F3. and F4.

Third year: Physics H.

FOUR YEARS' COURSE.

First year: Physics Int., Mathematics Int. and F2, Chemistry Int.

Second year: Physics F1 and F2, Mathematics F1 and F3.

Third Year: Physics H., Mathematics F4.

Fourth Year : Physics H.

# Chemistry

- Examinations prescribed for students taking this Honours School.
  - (a) Intermediate Examination (together with additional subject and essay):

Physics, Mathematics, and Chemistry.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination :

Physics as a second principal subject,

Mathematics and Physics as subsidiary subjects.

#### (c) Honours Examination.

Inorganic Chemistry, one paper

Organic Chemistry, one paper

Physical Chemistry, one paper

History of Chemistry and of Chemical Philosophy, one paper *One* of the following optional subjects :

Electro-chemistry, one paper Chemistry of Food and Drugs, one paper

Colour Chemistry and Dyeing, one paper

Chemistry of Leather Manufacture, one paper

Fuel and Metallurgy, one paper

Physiological Chemistry, one paper

Agricultural Chemistry, one paper

A branch of Physics, one paper

Mineralogy and Crystallography, one paper

Mechanical Engineering, one paper

Practical examination in the laboratory, extending over three days.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

> For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year: Physics Int., Mathematics Int., Chemistry F1 or F2.
#### Degrees in Science

Second and Third years: Chemistry F1 or F2, F3, and H1, H2, H3, H4, and the classes required for the optional subject, together with *either* 

Mathematics F1 and F2 and Physics F1, or
Physics F1 and F2.

FOUR YEARS' COURSE.

First year: Physics Int., Mathematics Int, Chemistry Int.

Second and Third Years: Chemistry F1, F2, F3, together with either

(1) Mathematics F1 and F2 and Physics F1, or

(2) Physics F1 and F2.

Fourth year: Chemistry H1, H2, H3, H4, and the classes required for the optional subject.

## Zoology

- Examinations prescribed for students taking this Honours School.
  - (a) Intermediate Examination (together with additional subject and essay):

Zoology, Physics, and *one* of the following, viz. : Mathematics, Chemistry, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination :

A second principal subject,

or

Two subsidiary subjects.

(c) Honours Examination :

One or more of the subjects named below may be selected, or the candidate may propose other subjects for the approval of the Senate. The subjects must be sent in not later than the last day of the October preceding the examination. A summary of the course of study actually gone through must be sent in to the examiners during the following April.

The Honours examination may be taken in the same year as the Ordinary B.Sc., or a year later. It will extend over four days, one (or more) of which will be occupied with practical work. There will be a *viva voce* examination.

#### Honours Schools

A thesis, founded upon original research, may be sent in either alone, or together with one or more special subjects for examination.

Subjects, one or more of which may be selected for an Honours course in Zoology :

- (a) The comparative anatomy, or general zoology, of some large and important group of animals.
- (b) Comparative embryology.
- (c) Paleeontology, with special reference to some large and important group of animals.
- (d) Variation, Heredity and Adaptation.
- (c) Oceanography.
- LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

\*FOUR YEARS' COURSE.

- First year: Zoology Int., Physics Int., and one of the following, viz. : Mathematics Int., Chemistry Int., Botany Int., Geology Int.
- Second and third years: Zoology F1 (A and B), together with courses in a second principal subject, or two subsidiary subjects.

Fourth year: Honours work in Zoology.

#### Botany

- EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.
  - (a) Intermediate Examination (together with additional subject and essay):

Botany, Physics, and *one* of the following, viz. : Mathematics, Chemistry, Zoology, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

<sup>\*</sup>This Course may, in special circumstances, be shortened to three years, on the sanction of the Head of the department.

#### Degrees in Science

(b) Final Examination:

A second principal subject,

Two subsidiary subjects.

(c) Honours Examination.

The Honours examination may be taken in the same year as the Ordinary B.Sc., or a year later. It will extend over four days, one (or more) of which will be occupied with practical work. There will be a *viva voce* examination.

A thesis, founded upon original research, may be sent in either alone, or together with one or more special subjects for examination.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

> For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

\*FOUR YEARS' COURSE.

- First year: Botany Int., Physics Int., and one of the following, viz: Mathematics Int., Chemistry Int., Zoology Int., Geology Int.
- Second and Third years: Botany F1 (A and B) together with courses in a second principal subject or two subsidiary subjects.

Fourth year : Honours work in Botany.

## Physiology

- EXAMINATION PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.
  - (a) Intermediate Examination (together with additional subject and essay):

Physics, and *two* of the following, viz: Mathematics, Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

<sup>\*</sup>This Course may, in special circumstances, be shortened to three years, on the sanction of the Head of the department.

(b) Final Examination:

If a three years course is taken,

Two subsidiary subjects, selected from Physics, Chemistry, Zoology, Bacteriology, but *one* of the selected subjects must be *either* Physics *or* Chemistry.

If a four years' course is taken,

One principal subject, selected from Physics, Chemistry, Zoology.

(c) Honours Examination:

Physiology, three papers

Practical examination in the laboratory, extending over two days.

## LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year: Physics Int., and two of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int., Geology Int.

Second year: Physiology I and II, together with two of the following, viz.:

(1) Physics F1

(2) Chemistry F1 or F2 or F3 or H3

(3) Zoology F1 (A or B)

(4) Bacteriology I

one of which shall be either Physics or Chemistry.

Third year: Honours work in Physiology.

FOUR YEARS' COURSE.

First year: Physics Int., and two of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int., Geology Int.

#### Degrees in Science

Second and Third Years: Physiology I and II, together with one of the following, viz.:

- (1) Physics F1 and F2
- (2) Chemistry F1, F2, F3, and H3
- (3) Zoology F1 (A and B).

Fourth Year : Honours work in Physiology.

As part of both the three years' and the four years' courses candidates will be required to have attended satisfactorily an approved course of instruction in Human Anatomy or in Comparative Anatomy.

#### Geology

In this school there are alternative schemes of study, Scheme A—Physical, and Scheme B—Biological.

#### SCHEME A (PHYSICAL)

- Examinations prescribed for students taking Scheme A.
  - (a) Intermediate Examination (together with additional subject and essay):

Geology, Physics, and *one* of the following, viz. : Mathematics, Chemistry, Zoology, Botany.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

A second principal subject,

or

Two subsidiary subjects.

(c) Honours Examination.

Geology, two papers

Petrology, one paper

Elementary Mineralogy, one paper

A special paper on the subject of research selected by the candidate Practical examination in the laboratory, extending over two days

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING SCHEME A.

> For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

### THREE YEARS' COURSE.

- First year: Geology Int., Physics Int., and one of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.
- Second and Third Years: Geology F1, F2, F5, and H1, with research, together with courses in a second principal subject or two subsidiary subjects.

FOUR YEARS' COURSE.

- First year: Geology Int., Physics Int., and one of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.
- Second, Third and Fourth years: Geology F1, F2, F5 and H1 with research, together with courses in a second principal subject or two subsidiary subjects.

#### SCHEME B (BIOLOGICAL)

- Examinations prescribed for students taking Scheme B.
  - (a) Intermediate Examination (together with additional subject and essay):

Geology, Physics, and *one* of the following, viz. Mathematics, Chemistry, Zoology, Botany.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

A second principal subject

or

Two subsidiary subjects.

### (c) Honours Examination :

Geology, one paper

- Palæontology, one paper
- Palæobotany, one paper

Special paper on the subject of research selected by the candidate Practical examination in the laboratory, extending over two days.

#### Degrees in Science

Lecture Courses prescribed for students taking Scheme B.

> For full particulars of these lecture courses see Courses in Science set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

- First year: Geology Int., Physics Int., and one of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.
- Second and Third years: Geology F1, F2, F5 and H1, with research, together with courses in a second principal subject or two subsidiary subjects.

FOUR YEARS' COURSE.

- First year: Geology Int., Physics Int., and one of the following, viz.: Mathematics Int., Chemistry Int., Zoology Int., Botany Int.
- Second, Third and Fourth years: Geology F1, F2, F5 and H1, with research, together with courses in a second principal subject or two subsidiary subjects.

## Mechanical Engineering

- EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.
  - (a) Intermediate Examination (together with additional subject and essay):

Mathematics, Physics, Chemistry, Applied Mechanics.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

Mathematics as a second principal subject.

(c) Honours Examination.

Graphics and Descriptive Geometry, one paper Strength and Elasticity of Materials, one paper General Hydraulics, one paper

Thermodynamics and Theory of Heat Engines, one paper Dynamics and Kinematics of Machinery, one paper

<sup>1</sup>Mathematics, four papers

Laboratory examination, two days

A candidate's work done in the drawing office and the laboratory and the class examination results in Engineering during his three years' course will be taken into consideration

Lecture Courses prescribed for students taking this Honours School.

> For full particulars of these lecture courses see Courses in Science and Engineering set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

#### THREE YEARS' COURSE.

First year: Engineering I, Mathematics Int., F1 and F2, Physics Int., Chemistry Int.

Second year: Engineering VI, Mathematics F3 and F4, and Electrical Engineering Ia.

Third year: Engineering IV (Part I) and VII, Physics F1 (second term only).

## Civil Engineering

- Examinations prescribed for students taking this Honours School.
  - (a) Intermediate Examination (together with additional subject and essay):

Mathematics, Physics, Chemistry, Applied Mechanics.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

Mathematics as a second principal subject.

vie., Mathematics taken as the second principal subject

#### Degrees in Science

(c) Honours Examination.

Graphics and Descriptive Geometry, one paper Strength and Elasticity of Materials, one paper

General Hydraulics, one paper

Theory of Complex Structures, one paper

Surveying, Railways and Water Supply, one paper

<sup>1</sup> Mathematics, four papers

Laboratory examination, two days

A candidate's work done in the drawing office and the laboratory, and the class examination results in Engineering during his three years' course will be taken into consideration.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

For full particulars of these lecture courses see Courses in Science and Engineering set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year: Engineering I, Mathematics Int., Fr and F2, Physics Int., Chemistry Int.

Second year: Engineering III and VI, Mathematics F<sub>3</sub> and F<sub>4</sub>, and Geology F<sub>1</sub>.

Third year: Engineering IV and VII, and Physics F1 (second term only).

# **Electrical Engineering**

EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

(a) Intermediate Examination (together with additional subject and essay):

Mathematics, Physics, Chemistry, Applied Mechanics.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc Ordinance.

(b) Final Examination:

Mathematics as a second principal subject.

I i.e. Mathematics taken as the second principal subject.

Honours Schools

(c) Honours Examination.

Generation and Transformation of Electrical Energy, one paper Distribution of Electrical Energy, one paper Design of Electrical Appliances, one paper Mechanical Engineering, one paper Heat Engines, one paper <sup>1</sup>Mathematics, four papers

Practical examination in Electrical Engineering, two days

A candidate's work done in the Electrical and Mechanical Engineering Drawing Office and Laboratory and the class examination results in Electrical and Mechanical Engineering during his three years' course will be taken into consideration.

LECTURE COURSES PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.

> For full particulars of these lecture courses see Courses in Science and Engineering set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

THREE YEARS' COURSE.

First year: Mathematics Int., F1 and F2, Physics Int., Chemistry Int., Engineering I.

Second year: Mathematics F3 and F4, Engineering VI and Electrical Engineering I.

Third year: <sup>2</sup> Mathematics II, Physics F1 (second term only), and Electrical Engineering II, III, and IV.

## Mining Engineering

15. Honours in Mining Engineering will be awarded to Ordinance candidates who, having obtained the Ordinary degree, with Mining Engineering as a principal subject, and being recommended as suitable to proceed with an Honours course, shall have spent one or two years in research or in the preparation of a thesis, attendance at the University during this period not being compulsory. All candidates for Honours shall be required to pass in Mathematics at the standard of a principal subject of the Final examination for the Ordinary degree, and to have attended such

<sup>1</sup> i.e., Mathematics taken as the second principal subject.

<sup>2</sup> Non-degree students take this if they were unable to take Mathematics F1 in the second year.

## Degrees in Science

Mathematical courses as are prescribed for candidates who take the subject of Mathematics as a subsidiary subject for the Final examination for the Ordinary degree.

## Gas Engineering: Fuel and Metallurgy

Ordinance.

16. Honours in Gas Engineering or Fuel and Metallurgy will be awarded to candidates who, having obtained the Ordinary Degree, with either Gas Engineering or Fuel and Metallurgy as a principal subject, and being recommended as suitable to proceed with an Honours Course, shall have spent one or two years in research, or in the preparation of a thesis on some industrial process, to the satisfaction of the examiners, attendance at the University during this period not being compulsory.

Honours in Gas Engineering or Fuel and Metallurgy may also be conferred upon candidates, who, having graduated in Science at this or an approved University, with Chemistry or Engineering as a principal subject, shall have subsequently (1) completed the course and passed the examination required for the diploma in Gas Engineering or Fuel and Metallurgy; and (2) spent an additional year in research in the Department to the satisfaction of the examiners.

# Applied Chemistry: Colour Chemistry and Dyeing

Regulations.

Honours in this subject will be awarded to candidates who, having completed the four years' course of study for the Ordinary degree, with Colour Chemistry and Dyeing as a principal subject, shall have shown competence in the special work for Honours prescribed at the Final examination.

# Applied Chemistry: Chemistry of Leather Manufacture

Examinations prescribed for students taking this Honours School.

(a) Intermediate Examination (together with additional subject and essay):

Physics, Chemistry, and *one* of the following, viz. : Mathematics, Zoology, Botany. This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc Ordinance.

(b) Final Examination:

Chemistry as a second principal subject.

(c) Honours Examination.

Physics and Chemistry of Leather Manufacture, one paper Materials of Leather Manufacture, one paper Principles and Methods of Leather Manufacture, one paper Analytical Chemistry of Leather Manufacture, one paper Practical examination, three days

Lecture Courses prescribed for students taking this Honours School.

> For full particulars of these lecture courses see Courses in Science and in Leather Industries set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

FOUR YEARS' COURSE.

- First year: Physics Int., Chemistry Int., and one of the following, viz. : Mathematics Int., Zoology Int., Botany Int.
- Second and Third years: Physics F1, Engineering II (A), Chemistry F1, F2, F3, and H3, and Chemistry of Leather Manufacture I, II, III, IV, V, and VI.

Fourth year: Honours courses or research in Chemistry of Leather Manufacture.

Agriculture

- EXAMINATIONS PRESCRIBED FOR STUDENTS TAKING THIS HONOURS SCHOOL.
  - (a) *Intermediate Examination* (together with additional subject and essay):

Physics, and *two* of the following, viz : Chemistry, Zoology, Botany, Geology.

This examination is subject to the provisions contained in clauses 4 and 5 of the Honours B.Sc. Ordinance.

(b) Final Examination:

One of the pure sciences specified under section 15 of the Ordinary B.Sc. Ordinance as second principal subject,

or

*Two* of the pure sciences specified under section 16 of the Ordinary B.Sc. Ordinance as subsidiary subjects.

(c) Honours Examination.

The examination will extend over two days, part of the time being occupied by a *viva voce* examination at the Manor Farm, Garforth.

Lecture Courses prescribed for students taking this Honours School.

> For full particulars of these lecture courses see Courses in Science and Agriculture set forth in subsequent pages. An additional subject and an essay must also be taken at Intermediate standard.

FOUR YEARS' COURSE.

- First year: Physics Int., and two of the following, viz: Chemistry Int., Zoology Int., Botany Int., Geology Int.
- Second and Third years: the courses prescribed for candidates for the Final examination for the Ordinary degree who offer Agriculture as a principal subject, together with research work.
- *Fourth year*: Honours work, with research. Candidates are required to present themselves at the end of the third year for the Final examination for the Ordinary degree.

The same rule shall apply to an Honours student as to a student reading for an Ordinary degree, viz., six months of practical work equivalent to 130 days of six hours each shall be spent at the Manor Farm, Garforth, after the Intermediate examination and before the completion of the third year. At the examination at the end of the third year the candidate for the Ordinary degree will be required to submit a report on an experiment he has himself conducted. The candidate for Honours will be required to submit an nterim report on his special research.

### Degree of M.Sc.

# DEGREE OF MASTER OF SCIENCE

I

1. The degree of Master of Science is conferred, on Ordinance. payment of the proper fee, upon registered Bachelors of Science, when of one year's standing from the date of their graduation as Bachelors, subject to the conditions contained in the following paragraphs.

2. Bachelors of Science who have graduated with Honours are not required to present themselves for any further examination for the degree of Master of Science.

3. Bachelors of Science who have obtained the Ordinary degree are required to satisfy the examiners in a further examination in *one* of the following subjects : Mathematics, Physics, Chemistry, Zoology, Botany, Physiology, Geology, Mechanical, Civil, Electrical, or Mining Engineering, Applied Chemistry (Colour Chemistry and Dyeing), Applied Chemistry (Chemistry of Leather Manufacture), Fuel and Metallurgy, Gas Engineering, and Agriculture. Certificates of attendance are not required.

4. The names of candidates who have passed the further examination for the degree of Master of Science are arranged in alphabetical order without distinction of classes.

5. Candidates who have prosecuted research, and who give satisfactory evidence thereof by the presentation of a thesis, may be excused part or the whole of the examination.

Each application for permission to present a thesis Regulations. must be made to the Senate not later than the last day of the October preceding the M.Sc. examination, together with a statement of the intended subject of research; and the thesis must be sent in to the examiners not later than the last day of the May preceding the M.Sc. examination.

[N.B.—The phrase "in a further examination" in clause 3 of the Ordinance is interpreted by the Senate to mean that candidates shall only be allowed to present themselves in subjects already presented by them for the Final examination for the B.Sc. degree (Ordinary or Honours) or some subject cognate thereto. For example, a candidate who has presented himself in Pure Chemistry may present himself for

the M.Sc. degree in any subject of Applied Chemistry, and vice versa, but in the departments of Applied Science special papers may be set or other tests applied to graduates who have not passed the Final examination for the B.Sc. degree in such Applied Sciences.]

## Π

Ordinance

6. Graduates or persons who have passed the Final examination for a degree of other approved Universities shall, if they present evidence satisfactory to the Senate that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.Sc., without taking the B.Sc. degree, after not less than two years of such advanced study or research.

7. Persons who are not graduates (nor have passed the Final examination for a degree) of an approved University, may, if they satisfy the Senate that their educational attainments are adequate and that they are qualified to pursue a course of advanced study or research, be permitted to enter the University and to become candidates for the degree of M.Sc. without taking the B.Sc. degree, after not less than three years of such advanced study or research.

8. Candidates admitted under the provisions of either of the two paragraphs preceding shall be required to fulfil the following conditions :---

- (a) To be registered as students of the University.
- (b) To pursue a course of advanced study or research under the supervision of the Head of the Department concerned.
- (c) To attend a course or courses of lectures at the University for at least one year, except so far as this requirement is suspended or reduced by the Senate.

They shall be further required to give evidence to the Senate at the end of the first year of their period of study that their work has been satisfactory, and at the end of their course they shall be required to present a dissertation, and to satisfy such further test, if any, as the

## Degree of M.Sc.

Senate shall deem expedient. They will, as a rule, be called upon to present themselves for an examination—written or oral, or both—in the theme of their dissertation.

N.B.—In 1922 notice must be given and the fee must be paid not later than WEDNESDAY, MARCH 1st, by Bachelors of Science who have obtained the Ordinary degree and who intend to proceed to the Degree of M.Sc. The examination, if required, will he held in June. Notice must be given and the fee must be paid a week before Degree Day, July 1st, by Bachelors of Science who have graduated with Honours and who intend to proceed to the Degree of M.Sc.

#### Examination

#### **MATHEMATICS**:

Regulations.

Four papers will be set on the following subjects : Higher Algebra and Trigonometry (excluding Spherical Trigonometry), Analytical Geometry Plane and Solid, Calculus and Differential Equations, Statics, Hydrostatics, Dynamics of a Particle, Rigid Dynamics.

Alternative questions may be set involving a wider and more varied course of reading in other mathematical subjects.

**PHYSICS**:

Experimental Physics, including Chemical Physics, two papers

Experimental and Theoretical Physics requiring a knowledge of the Differential Calculus and of the elements of the Integral Calculus, one paper

Calculus, one paper

Practical examination, one day.

#### CHEMISTRY :

Inorganic Chemistry, one paper

Organic Chemistry, one paper

One of the following optional subjects :

Physical Chemistry, one paper

History of Chemistry and of Chemical Philosophy, one paper

Electro-Chemistry, one paper Chemistry of Food and Drugs, one paper

Colour Chemistry and Dyeing, one paper

Chemistry of Leather Manufacture, one paper

Fuel and Metallurgy, one paper

Physiological Chemistry, one paper

Agricultural Chemistry, one paper

A branch of Physics, one paper

Mineralogy and Crystallography, one paper

Mechanical Engineering, one paper

Practical examination, one day.

ZOOLOGY :

Zoology and Comparative Anatomy (including the more important extinct forms) and Embryology, three papers

Practical examination, one day.

BOTANY :

Botany, three papers

Practical examination, one day.

PHYSIOLOGY :

Animal Physiology, three papers Practical examination, one day.

GEOLOGY :

*Either* Geology and the elements of Mineralogy, three papers, *or* Geology and Zoology, three papers Practical examination, one day.

MECHANICAL ENGINEERING:

Dynamics of Machinery, one paper Stress, Strain and Elasticity, one paper Heat Engines and Thermodynamics, one paper Hydraulics, one paper.

CIVIL ENGINEERING :

Surveying and Descriptive Engineering, one paper Stress, Strain and Elasticity, one paper Complex Structures, one paper Hydraulics, one paper.

ELECTRICAL ENGINEERING:

Mechanical Engineering, one paper.

Electrical Engineering, two papers (embracing Generation, Transformation, Distribution and Design).

Practical examination, one day.

MINING ENGINEERING

Mining (including Ore Dressing and Mine Surveying) three papers. Practical examination, one day.

APPLIED CHEMISTRY (Chemistry of Leather Manufacture): Physics and Chemistry of Leather Manufacture, one paper. Materials of Leather Manufacture, one paper. Principles and Methods of Leather Manufacture, one paper. Analytical Chemistry of Leather Manufacture, one paper. Practical examination, five days.

APPLIED CHEMISTRY (Colour Chemistry and Dyeing) :

Chemistry of the Artificial and Natural Dyestuffs, one paper. Practical examination, five days.

Or alternatively-

Presentation of thesis embodying original work in the subject of Colour Chemistry.

Viva voce examination upon thesis presented or upon matters cognate thereto.

Degree of D.Sc.

Candidates who have not obtained their B.Sc. degree in Colour Chemistry as a principal subject are required to present themselves for the above theoretical and practical examination or such part thereof as the examiners may deem necessary.

AGRICULTURE :

Two papers, embracing Soils and Manures, Rotations and Permanent Grass, Live Stock and Feeding, Implements, and Agricultural Economics.

Practical Examination at the Manor Farm, Garforth.

GAS ENGINEERING:

Carbonisation Methods for Coal (Gas Manufacture and By-Product Coking Practice), one paper.

Gas Distribution, Lighting, and Heating, one paper.

Chemistry of Gases, one paper.

Practical examination, four days.

Candidates who have taken the ordinary B.Sc. without Engineering as a principal or subsidiary subject must also take a *fourth* paper in General Engineering.

FUEL AND METALLURGY :

Technology of Fuel, one paper.

The Metallurgy of some selected Metal or group of Metals, one paper.

Alloys, one paper.

Practical examination, four days.

Candidates who have taken the ordinary B.Sc. without Engineering as either a principal or a subsidiary subject must also take a fourth paper in General Engineering.

### DEGREE OF MASTER OF EDUCATION

(see pages 175-176)

### DEGREE OF DOCTOR OF PHILOSOPHY

(see pages 176-178)

#### DEGREE OF DOCTOR OF SCIENCE

1. The degree of Doctor of Science is conferred by the ordinance. University upon registered Masters of Science or Doctors of Philosophy of the University who shall be deemed by the Senate, after considering a report from one or more of the Boards of Faculties, to have distinguished themselves by special research or learning. Provided that the Senate may, in such cases as it shall think fit, after considering a report from one or more of the Boards of the Faculties, also require candidates to pass such an examination as it may from time to time determine.

2. A Master of Science or a Doctor of Philosophy of the University may make application for the degree of Doctor of Science in the sixth, or any subsequent year from the date of his admission to the Bachelor's degree.

3. Such application shall be made in writing to the Registrar and shall contain a full statement of the grounds on which the claim for the degree is based, together with one or more copies of any memoir, whether in type or in manuscript, which the applicant may desire to submit in support of the application.

4. If the application be approved by the Senate, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

N.B.—In 1922 notice must be given and the fee must be paid not later than WEDNESDAY, MARCH 1st.

# DIPLOMAS IN APPLIED SCIENCE AND TECHNOLOGY

Diplomas are granted by the University in the following subjects :---

Civil Engineering

Mechanical Engineering

Electrical Engineering

Coal Mining

Fuel and Metallurgy

Gas Engineering

Dyeing

Colour Chemistry

Leather Manufacture

Textile Industries: (1) Textile Design and Cloth Finishing

(2) Woollen and Worsted Spinning; (3) Cloth Manufacture.

Textile Chemistry.

(For Regulations governing the award of these Diplomas see Courses in Technology).

# CITY AND GUILDS TECHNOLOGICAL EXAMINATIONS

The examinations of the City and Guilds of London Technical Institute are held in the University in April, May, or June every year. Students of the University and others are admitted to the examinations on payment, at the time of entry, of a fee which varies from 2s. 6d. to 10s. for each subject. Money prizes, medals, and certificates are awarded by the Institute. Among the subjects of examination, the following may be mentioned as specially suitable to the technical students of the University :- Coal Tar Products, Gas Manufacture, Iron and Steel Manufacture, Leather Tanning, Dyeing (Silk, Wool, and Cotton), Bleaching and Printing, Textile Fabrics (Spinning and Weaving), Electrical Engineering, Mechanical Engineering, Mine Surveying. To obtain a full certificate in any of the above-mentioned technological subjects candidates will be required to pass the Institute's examination in the Final grade and also, in general, an examination in two or more of the Science and Art subjects included in the Regulations of the Board of Education, the subjects to be chosen from those most closely allied to the subject taken by the candidate. The Institute will accept in lieu of the examination by the Board of Education a certificate from the University stating that the candidate has attended approved courses of instruction at the University in the science subjects allied to the technological subject in which the full certificate is claimed, and has passed a satisfactory examination in such science subjects. For further particulars see the programme of the Institute (price, post free, 1s.)

Entries for the next examination will be received by the Local Secretary, The University, Leeds, not later than March 1st, 1922.

## COURSES IN SCIENCE

## MATHEMATICS

Professor Milne Dr. Brodetsky Mr. Berwick Mr. Gilham Mr. Steward

Mr. SMEAL

## LECTURE COURSES

#### **Trigonometry** Class

One hour a week at a time to be arranged, for those who wish to receive instruction in Trigonometry.

## I. First Year Course for Engineers

Mondays, Wednesdays and Fridays, at 11 a.m. Subjects: Trigonometry, graphical and practical methods of calculation with applications.

## II. Second Year Course for Engineers

Mondays and Fridays, at 9 a.m.

Subjects: Differential and integral calculus, with practical applications. Nomography.

#### **Engineering Mechanics**

Tuesdays and Thursdays, at 9 a.m. *Subjects* : Statics and dynamics.

## Int. Intermediate Course in Mathematics

Mondays, Wednesdays and Fridays, at 9 a.m.

Mondays and Fridays, at 2 p.m., and Wednesdays, at 9 a.m.

Subjects: Trigonometry, calculus, statics and dynamics.

## F1. Final Course in Mixed Mathematics

## Mondays, Wednesdays and Fridays at 12 (noon), or

Mondays at 11 a.m. and Tuesdays and Thursdays at 9 a.m. for Engineering Honours students.

The subjects of the Intermediate course carried to a more advanced stage; hydrostatics.

## Mathematics

### F2. Final Course in Pure Mathematics

Tuesdays and Thursdays, at 12 (noon).

Subjects: Algebra, Pure and Analytical Geometry of two dimensions; the Elements of Nomography.

#### F3. Final Course in Pure Mathematics

Mondays, Wednesdays and Fridays, at 10 a.m.

Subjects: Easier portions of Higher Algebra; Differential Equations; Analytical Geometry of three dimensions; Nomography.

#### F4. Final Course in Applied Mathematics

Mondays, Wednesdays and Fridays, at 12 (noon). Subjects: Attractions and Astronomical Dynamics; other selected branches of Applied Mathematics, including Aerodynamics.

### I. First Year Course for Students of Commerce

At hours to be arranged.

Subjects: Algebra and Calculus, preparatory to the study of Statistics.

#### II. Second Year Course for Students of Commerce

At hours to be arranged. Subject: Theory of Statistics.

#### HONOURS COURSE

The lectures in the Honours course will treat of :---

(I) those general branches of mathematical knowledge, with which all students of the subject are expected to be familiar.

(2) special branches of the subject chosen by the student himself in accordance with his particular mathematical aptitudes and tastes.

Tutorial instruction will be given throughout the course in the solving of mathematical problems with a view to securing manipulative dexterity, precision and accuracy.

A course of lectures will also be given in the History of Mathematics.

#### Courses in Science

H1. First Year Honours Course in Pure and Applied Mathematics

Six hours per week.

H2. Second Year Honours Course in Pure and Applied Mathematics

Nine hours per week.

## H3. Third Year Honours Course in Pure and Applied Mathematics

Ten hours per week.

#### M.Sc. and Postgraduate Course

Lectures on special selected subjects in Pure and Applied Mathematics, at times to be arranged

Students taking Mathematics as a Principal Subject for the Ordinary degree of B.A., or B.Sc., take F1 and F2 in the first year of their Final course, and F3 and F4 in the second year of their Final course.

Students taking Mathematics as a Subsidiary Subject, take F1 and F2.

## PHYSICS

Chair endowed in 1884 by public subscription in memory of the late Lord Frederick Cavendish, first President of the Yorkshire College

	Professor	WHIDDING	TON
Mr.	Allen	Mr.	WAGSTAFF
Mr.	Ewles	Miss	WATSON

## LECTURE COURSES

### Intermediate Course

If necessary, four parallel Intermediate courses will be given, known as Int. a, Int. b, Int. c and Int. x.

Medical students are recommended to attend Int. a or Int. x if possible.

## Physics

It is very desirable that students taking these courses should have an elementary knowledge of Algebra, Trigonometry and Mechanics.

The following subjects will be treated in an elementary manner, illustrated by experiments: Electricity, Magnetism, Sound, Light, Heat, and Properties of Matter.

Suitable text books will be recommended by the lecturer.

## F1. Final Course

This course is intended to meet the requirements of students taking Physics as a subsidiary subject in the B.Sc. examination.

Three lectures will be given in each week.

#### F2. Final Course

This course is suitable for those taking Physics as a principal subject in the B.Sc. examination.

Intending students must have obtained at least a second class in the Intermediate Terminal examinations or in default are required to take the Intermediate course again concurrently with this course, unless specially exempted by the Senate.

Acquaintance with the principles of the Differential and Integral Calculus is necessary in this course.

Three lectures will be given in each week during the session.

#### H. Honours Course

The complete course extends over two sessions.

Reading references, including both text books and original papers, are freely given during the course.

## S. Special Courses

Special **short** courses on particular subjects will be arranged from time to time. These courses may be attended, voluntarily, by any student of Physics, beyond the Intermediate standard, and in approved cases by students not normally working in the Department.

For the present session it is hoped to arrange short courses on the following subjects :---

I. Some results of Modern Physics.

2. Applied Optics.

The times will be arranged, so far as is practicable, to suit the convenience of students wishing to attend.

The following time table shows the hours at which lectures are expected to take place :—

	9 to 10.	10 to 11.	11 to 12.	12 to 1,	3 to 4.
Mon	 Int. x	Int. c	FI; H		Fo Int b
WED		H  Int. c	н		Int. b
FRL		H  Int. c	F1; H		F2 Int. 6

## PHYSICS LABORATORIES

The Intermediate, Final and Honours laboratories are open between the hours of 9.30 and 12.30 in the mornings, and between 2 and 5 in the afternoons, but students' times of attendance are arranged at the beginning of the session, and must not be altered subsequently without permission.

The *minimum* of laboratory attendance required from students of various grades is indicated below :—

Intermediate B.Sc. .. three hours per week for 3 terms. First M.B. .. three 3 ,, ... ,, Final B.Sc.-Subsidiary .. six 3 11 ,, ,, 6 " Principal ... .. six ,, .... 6 " Honours .. .. nine ,, ,,

Chemistry

## CHEMISTRY

Professor Smithells Professor Cohen Professor Dawson Mr. Lowson

Mr.	DUTT	Mr. CLARKE
Mr.	Gregory	Miss Shore
Dr.	LESLIE	Mr. Hume
Mr.	TATHAM	

## LECTURE COURSES

### Int. General Course of Chemistry

The lectures of this course are given throughout the session, on Mondays, Wednesdays, and Fridays, at 12 a.m.

In addition a tutorial class will be held one hour weekly throughout the session.

The course is divided into two parts :

Part I will comprise lectures on the general properties of matter; chemical combination and decomposition; preparation, classification, and chemical behaviour of the chief elements and their compounds; chemical theory treated in an elementary manner.

Part II (third term) will form an introduction to organic chemistry.

#### Int. a

A course similar to the above, but intended for medical and dental students. The lectures are given at 2 p.m. on Mondays, Thursdays and Fridays.

## Analytical Chemistry

Two short courses of lectures will be given during the session, at times to be arranged.

## Course A.

This is intended for first year students, and will deal chiefly with qualitative analysis.

### Course B.

This is intended for more advanced students, and will include both qualitative and quantitative work.

#### FINAL COURSES

## F1. Inorganic Chemistry 1

### (Advanced Course-A)

Mondays, Wednesdays, and Fridays, at 10 a.m., throughout the session.

A previous general knowledge of chemistry is necessary.

## F2. Inorganic Chemistry (Advanced Course—B)

Tuesdays, Thursdays, and Saturdays, at 10 a.m., throughout the session.

A previous general knowledge of chemistry is necessary.

## F3. Organic Chemistry

Tuesdays, Thursdays, and Saturdays, at 12 noon, throughout the session.

This course is intended for second year students, or for those who have already some knowledge of chemistry.

### HONOURS COURSES

#### H1. Organic Chemistry

### Professor Cohen

Mondays, Wednesdays, and Fridays, at 12 noon, during the first two terms.

#### H2. History of Chemistry

## Professor Cohen

Mondays, Wednesdays, and Fridays at 10 a.m., during the first term.

## H3. Physical Chemistry

#### Professor DAWSON

Three hours a week throughout the session, at times to be arranged.

It will be advisable, as a rule, for students to take course Fr before course F2 but this order is not essential.

#### Chemistry

H4. Electro-Chemistry

Professor Dawson

Tuesdays at 10 a.m. throughout the session.

## H5. Chemistry of Food and Drugs

Mr. Lowson

This class will be held during the second term at hours to be arranged. This class is intended also for those students who are taking the Final examination of the Institute of Chemistry in Branch E (Food and Drugs).

Special fee, £4.

#### PRACTICAL CHEMISTRY

#### I. General Laboratory Courses

The object of the laboratory courses is to enable the student to obtain a practical acquaintance with chemical science, so as to fit him to conduct chemical analysis, to make original investigations in Chemistry, and generally to become qualified to apply the science to the arts and manufactures. It is necessary that each laboratory student should attend or should have attended the General or the Advanced courses in Chemistry and the course in Organic Chemistry (F<sub>3</sub>).

In the Chemical laboratories instruction is given in the general modes of preparing chemical compounds, inorganic and organic, in the qualitative and quantitative analysis of minerals and commercial products, in water analysis, gas analysis, and in the various branches of physical chemistry. It is necessary, however, that students wishing to pursue any special branch of practical work shall first have thorough training in the general principles and method of chemical manipulation and analysis.

Each student will be furnished with a separate working table, a set of re-agents, water and gas, and will be required to provide himself with a regulation set of apparatus on entry,<sup>1</sup> and also, if necessary, a few of the more costly tests, and any expensive materials which he

<sup>1</sup> For the convenience of students, a supply of apparatus is kept at the University, and may be purchased from the laboratory steward,

## Courses in Science

may need for the purposes of original investigation. Apparatus of a special or expensive character may be obtained on loan, subject to such conditions as may be prescribed by the Professor.

#### 2. Practical Course in Sanitary Chemistry

This course is arranged on the lines laid down by the General Medical Council and to suit the requirements of Medical Officers of Health.

The course will be held during the second and third terms of the session on Tuesdays and Thursdays, from 2 to 5 p.m.,<sup>1</sup> and will include practical instruction or demonstrations in the sanitary examination of water, air and food, and on the properties of gases, the laws of heat and the use of meteorological instruments.

Instruction will be given in :

*Water.*—Qualitative examination, quantitative examination, estimation of free and albuminoid ammonia, oxygen consumption, chlorine, nitrates and nitrites, total solids, temporary and permanent hardness, metallic impurities.

*Air.*—Qualitative examination of foreign gases, quantitative determination of carbon dioxide.

Food.—Qualitative or quantitative examination of milk, butter, tea, coffee, sugar, alcoholic beverages.

The Properties of Gases.—Expansion, weight, pressure, diffusion, ventilation.

The Laws of Heat.—Expansion of liquids and solids, temperature, latent and specific heat, liquefaction, evaporation, ebullition, radiant heat.

The Use of Meteorological Instruments.—Thermometers (wet and dry bulb), barometers, hygrometers, anemometers, analysis of weather reports and meteorological charts.

Special fee,  $\pm$ , 10 10s.

These hours are subject to re-arrangement.

## Zoology

#### COURSE FOR STUDENTS NOT TAKING A DEGREE

The following course of instruction is recommended to students of Chemistry who do not propose to take a University degree.

First Year :

Chemistry Lectures : Course Int. or Course F1. Chemical Laboratory, 3 days per week. Mathematics Int. Physics Int. French or German.

Second Year:

Chemistry Lectures : F1, F2 and F3. Chemical Laboratory, 3 days per week. Physics F1. French or German.

Third Year :

Chemistry Lectures : H1, H3, H4, and H5. Chemical Laboratory, 3 days per week. Physical Laboratory, 1 day per week.

One of the following: Elementary Engineering, Metallurgy, Geology

## INSTITUTE OF CHEMISTRY

Students intending to enter the Chemical profession and wishing to qualify for admission to the Institute of Chemistry should consult the Regulations obtainable from the Registrar, Institute of Chemistry, 30, Russell Square, London, W.C.1.

## ZOOLOGY

Professor GARSTANG

Mrs. Redman King Mr. Percival

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## LECTURE COURSES

Int. Intermediate Course

Lectures on Mondays and Fridays at 11 a.m. throughout the session. Practical work on Tuesdays from 2 to 4 p.m. and on Wednesdays from 10 to 12 (noon) throughout the session.

#### Courses in Science

Subjects: General principles of animal organisation, physiology and reproduction. Elementary comparative anatomy. The outlines of embryology.

*Practical Work*: Amœba, a Flagellate, Monocystis, Hydra, Fasciola, Taenia, Earthworm, Cockroach, Culex, Amphioxus, Dogfish, Frog, Rabbit.

#### Int. a. Course for First M.B. Examination

The Zoological part of the course for the First M.B. examination in Biology coincides with the Intermediate course above.

Practical class on Tuesdays, 10 to 12 (noon), and Thursdays 10 to 12 (noon).

### Int. b. Genetics and Parasitology

Two lectures weekly, with practical work.

This course is recognised as a subject for the First M.B. examination for candidates conditionally exempted from Physics, Zoology or Botany.

#### F. Final Course (Principal)

Lectures on Tuesdays and Thursdays at 11 a.m. throughout the session, and at another hour to be arranged.

Groups A and B will be taken in alternate years, each occupying one session.

Laboratory work and tutorial class, seven hours per week. Students are also expected to take part in field excursions and to spend part of the Easter or Summer vacation at the Yorkshire Universities' Marine Laboratory at Robin Hood's Bay.

- A. (1) MORPHOLOGY OF INVERTEBRATA. Two lectures a week.
  - Term i.-A selected Class examined in detail.
    - " ii.—Systematic Survey of Invertebrata.
    - ,, iii.—Arachnida and Insecta.
  - (2) BIONOMICS AND INVERTEBRATE EVOLUTION. One lecture a week.
    - Term i.-First Principles.
      - " ii.-Primary Aquatic Life.
      - " iii.—Terrestrial and Secondary Aquatic Life.

## Zoology

- B. (3) MORPHOLOGY OF CHORDATA, with EMBRYOLOGY. Two lectures a week.
  - Term i.—Protochordata and a Vertebrate Class examined in detail.
    - " ii.—Comparative Anatomy of Vertebrata.
    - " iii.—General Embryology, Budding and Regeneration.
  - (4) BIONOMICS AND VERTEBRATE EVOLUTION. One lecture a week.
    - Term i.—Cytology and Genetics.
      - " ii.—Osteology, Palæontology and Geographical Distribution.
      - " iii.—Development of Evolutional Theory.

#### Final Course (Subsidiary)

Students offering Zoology as a subsidiary subject will take, according to the year, *either* A *or* B. In the latter case the lecture course on First Principles (which will be given annually) may be substituted for Cytology and Genetics during the first term.

## H. Honours Courses

The hours for special Honours lectures will be arranged with students at the beginning of the session.

#### ZOOLOGICAL LABORATORY

The Zoological laboratory will be open daily from 9.30 a.m. to 5 p.m. (Saturdays, from 9.30 a.m. to 12.30 p.m.).

Each student is required to provide himself with a pocket lens, a set of *dissecting instruments* (a suitable case is made by Reynolds & Branson, Ltd., Leeds, and sold at 13s. 6d.), and a *biological drawing book* (to be obtained in the laboratory).

*Microscopes* may be had on loan from the University at the rate of 15s. each per session for elementary work, and  $\pounds_1$  1s. each per session for advanced work.

First M.B. students can obtain the loan of Microscopes for their courses in both Zoology and Botany at the rate of 15s. each per session; other students taking both Zoology

### Courses in Science

and Botany may pay a composite fee of  $\pounds_1$  2s. 6d. per session for elementary work or  $\pounds_1$  10s. per session for advanced work.

These fees must be paid in advance to the Accountant immediately after the student has arranged with the Laboratory Steward for the loan of a Microscope.

## BOTANY

## Professor PRIESTLEY

Dr. WAGER

Mr. Walker Mr. Pearsall Dr. Ewing Miss Evershed Miss Armstead

### LECTURE COURSES

#### Int. Course for Intermediate B.Sc.

On Tuesdays and Thursdays from 10 a.m. to 1 p.m. throughout the session.

This course includes the study of the life history of the flowering plant with especial reference to the relation of form and structure to function.

Experimental study of the simpler problems in plant metabolism, transpiration, &c.

Study of the life cycle in types illustrating Gymnosperms, Ferns, Mosses, Liverworts, Algæ and Fungi, accompanied by microscopic investigation of the morphology and internal structure of these types.

The principles of classification and systematic botany will be briefly considered in the case of the flowering plants, and students will obtain practical experience in the use of a flora.

#### Books.

Watts, A School Flora (Longmans, Green & Co., 3s. 6d.).

Each student is required to provide himself with a microscope, a pocket lens, a biological drawing book, two razors, a strop, a scalpel and a pair of forceps.

### Botany

#### Int. a. Course for First M.B. examination

Tuesdays (2 to 5 p.m.) and Wednesdays (10 a.m. to 12 noon) during the second and third terms only.

This course includes the study of the life history of the flowering plant with especial reference to the relation of form and structure to function.

Experimental study of the simpler problems in plant metabolism, involving an elementary study of tissue respiration, photo-synthesis, translocation of food substances, &c.

The study of the life history of some Algæ and Fungi in especial relation to the phenomena of saprophytism and parasitism in contrast to the normal metabolism of the green plant.

Experimental methods for investigation of relations between micro-organisms such as yeast and the medium in which it grows. Study of fermentation processes with methods of pure cultures.

### F1. Final Course: Botany

Lectures on Mondays, Wednesdays and Fridays at 10 a.m. throughout the session. Courses A and B will be taken in alternate years, each occupying one session. Either of these courses, in a somewhat modified form, will rank as a subsidiary course for the degree.

The details of the course, for students taking Botany as a subsidiary course, will be arranged in consultation with the Professor.

- A. Comparative morphology: Algæ, Fungi and Bryophyta. Physiology of growth and irritability. The protoplasmic membrane, phenomena of surface tension and permeability.
- B. Comparative morphology: Pteridophyta, Gymnosperms and Angiosperms.

Ecology.

Physiology of metabolism.

Cytology, Evolution and Heredity.

A course of laboratory work on one of the above courses will be provided each session.

### Courses in Science

The two years' course will prepare for the Final B.Sc. examination.

### H. Honours Course

Special additional courses of Lectures will be given for Honours students at hours to be arranged. They will include advanced lectures in morphology and physiology in the form of short courses on special topics.

Laboratory courses will be arranged in consultation with the Professor.

#### SPECIAL CLASSES

#### SI. Nature Knowledge (Plant Life) Mr. WALKER

This class will meet on Saturdays throughout the session, at hours to be arranged, beginning September 24th. The course embraces such botanical topics as can be readily adapted to school work. No formal lectures will be given. The method of treatment followed, will be, as nearly as possible, that which could be put into practice in classes of children. Numerous experiments will be performed, but without *special* apparatus, and the natural objects studied will be confined to those which can be gathered with little trouble by the teacher or the children.

Fee for course,  $\pounds, 4$ .

#### S2. Experimental Plant Physiology Mr. WALKER

This class is in part the same as S1. It is intended for teachers of Horticulture, and is held in connection with a two years' course in Horticulture.

Fee  $\pounds 3$  3s.

### BOTANICAL LABORATORY

The Botanical laboratory will be open daily from 10 a.m. to 5 p.m. except on Saturdays.

Microscopes may be had on loan from the University at the rate of 15s. each per session for elementary work, and  $\pounds_1$  1s. each per session for advanced work.

First M.B. students can obtain the loan of Microscopes for their courses in both Zoology and Botany at the rate of 15s. each per session; other students taking both Zoology

#### Geography

and Botany may pay a composite fee of  $\pounds_I$  2s. 6d. per session for elementary work or  $\pounds_I$  10s. per session for advanced work.

These fees must be paid in advance to the Accountant immediately after the student has arranged with the Laboratory Steward for the loan of a Microscope.

# PHYSIOLOGY

Professor RAPER

## and staff of Lecturers and Demonstrators.

For courses in this department, see courses in Medicine in subsequent pages.

# GEOGRAPHY

## Mr. FAWCETT Miss HESLOP

Students intending to offer Geography as a Principal subject at the Final B.Sc. Examination must pass in Geology at the Intermediate Stage.

#### LECTURE COURSES

#### Int. Intermediate Course

Geography may be taken as the Additional Subject at Inter.Sc. and must be so taken by all students who wish to take higher courses.

#### F1. Regional Geography of the British Isles

This course will include :---

A. Physical Geography.

- i. Astronomical Geography.
- ii. Structure :
  - (a) Build of British Isles and their relations to the Continent.
  - (b) Relations of structure to relief, soil conditions and mineral wealth.
#### Courses in Science

- iii. Climate—Distribution of temperature and rainfall. Climatic divisions, study of records of selected stations.
- iv. Biogeography-
  - (a) Natural Vegetation, Relation of flora and fauna to those of Europe.
  - (b) Cultivated plants and domestic animals of economic importance.
- B. Human Geography.
  - i. Racial. The races of Europe. Migrations to, and the peopling of, Britain. Languages.
  - ii. Economic. A survey of the Natural Resources, Products, Industries, Communications and Trade of the whole country and of its principal natural regions.
  - iii. Historical and Political. Geographical factors in the settlement and unity of the separate states and the United Kingdom, and in the Modern expansion of the Empire. The political divisions—past and present—in relation to physical features, communications, distribution of population, etc.

#### F2. Physical Geography (1)

- i. Elements of climate. Observation and record of atmospheric pressure, temperature, precipitation, wind, sunshine, etc.
- ii. Types of climate—study of records, graphic and cartographic representation and analysis.
- iii. Classification of climates.
- iv. Climatic changes.

#### F3

A second *special region* on lines similar to those indicated for the British Isles above. The regions are to be selected from two groups :

(a) Land of old civilisation, in which there has been a long period of occupation and hence in which the social and political organisations have

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### Geography

developed *in situ*. One of—Central and Western Europe, The Mediterranean Lands, India, Central and Eastern Asia, The Russian Lands.

(b) New Lands, in which European co onists (in the Americas and Australasia) or traders and rulers (in Africa) have introduced customs and organisations developed in other regions. One of— English-speaking North America, Latin America, Africa, Australasia.

(Only one course under either (a) or (b) will ordinarily be given in one session).

#### F4. Physical Geography (2)

The hydrosphere: Water circulation. The Lithosphere: its formation. Evolution of topography. Elements of stratigraphy.

#### F5. Surveying and Cartography

Principles of triangulation. The major and minor triangulations of Britain. Methods of fixing points, and of filling in topographic detail. The chief instruments employed and their uses.

Chain survey, plane-table survey, traversing.

The map representation of the facts surveyed. Scales. Symbols. Representation of relief by contours, hachures, and hill-shading.

A study of the more important series of topographic maps, *e.g.*, the British Ordnance Survey maps, the U.S. topographic maps, the Carte topographique de France, etc., etc., the International I/M map of the world, Admiralty charts.

### Map Projections

The principles, methods of construction and calculation of the errors of the projections ordinarily used in atlases, *e.g.*, Mercator, Mollweide, Sinusoidal, the Conic and its modification, Lambert's, etc. Courses in Science

### GEOLOGY

### Professor Kendall Dr. Gilligan Mr. Versey

### LECTURE COURSES

#### Int. Intermediate Course

Lectures on Mondays, Wednesdays, and Fridays at 11 a.m. throughout the session.

Subjects: The earth's position in the universe; the movements, form, size and density of the earth; the construction and interpretation of maps; the principles of Meteorology, with special reference to the distribution of climatic provinces; weather forecasts and charts; Oceanography; Dynamical Geology, including denudation, deposition, earth movements, mountain structure, morphology of land-forms; Historical Geology, being a brief account of the nature and succession of the various formations entering into the formation of the British Isles; Geology in relation to the study of Geography.

Practical work, which will include work at the Cecil Duncombe Observatory, three hours per week throughout the session.

### FINAL COURSES

#### F1. Final Course in Geology

Mondays and Fridays throughout the session, at 2 p.m., and at another hour and day to be arranged at the beginning of the session, for students taking Geology as a subsidiary subject, and for students taking Geology as a principal subject in the first year of their Final course.

Subjects: The scope of Geology; the crust of the earth; the common rock-forming minerals; classification of rocks according to their mode of origin; aqueous rocks; denudation, transport, and accumulation of rocks; chemical action; forms of stratification; jointing and concretionary structures; igneous rocks, volcanoes and earthquakes; the condition of the interior of the earth; metamorphic rocks and metamorphism; slaty cleavage;

#### Geology

mountain-building; the elements of Stratigraphical Geology and Palæontology; the application of Geology to Civil Engineering.

#### F2. Advanced Geology

Three lectures a week throughout the session, at hours to be arranged, for students taking Geology as a principal subject in the second year of their Final course.

#### F3, F4, F5. Final Courses in Palæontology, Applied Geology, Petrology

These courses will prepare for the Final B.Sc. (Ordinary). Each will consist of two lectures and not less than two hours' practical work a week during the session at hours to be arranged with the students.

#### HONOURS COURSES

#### H1. Honours Course in Geology

A course of not less than 90 lectures will be given at hours to be arranged with the students.

#### H2. Honours Course in Mineralogy

A course of 30 lectures and demonstrations will be given for students reading for Honours Geology (Scheme A).

#### H3. Mineralogy for Mining Course

Lectures on Wednesdays and Fridays, at 12 (noon).

A course of 60 lectures with practical work will be given during the session for students taking the Mining course, and will include the following subjects, viz. :

#### Principles of Crystallography

Physical properties of Minerals

Descriptive and Determinative Mineralogy

Modes of occurrence and association of Minerals and Ores, with special reference to Metalliferous Mining.

#### SPECIAL CLASSES

#### SI. Agricultural Geology

A course of about 60 lectures will be given on Wednesdays and Fridays, during the first and second terms, at 11.30 a.m. Practical work, Thursdays, from 2 to 5 p.m.

#### Courses in Science

Subjects : Scope of the science; the composition and physical characters of the common rock-forming minerals; classification of rocks according to (a) their mode of origin and (b) chemical composition; denudation, transport and accumulation; forms of stratification; the subdivision of stratified rocks; economic products of the chief formations; the nature and origin of the drift deposits; their importance in relation to the soils of the North of England; the soils of the Warp lands and the Yorkshire Wolds; the disintegration of rocks and the formation of soils; geological maps, their interpretation and use; British rainfall, its measurement and variation; storage of subterranean waters; water supply from springs and deep and shallow wells; application of geological knowledge to the selection of sites for roads, bridges, &c.

#### S2. Field Course

A course of practical instruction, with field excursions, will be given at hours to be arranged.

Special fee,  $\pounds_4$  (including allowance of  $\pounds_1$  for travelling).

#### S3. Geology applied to Coal Mining

Tuesdays at 4 p.m. during the second and third terms.

Outline of Physical and Dynamical Geology: Denudation, transport, and accumulation of rocks; volcanoes and earthquakes; elevation and depression of the earth's crust; condition of the interior of the earth; earth folds, and the origin of mountain chains.

*Historical Geology*: General outline of Historical Geology; detailed description of the carboniferous rocks with special reference to the Yorkshire coalfield; the rocks which overlie the carboniferous; search for coal under the newer rocks; the drift deposits, how they affect the discovery and working of coal.

S4. Geology applied to Sanitary and Civil Engineering

Mondays, during the second and third terms at 5 p.m.

#### GEOLOGICAL LABORATORY

The Geological laboratory will be open every day.

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### Courses in Technology

### CIVIL & MECHANICAL ENGINEERING

#### Professor GOODMAN

Mr.	GILCHRIST	Mr.	NAYLOR	Mr.	MITCHELL
Mr.	Somerscales	Mr.	Collfs	Mr.	RICHARDSON
		Mr.	Kelly		

The work of this Department is intended to provide a systematic training in the application of scientific principles to engineering purposes, and is not intended in any way to supersede the usual routine of engineering works and offices. An apprenticeship or pupilage in such works is an absolute necessity to every Engineering student, and is the only means by which he can obtain a thorough knowledge of the practical details of his future work.

The scientific training at the University must be regarded as a means of acquiring the principles that underlie the art of Engineering, and the training in the Works as necessary for acquiring the art itself.

All students, whether taking up Civil, Mechanical or Electrical Engineering, must have at least one year's practical experience in Engineering Works before taking up the University course.<sup>1</sup> West Riding County Council and other scholars who have not been in Works should make application to have their Scholarships postponed for one year, for the purpose of getting the necessary preliminary practical experience.

Though the Engineering courses are designed primarily to suit students intending to be Civil or Mechanical, or Electrical Engineers, the subjects in the Civil Engineering course are such as should be studied by Mining Engineers, and by Architects, and the course prescribed for Mechanical Engineers, or parts of it, would be found of direct practical

<sup>1</sup> See a pamphlet published by the University on "The Training of Professional Engineers." The Registrar will forward a copy on application.

utility to students who are afterwards to be engaged in any occupations connected with manufactures.

All students entering the Engineering Department will be required to produce evidence of a knowledge of logarithms, trigonometry, and mechanics. It is desirable that they should be acquainted with the elements of the calculus.

It is hoped that all Engineering Students will join the Officers' Training Corps.

#### DEGREE EXAMINATIONS

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. Degree Course in Civil or Mechanical Engineering (Ordinary or Honours). Students intending to read for a degree must pass, or obtain exemption from, the Matriculation examination conducted by a Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham, before taking the Engineering course. Mechanics and the mathematics paper of the Higher Certificate Examination should always be included in the subjects chosen.

### CLASS EXAMINATIONS

A three hours' Examination in each subject is held at the end of the first term, when note books are allowed to be used, and an ordinary Examination without note books at the end of the second and third terms. In the latter Examination a piece of designing and drawing work is set in addition, for which a fortnight is allowed.

If a student fails more than once in his class examinations, in any one course, he will be required to repeat that course of study before proceeding to higher work, and if he fails in all of his examinations in Engineering I he will not be allowed to re-enter except on the special recommendation of the Head of the Department.

#### Diplomas

Diplomas are awarded in (1) CIVIL and (2) MECHANICAL ENGINEERING.

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A candidate for either of these Diplomas is required :--I. During the Course--

- (a) To attend satisfactorily classes in all the subjects of one of the groups mentioned below, together with courses in Physics and Mathematics. Account of the work done in all these subjects will be taken in awarding the Diploma.
- (b) To pass the terminal examinations at a standard not lower than a second class, on at least two occasions in any one session, in the following subjects :—
  - (i) For the Diploma in Civil Engineering.— Engineering III, IV, VI, VIIa, VIIc.
  - (ii) For the Diploma in Mechanical Engineering.—Engineering IV (Parts I and II), VI, VIIa, VIIb and VIIc.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds_3$ .
- II. At the end of the Course-
  - (a) To pass in the papers in Civil or in Mechanical Engineering taken as a Principal subject at the Final examination of the Ordinary degree of B.Sc. Sample drawings done by the candidate, together with his laboratory books, will be inspected by the External Examiner.
  - (b) To translate into English a passage of French or German technical literature relating to Civil or Mechanical Engineering.
  - (c) To present himself for an English Essay on some subject relative to his course of study.

A foreign student who can show that he has received a good general education will be exempted from the language test and the essay. III. A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the diploma. In such case, the fee for the diploma is  $\pounds_{,1}$ .

> A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the diploma upon a shortened period of study.

#### Fees

The composition fee for all courses, including the Library and Union fees, is  $\pounds_{45}$  per session of three terms, but it does not include Examination fees.

### The Institution of Civil Engineers

All Engineering students, whether following Mechanical, Civil or Electrical Engineering, should aim at ultimately becoming Members of the Institution of Civil Engineers.

The first step is to become a Student of the Institution. Application should be made to the Secretary for Form B and regulations relating to the admission of students.

All Engineering Students of this University who have passed the Matriculation Examination (including two Science subjects) and an additional paper in Trigonometry, are eligible for election as Students of the Institution. Those who have not passed the Matriculation should take the preliminary Examination of the Institution during their second year.

Only those students who have attended their various classes to the satisfaction of the Professors and Lecturers concerned and have done reasonably well in their class examinations will be proposed for admission to the Institution. After admission they are entitled to attend the Meetings and Excursions of the Local Branch of the Institution of Civil Engineers and to receive four volumes of Proceedings per annum. Miller Scholarships and Prizes, value from  $\mathcal{L}_{12}$ to  $\mathcal{L}_{120}$ , are awarded by the Institution for papers read by students at either the Local Branches or at Headquarters. Free Studentships for a period of two years are

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#### Civil and Mechanical Engineering

awarded to all students elected from this University, who have obtained a first class in the second year's terminal examination, and have undertaken research work to the satisfaction of the Professor, the results of which must be forwarded to the Institution in the form of a Student's Paper.

Students who have obtained the Honours B.Sc. Degree in Civil, Mechanical or Electrical Engineering and, under certain conditions, the Ordinary B.Sc. Degree in Civil or Mechanical Engineering will not be required to take Section A of the Associate Membership examination of the Institution; all others who are able to show compliance with the Institution's requirements in regard to practical engineering training, should take it during their third year.

For the subjects to be taken the Institution's syllabus should be consulted.

Prior to election, candidates must fulfil the requirements as regards practical training and experience.

#### Marine Engineers

The Engineering Department of this University is recognised by the Marine Department of the Board of Trade as an institution in which candidates for Marine Engineering certificates can obtain a portion of their training.

#### Time Tables

Time tables of the classes can be obtained in the Engineering department on, or after, the day of entry.

#### SYLLABUS OF COURSES

### I. First Year Course

Mondays, Wednesdays and Fridays, at 10 a.m.

With demonstrations in the Engineering laboratory at times to be arranged.

*First term.*—Properties; Strength and elasticity of engineering materials; Riveted joints; Simple beam theory.

Second and Third terms.—Heat; Properties of steam Boilers; Steam engines; Steam turbines; Internal combustion engines; Transmission of power.

### Ia. First year for Special Students

Mondays, Wednesdays and Fridays at 11 a.m.

With demonstrations in the Engineering laboratory at times to be arranged.

This course is a combination of courses I and VI. It will cover the work required for Intermediate Applied Mechanics and Mechanical Engineering Subsidiary.

### Ib. First Year

Thursdays, during the first term only, at 11 a.m.

*Graphics*: Application of the triangle and polygon of forces to cranes, sheer legs, roof trusses, girders, suspension bridges and other structures.

#### Books Recommended

GOODMAN'S Mechanics Applied to Engineering. (Longmans). 14/6. RIPPER'S Heat Engines. (Longmans). 5/-.

HILLER'S Notes on Land Boilers, also Working of Steam Boilers. (National Boiler Insurance Co., Manchester). 1/6.

KERSHAW'S Elementary Internal Combustion Engines. (Longmans). 6/-.

CHARNOCK'S Mechanical Technology. (Constable). 10/-.

### II. General Engineering

This course is intended to give students who are going into branches of industry other than that of Engineering an intelligent idea of engines and machinery, &c., without entering into minute details.

#### Course A

(For Students of Leather Industries, Tinctorial Chemistry and Dyeing, Fuel Engineering, Textile Industries.)

Mondays, Wednesdays, and Fridays at 9 a.m.

Materials; Fuels; Boilers; Joints; Steam Engines; Gas and Oil Engines; Hydraulics; Prime Movers, other than Heat Engines; Transmission of power; Various kinds of machines; Air compressors.

Books Recommended

See Course I.

#### Course B

### (For Agricultural Students)

Mondays at 9 a.m., Wednesdays and Thursdays at 10 a.m. during the second term.

Measurement of areas; Mechanics; Transmission of power; Boilers; Engines; Pumps; Hydraulics; Windmills; Electric Motors and Generators.

#### Books Recommended

Elementary Applied Mechanics, by MORLEY & INCHLEY. (Longmans). 6/-. Natural Sources of Power, by BALL. (Constable). 7/6.

Heat Engines, by RIPPER. (Longmans). 5/-.

#### Course C

#### (For Mining Students)

Mondays-First and Third Terms, at 4 p.m.

Measurement of areas; Mechanics; Strength of materials; Heat; Fuels; Steam; Boilers; Engines; Power.

#### Books Recommended

Elementary Applied Mechanics, by MORLEY & INCHLEY. (Longmans). 6/-.

Heat Engines, by RIPPER. (Longmans). 5/-.

#### Laboratory Class

Mondays, throughout the Session, 5.30 to 7 p.m.

Instruction will be given in the Engineering Laboratory in: The triangle and parallelogram of forces. Experimental determination of the forces acting on simple structures. Levers. Efficiency of machines. Testing bars, pit props, chains, wire ropes. Indicating a steam engine and pump. Boiler and fan testing.

### III. Second Year Civil Engineering

Tuesdays at 9 a.m. and 10 a.m., and Thursdays at 9 a.m.

Part I. General arrangements of a Survey; Chain Surveying; Needle Surveys; Plain Table; Angular Instruments; Levelling.

*Part II.* Geodetic Astronomy; Optical Instruments for the Measurement of Distances; Hydrographic Surveying; Geodetic Surveying.

### Part III. Railways and other Lines of Communication. Books Recommended

Surveying and Levelling, by JAS. PARK. (Griffin). 12/6. Topographical Surveying, by CLOSE. (Wyman). 7/6. MIDDLETON & CHADWICK'S Surveying. (Spon, 2 vols.). 21/-. GILLESPIE'S Surveying. 2 Vols. (Appleton). 42/-.

NOTE: Students are recommended to read chapters 1 to 5 of Ball's Elementary Astronomy (Longmans), or the early chapters of Lockyer's Elementary Lessons in Astronomy (Macmillan), as a preparation for the geodetic astronomy.

### IV. Third Year Civil Engineering

Mondays, Wednesdays and Fridays at 9 a.m.

Part I. Girder Bridges.

Part II. Framed Structures for Bridges; Roofs.

Part III. Limes and Cements; Theory of Masonry Structures.

Part IV. Water Supply, Sanitary Engineering and Harbour Work.

#### Books Recommended

WARREN'S Engineering Construction in Iron, Steel, and Timber (Longmans).

Retaining Walls in Theory and Practise, by COLEMAN. (Spon).

L. V. HARCOURT'S Civil Engineering (Longmans). 24/-.

### V. Practical Surveying

Instruction is given in Surveying and field work during the Easter vacation. The class is held in Wharfedale, where accommodation is provided at farmhouses.

### VI. Second Year Mechanical Engineering

Mondays, Wednesdays, and Fridays, at 11 a.m.

First term.-- Theory of heat engines; Laws of thermodynamics; Entropy; Boiler trials; Internal combustion engines.

Second term.-Beams; Struts; Torsion; Springs.

Third term.—Friction of dry and lubricated surfaces; Roller and ball bearings; Hydraulics.

#### Civil and Mechanical Engineering

Books Recommended

RIPPER's Steam Engine Theory and Practice (Longmans). 12/6. EWING'S Steam Engine (Cambridge University Press). 10/-. CLERK & BURLS' The Gas, Oil and Petrol Engine. (Longmans,

16/-, Vol. I, Vol. II). 28/-.

HOBBS' Thermo-dynamic Principles of Engine Design (Griffin). 5/-. DEVILLER'S Automobile and Aero Engines (Spon). 16/-. DALBY'S Steam Power (Arnold).

ARCHBUTT & DERLEY'S Lubrication (Griffin). 30/-.

ALFORD'S Bearings (American Machinist). 15/-.

### VII. Third Year Mechanical Engineering Course A

Tuesdays and Thursdays, at 11 a.m., with an exercise class on Fridays, at 12 noon.

Hydraulics; Time of efflux; Loss of head by shock; Friction; Vortices; Water hammer; Flow in open and closed channels; Pressure of jets; Design of turbines and pumps.

Books Recommended

UNWIN'S Transmission of Power (Longmans). COTTERILL'S Applied Mechanics (Macmillan). 21/-. GIBSON'S Hydraulics and its Applications (Constable). 21/-. LEA'S Hydraulics for Engineers (Arnold). 18/-. BARNES' Hydraulic flow reviewed (Spon). 15/-.

### VII. B

#### (For Electrical and Mechanical Engineers)

Thursdays at 12 noon.

Dynamics of the Steam Engine; Balancing; Flywheels; Governors; Coil friction; Kinematics of machines; Velocity and acceleration diagrams; Whirling of shafts; Vibration; Gyroscopes.

#### Books Recommended

See Course VI. DURLEY'S Kinematics of Machines. (Chapman & Hall).

### VII. C

#### (For Electrical and Mechanical Engineers)

Mondays at 12 noon, with an exercise class on Fridays at 12 noon.

First term.-Compressed air; Refrigeration.

Second and Third terms .- Steam Turbines.

Books Recommended

EWING'S Mechanical Production of Cold. (Cambridge University Press). 11/-.

ANDERSON'S Refrigeration. (Longmans).

MORROW'S Steam Turbine Design. (Arnold). 16/-.

MARTIN'S Design and Construction of Steam Turbines. (Longmans). 26/-.

GOUDIE's Steam Turbines. (Longmans).

### VIII. Engineering Drawing

#### (Mechanical)

The Drawing Department is open every day during working hours. Assistants are always in attendance.

The work consists of tracing and copying machine drawings, making working drawings from freehand sketches and measurements of the machinery in the engineering laboratory; designing machinery and gearing, general graphical work, engine details, working out valve motion diagrams.

#### (Civil)

Graphical determination of stresses in roofs, bridges, and other structures; plotting surveys from field book notes. Detailed design of structures.

### Machine Design

Tuesdays at 11 a.m., and Thursdays at 10 a.m.

The design of pipe flanges, valves, valve boxes, stuffing boxes, couplings, knuckle and cottered joints, bearings, hangers, teeth of wheels. Engine details, cylinder, connecting rod, bed plate, &c.

The working out of the above designs will be done in the Drawing Department.

#### Books Recommended

UNWIN'S Elements of Machine Design, 2 Vols. (Longmans). 25/-.

Low & BEVIS, Manual of Machine Drawing and Design. (Longmans). 10/6.

SPOONER'S Machine Design, Construction and Drawing. (Longmans). 16/-.

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#### Civil and Mechanical Engineering

### IX. Engineering Laboratory

The work done in this department consists chiefly of making experiments and testing operations; it in no way whatever pretends to supersede the practical training that every Engineer must undergo in Engineering works. It should be clearly understood that no instruction is given in the use of either hand or machine tools; such work can only be properly done in Engineering works.

The experimental work consists of systematic instruction in the strength and properties of the chief materials used in Engineering construction. The testing of heat engines, boilers, refrigerator, air compressor, hydraulic appliances and machines. The work, as far as possible, is done on a a large and practical scale to illustrate and verify the instruction given in the lectures.

Every student will be held responsible for the apparatus with which he is working, and will be required to make good any damage.

### Electrical Engineering Ia

#### (For Civil, Mechanical and Mining Engineers)

Lectures : Mondays, Wednesdays and Fridays at 10 a.m.

Brief recapitulation of general principles of electricity and magnetism; theory and application of electrical machinery; methods of generation and distribution of electrical energy.

Laboratory: (second and third terms only) Wednesdays or Fridays at 2 p.m.

Experiments in electricity and magnetism; testing of generators, motors, transformers, converters and rectifiers; photometry; calibration of electrical measuring instruments.

#### Book recommended

T. SEWELL, Elements of Electrical Engineering. (Crosby, Lock wood & Sons). 8/6.

### ELECTRICAL ENGINEERING

### Mr. FRENCH Mr. CRAIG

The work of this department is intended to provide a systematic training in the application of scientific principles to electrical engineering purposes, and is not intended to supersede the usual routine of electrical engineering works and offices. An apprenticeship in such works is an absolute necessity to every electrical engineering student, and is the only means by which he can obtain a thorough knowledge of the practical details of his future work.

The scientific training at the University must be regarded as a means of acquiring the principles that underlie the art of engineering, and the training in works as necessary for acquiring the art itself.

All students taking up Electrical Engineering must have at least one year's practical experience in Engineering Works before taking up the University course. West Riding County Council and other scholars who have not been in works should make application to have their scholarships postponed for one year, for the purpose of getting the necessary preliminary practical experience.

All students entering the Electrical Engineering Department will be required to produce evidence of a knowledge of logarithms, trigonometry, mechanics and electricity and magnetism, including units. It is desirable that they should be acquainted with the elements of the Calculus.

#### DEGREE OF B.Sc. IN ELECTRICAL ENGINEERING

The degree course covers three years; students are strongly recommended to take the B.Sc. Degree Course in Electrical Engineering (Ordinary or Honours). Students intending to read for a degree must pass, or obtain exemption from, the Northern Board or London or Birmingham Matriculation examination before entering the course. Mechanics and the mathematics paper of the Higher Certificate Examination should always be included in the subjects chosen.

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#### Electrical Engineering

The Oxford and Cambridge Local Examinations, provided certain conditions are fulfilled, are accepted for the matriculation. Application for exemption should be made to the Secretary, Joint Board, 315, Oxford Road, Manchester.

#### CLASS EXAMINATIONS

A three hours examination is held at the end of each term.

If a student fails more than once in his class examinations in any one course, he will be required to repeat that course of study before proceeding to higher work, and if he fails in all of his examinations in Engineering I and Electrical Engineering I, he will not be allowed to re-enter except on the special recommendation of the Head of the Department.

#### Diplomas

Diplomas are awarded in Electrical Engineering. A candidate for this diploma is required :---

- I. During the Course—
  - (a) To attend satisfactorily classes in all the subjects mentioned below, together with courses in Physics and Mathematics. Account of the work done in all these subjects will be taken in awarding the Diploma.
  - (b) To pass the terminal examinations at a standard not lower than a second class, on at least two occasions in any one session, in the following subjects :—

Electrical Engineering ... I, II, III and IV. Engineering ... VI and VIIb.

(c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds 3$ . II. At the end of the Course-

- (a) To pass in the papers in Electrical Engineering taken as a Principal subject at the Final examination of the Ordinary degree of B.Sc. Sample drawings done by the candidate, together with his laboratory books, will be inspected by the External Examiner.
- (b) To translate into English a passage of French or German technical literature relating to Electrical Engineering.
- (c) To present himself for an English Essay on some subject relative to his course of study.

A foreign student who can show that he has received a good general education will be exempted from the language test and the essay.

III. A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the Diploma. In such case, the fee for the Diploma is  $\pounds I$ .

> A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

The instruction during the first year of the complete course is the same for Civil, Mechanical, and Electrical Engineering students.

In the second year the student specialises more in his particular department, and in the third year he devotes most of his time to this department, attending three courses of lectures on advanced Electrical Engineering.

### The Institution of Electrical Engineers

All Electrical Engineering students should aim at ultimately becoming members of the Institution of Electrical Engineers.

The first step is to become a student of the Institution. Applications should be made to the Secretary for Form S and regulations relating to the admission of students.

#### Electrical Engineering

All Electrical Engineering students of this University are eligible for election as students of the Institution.

#### Membership

Students who have obtained the Honours and B.Sc. Degree in Civil, Mechanical, Electrical, or Mining Engineering will not be required to pass the Associate Membership examination of the Institution. Whitworth Scholarships will likewise exempt from the whole of this examination.

#### TIME TABLES

Time tables of the classes can be obtained in the Electrical Engineering Department, on, or after, the day of entry.

### SYLLABUS OF COURSES

#### Second Year Lecture Course Τ.

### Electrical Engineering I

Tuesdays at 12 noon, Wednesdays at 9 a.m., Thursdays at 11 a.m.

Short revision of Electricity and Magnetism; Theory of Alternating Currents; Electrical Measuring Technics; Electric Lighting Technics and Photometry; Secondary Cells; Theory of Direct and Alternating Current Machinery and Apparatus; Properties of Insulating Materials; Generation of Electricity, its Transmission and Distribution.

#### Books recommended

Dr. A. THOMALEN, A Text-book of Electrical Engineering (Edward Arnold). 28/-. J. R. BARR, Principles of Direct Current Electrical Engineering

(Sir Isaac Pitman and Sons). 12/6.

ALFRED HAY, Electrical Distributing Networks and Transmission Lines (Cassell & Co., Ltd.). K. EDGCUMBE, Industrial Electrical Measuring Instruments (Archi-

bald Constable & Co.).

### Third Year Lecture Courses

#### Electrical Engineering II

Mondays at 9 a.m., Thursdays at 10 a.m.

Theory of Alternating Current Machinery and Apparatus, and Generation of Electric Power, its Transmission and Distribution continued; Light and Heavy Electric Traction.

#### Books recommended

Same as for Electrical Engineering I, and in addition :

WILSON & LYDDLE, Electrical Traction, Vol. I, Direct Current; Vol. II, Alternating Current (Edward Arnold). Vol. I, 15/-, Vol. II, 15/-.

#### Electrical Engineering III

Fridays at 9 a.m.

Electric Power Stations; Switchgear and Protective devices.

#### Books recommended

J. F. C. SNELL, Power House Design (Longmans, Green & Co.) 22/6.

#### Electrical Engineering IV

Mondays and Wednesdays at 12 noon

The Electrical and Mechanical Design of Direct and Alternating Current Generators, Motors and Transformers.

### Electrical Design and Drawing

Mondays at 2 p.m. Electrical Engineering Drawing Office.

Students will design and draw electrical machinery and apparatus.

#### Books recommended

MILES WALKER, Specification and Design of Dynamo-Electric Machinery (Longmans, Green & Co.). 36/-.

BARR & ARCHIBALD, Alternating Current Machinery (Whittaker & Co.). 15/6.

W. CRAMP, Continuous Current Machine Design (Harper Bros.).

#### Electrical Engineering Ia

(For Civil, Mechanical and Mining Engineers)

See page 309.

### Electrical Engineering Laboratory

The work in the electrical engineering laboratory extends over two sessions. The work is intended to illustrate, verify, and to supplement the instructions given in the lectures. It is not intended to supersede the practical training that every electrical engineer should undergo in the testing department of large electrical engineering works, but it will thoroughly prepare the student for this work.

### MINING

#### Assisted by the Drapers' Company of the City of London, and by the West Yorkshire Coal Owners' Association, and the West Riding County Council

#### Professor POOLE

#### Mr. BROWN

The University, which is situated in the heart of a mining district possessing some of the deepest and best equipped of modern English collieries, enjoys the cordial support of the owners and managers of mines, who give the Department every facility for instructing its students. As the University is, moreover, provided with excellent Physical, Chemical, Metallurgical and Engineering (Mechanical and Electrical) laboratories, it has every facility for giving its students both a theoretical and practical training in the art of Mining.

There are five distinct courses of study arranged in this department to meet the requirements of different classes of students, viz :

- I. A three years' course leading to the degree of B.Sc. in Mining.
- II. A three years' course qualifying for the Diploma in Mining Engineering.
- III. A four years' course in Coal Mining for miners and sub-officials.
- IV. Courses in Science applied to Mining, Machine Drawing, etc., for Teachers.
  - V. The course on Mine Surveying.

Students entering for the degree course are required to have passed (or obtained exemption from) the Matriculation examination conducted by the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham. Those entering for Course II. must have passed either the Matriculation examination or some other approved examination (including Mathematics).

### Colliery Managers' Certificates of Competency under the Coal Mines Act, 1911

Graduation as B.Sc. in Mining Engineering, or the possession of the Diploma in Mining Engineering of the University of Leeds, has been recognised by the Secretary of State for the Home Office as equivalent to two years' experience at a mine for the purposes of the Colliery Managers' Certificate under the Coal Mines Act, 1911.

The University of Leeds is an institution approved by the Secretary of State in respect of its Degree of B.Sc. in Mining Engineering and Diploma in Mining Engineering.

### Surveyors' Certificates under the Coal Mines Act, 1911

The University of Leeds is one of the Institutions approved by the Secretary of State for the purpose of training Mine Surveyors. This training exempts candidates from two of the four years' practical experience otherwise required.

The following courses at the University have been approved to enable candidates to comply with the requirements for the Surveyor's Certificate Examination :—

- 1. Ordinary B.Sc. Degree Course in General Mining.
- 2. Diploma Course in Mining Engineering.
- 3. The course in Mine Surveying.

### I. Ordinary B.Sc. Degree Course in General Mining (Three Years' Course)

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree.

This course of instruction is arranged for students who desire to qualify themselves as Mining Engineers, Surveyors, or Assayers, and also for those who intend, in the future, to take charge of mining and prospecting operations in the colonies or foreign countries. During the first year the student applies himself principally to general science and Engineering, preparing for the Intermediate examination. In the second year he continues his work in general science and Engineering, adding Electrical Engineering. Lectures on Coal Mining are given in the first and second years, and in the third year the student spends the greater part of his time in special Mining work taking

#### Mining

also a course of study in Geology, including field work. Students are required to devote the vacations to obtaining practical experience in mines, and they should call upon the Head of the Department, immediately before the Christmas vacation of their first year at the University, to obtain advice regarding the necessary arrangements.

Part of the Final Examination for the Ordinary Degree of B.Sc. in Mining Engineering will consist in the writing of a short thesis by each candidate on some mining process, method, appliance, machinery or problem, studied in actual practice by the student during his practical experience in vacations. The choice of subject for the thesis rests with the candidate but must be approved by the Head of the Department.

In addition to the subjects specified in the time tables, students are advised to study a modern language.

Students who are unable to afford time for the complete course may be admitted to the Mining, Surveying, and Assaying courses on furnishing proof that they possess sufficient knowledge to follow the instruction given.

Students reading for the degree are required to attend the courses specified in the following Syllabus.

First and second, as well as third year students, should attend, whenever possible, the excursions to mines and works, specially announced during the session.

#### Syllabus

First Year	Second Year
- Hours	Hours per week.
Mathematics, Intermediate 3	Mathematics F2 2
Chemistry, General Course 3	Electrical Engineering Ia.
Engineering I 4 Physical Laboratory 3	Laboratory, 2nd and 3rd Terms
Chemical Laboratory 5	Engineering VI 3
Laboratory 9	Engineering Laboratory 7
Coal Mining I	Engineering Drawing 6 Mining Lab and Drawing 2
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#### Courses in Technology

Hours per week
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### Honours B.Sc. Degree

Honours in Mining Engineering will be awarded to candidates who, having obtained the Ordinary degree, with Mining Engineering as a principal subject, and being recommended as suitable to proceed with an Honours course, shall have spent one or two years in research or in the preparation of a thesis, attendance at the University during this period not being compulsory. All Candidates for Honours shall be required to take Mathematics as a principal subject of the Final examination for the Ordinary degree. Candidates for Honours in Mining must also fulfil the other conditions mentioned in the Ordinances and Regulations referring to the B.Sc. with Honours.

### II. Diploma Course in Mining Engineering\* (Three Years' Course)

This course is arranged for those who intend to devote their attention to Coal Mining at home, and who, at the same time, desire to obtain a liberal training in the scientific principles underlying their profession, but for some reason are unable to take the B.Sc. Degree Course.

First and second, as well as third year students, should attend, whenever possible, the excursions to mines and works, specially announced during the session.

<sup>\*</sup>The possession of the Leeds University Diploma in Mining Engineering has been recognised by the Secretary of State for the Home Office as equivalent to two years' experience at a mine for the purposes of the Colliery Manager's Certificate.

#### Mining

A candidate for the Diploma in Mining Engineering is required :---

I. During the Course-

- (a) To attend satisfactorily the classes in the following subjects :---
  - First Year : Mathematics I, Physics Int., Chemistry Int., Engineering I, and Coal Mining I.
  - Second Year: Mathematics II, Electrical Engineering IA, parts of Engineering VI and VII, Mining and Mine Surveying.
  - Third Year: Mining Engineering, Preparation of Minerals (Ore Dressing, Coal Washing and Carbonisation of Coal), Mine Surveying and Geology.
- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who at a terminal examination fails to reach a satisfactory standard in any subject in the first or second year course may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To obtain four months' experience at a mine during the vacations, unless the candidate shall show to the satisfaction of the Head of the Department that he has had previous experience at mines before entering on the course.
- (d) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds_3$ .

II. At the end of the Course—

- (a) To reach a satisfactory standard in any Final examination which may be set. In the subject of Mining Engineering, a Diploma student takes for his Final examination the same Final Principal Mining Engineering papers as are set for the Ordinary degree of B.Sc.
- (b) To translate into English a passage of French or German relating to the principal subject of the Diploma Course. A foreign student who can show that he has received a good general education will be exempted from this language test.
- III. A Diploma may be granted upon the degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is  $\pounds_{I}$ .

A student producing evidence of adequate previous scientific or practical training may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

### III. Four Years' Coal Mining Course

(See pages 417-420).

### IV. Course for Mining Teachers

A course of 20 lectures and demonstrations for Mining Teachers or prospective Mining Teachers will be conducted in the University during the first and second terms of the session 1921-22. The course will be a dual course: (a) lectures and demonstrations on science principles fundamental to Mining and (b) lectures and demonstrations on the relative methods of teaching. The former will be conducted in the Mining Department; the latter in the Education Department.

The principles of teaching will be dealt with in a simple but practical way and will be illustrated throughout by reference to the teaching of elementary mechanics, hydrostatics, physics and chemistry, and by demonstrations

### Mining

of the teaching of such subjects, and in arranging lessons, experiments and lectures. Discussion on the principles of teaching, the illustrations and demonstrations, will be carried on during and after each class meeting.

The course will be held on Fridays, and will commence on the 7th October, 1921.

The Science Demonstrations will be from 3 to 5 p.m., and the lectures on the principles of teaching from 6 to 7.30 p.m.

A fee of  $\pounds 6$  6s. will be payable for the full course.

Students desirous of attending only one section of the course *i.e.*, either (a) or (b), will pay a fee of  $\pounds 4$  4s.

### V. Course on Mine Surveying

See lecture course on Mine Surveying, page 322, Office Work and Field and Underground Work in Surveying, pages 322 and 323. If a sufficient number of applications are received from persons desiring to attend the course on Mine Surveying, it may be arranged to occupy one day per week.

#### LECTURE COURSES

#### Coal Mining FI

### (First and Second Year, Degree Course I, Diploma Course II) Professor POOLE

The general principles of mining and the methods of extraction of minerals will be outlined, while to relieve the lectures of the following session, those mining operations which find their best exemplification in coal mining will be discussed in detail.

### Mining Engineering F2

### (Third Year, Degree Course I, Diploma Course II) Professor POOLE

This course will consist of about 60 lectures. The object of these lectures will be to explain to students the methods, operations and appliances commonly employed in mining, with illustrations from actual practice in various districts and countries and to indicate the principles which should influence the selection of methods and the introduction of such variations in them as local circumstances may demand.

### Preparation of Minerals and Coal F<sub>3</sub>

(Third Year, Degree Course I, Diploma Course II)

Professor POOLE

A course of one lecture a week will be given during the first and second terms, on Fridays.

#### Mine Surveying F<sub>4</sub>

#### (Third Year, Degree Course I, Diploma Course II) Mr. BROWN

During the session a course of two lectures a week will be given on Thursdays from 10 to 11 a.m. and 12 noon to 7 p.m.

### PRACTICAL WORK

Through the kindness of the local Coal Owners and Colliery Managers, arrangements have been made for the instruction of students at mines in the neighbourhood, not only in underground surveying and in the connection of underground and surface surveys, but also in general Mining work.

### Laboratory Work

The work in the Laboratories will include the following :--

- I. The analysis and testing of fuels and refractory materials.
- 2. The assaying of ores and metallurgical products.
- Experimental work in ore dressing and coal washing under different conditions.
- 4. Efficiency tests of crushing and dressing machinery, fans, pumps, winding engines, haulage systems, &c.
- 5. The testing of safety lamps under different conditions.
- 6. The analysis of mine atmospheres, the detection of mine gases by practical tests, &c.

### Office Work

The work in the Drawing Office will include the following :

- 1. Calculations and practical exercises connected with work and problems in mine surveying.
- 2. The preparation and reproduction of mine plans and sections.
- 3. The drawing and design of mining machinery and plants and mine structures.

The Office Work will be based upon the lectures on Mining Engineering and Mine Surveying given during the session.

Every student will be held responsible for the instruments, apparatus or machinery with which he is working, and will be required to make good any damage caused by him. A deposit of 105. 6d. will be required from which the cost of stationery supplied will be deducted. The balance will be returned in the event of no damage being done to instruments, apparatus or machinery, but the student's liability is not limited to the amount of the deposit.

In the case of occasional students and ot students taking additional or extra work in the Laboratory or in Surveying, the Fees will depend on the time spent on such work, as set out on the tinted inset of this Prospectus.

#### Field and Underground Work in Surveying

During the session, at times to be arranged, instruction will be given in Field Work and Underground Surveying. Students will be required to go through a systematic course of work in the following :—

- 1. The use of surveying instruments.
- 2. Determination of the constants of instruments.
- 3. Errors of instruments; their elimination and adjustment.
- 4. Methods of securing the degree of accuracy necessary in particular kinds of work.
- 5. Adjustment of observations.
- 6. Astronomical observations for azimuth.
- 7. The survey of the surface of a mineral property including reconnaissance, triangulation, traversing, levelling, tacheometry, and detail work.
- The survey of the underground excavations of a mineral property, including traversing and detail work.
- 9. The connection of surface and underground surveys.
- 10. Curve-ranging and setting-out work in general.

At the end of the course, students will be required to produce evidence of having carried out surveying work on the surface and underground at a mine. Arrangements will be made whereby such work may be carried out on the surface and underground at a neighbouring mine during the vacations. Incidental expenses for the carriage, storing, loan or insurance of instruments may be liquidated by a charge on each student not exceeding 10s. Any balance remaining after settling accounts will be returned to students.

### Mining Excursions

During the session excursions will be made to mines and works where mining machinery is manufactured. The object of these excursions will be to give students an insight into practical methods and mining practice generally.

After each excursion and before the next excursion, each student will be required to hand in to the Head of the Department, a short report in duplicate of the chief points noted, illustrated with his own sketches.

The result of Practical Examinations held at the end of the courses will depend partly on the standard of the Excursion Reports handed in by each student during the session.

These reports will form the basis of the practical work in Mining Machinery Design. The duplicate reports will be filed by the Department for the use of all students in the Department. The reports will be written on special forms and attention will be devoted to helping students to observe fully and write complete notes of all they see in practice, and in the collection of mining statistics, &c.

Whole and half-day excursions for Degree and Diploma students will be held during the session.

At the end of the third term a week's Mining Excursion for Degree and Diploma students may be arranged, so that Mining methods and practice in other coalfields and mining districts may be studied.

Further particulars will be announced during the session.

## COAL GAS AND FUEL INDUSTRIES METALLURGY

Professor COBB

Mr. Hodsman Mr. Houldsworth Mr. Summers Mr. Wood Dr. Parker Mr. Kerr Mr. Townend Mr. Howarth

### Courses of Study

The courses of study in this Department have been drawn up to meet the requirements of students who are preparing for responsible positions in the Fuel and Metallurgical industries.

The courses in Gas Engineering and the Technology of Fuel will deal chiefly with the manufacture and distribution of coal gas, by-product coking processes, the production and application of gaseous fuels for heating, lighting and power purposes and the properties and uses of fuels in general.

The metallurgical courses will deal with general methods for the treatment of ores, the extraction of metals, the construction and control of furnaces, with the production of cast iron, wrought iron and steel, and with the microstructure, physical properties, and heat treatment of steel and other industrial alloys.

A course in the manufacture, properties and uses of Refractory Materials is given to all students in the department.

### B.Sc. Course

Students who can devote three years to attendance at the University are strongly recommended to take the B.Sc. degree course, either in Gas Engineering or in Fuel and Metallurgy. Before commencing the degree course, however, students must pass or obtain exemption from the Matriculation examination, conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham. (See the Syllabus of the Joint Matriculation Board obtainable from the Secretary, 315, Oxford Road, Manchester.)

During the first year of the degree course the student will attend classes in Mathematics, Physics, Chemistry, Fuel and Metallurgy, and Applied Mechanics, the first three being the subjects for the Intermediate examination which is taken at the end of the first year. After passing this examination, the student will, during his second year. continue the study of Chemistry, and will also take courses in Mechanical and Electrical Engineering and Mechanical Drawing, the Properties of Gases, and Fuel and Metallurgy, supplemented by work in the Fuel and Metallurgical During the third year the student will . laboratories. mainly devote his attention to his special subject (*i.e.*, Gas Engineering, or Fuel and Metallurgy) In the second and third year the student will attend the special courses on industrial practice which are arranged from time to time. The three years course will thus include systematic training in Mathematics, Physics, Chemistry, General Engineering and Mechanical Drawing in addition to the study of the special branch of Applied Science (Gas Engineering or Fuel and Metallurgy). At the end of the course, the student will qualify for the B.Sc. degree by passing the prescribed Final examination in either Gas Engineering or Fuel and Metallurgy, as principal subject, together with Chemistry and Engineering as subsidiary subjects.

### I. Ordinary B.Sc. Degree Course in (i) Gas Engineering and (ii) Fuel and Metallurgy

All students will take the same Intermediate course in their first year after matriculation, as follows :---

			Hours	per wee
Mathematics, Intermedia	te.			3
Physics, Intermediate				3
Chemistry, Intermediate				3
Engineering-Mechanics				2
Physical Laboratory				3
Chemical Laboratory				15
Fuel and Metallurgy (Intr	oductor	y)		I

### Fuel and Metallurgy

	9 te 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon	Maths. Int.	Chemic	al Lab.	Chem. Int.	Chemica	l Labor	atory
Тие	Eng. Mech.	Phys. Int.	-	Fuel I.	Chemica	l Labor	atory
WED	Maths. Int.	Chemic	al Lab.	Chem. Int.	-	—	-
Тни	Eng. Mech.	Phys. Int.	-	_	Phys.	Lab.	-
FRI.	Maths. Int.	Chemic	al Lab.	Chem. Int.	Chemica	l Labor	atory
Sat	Phys. Int.	Phys. Int.	_	_	-	-	_

First Year Time Table

The courses during the second and third years will be somewhat differentiated, according to the respective needs of gas engineers and metallurgists, as follows :---

### Second Year Course

All students must take the following:-	Hours ner week
Chemistry F2	3
Engineering Ia, 3rd term (Electrical)	3
Properties of Gases IIa	I
Technology of Fuel II. (1st and 2nd terms)	I
Chemical Laboratory, or)	
Fuel and Metallurgical Laboratory	13
Engineering Drawing and Laboratory	6
Metallurgical students will also attend in	
1 12 1 1 1 1	

addition to the above :---

Metallurgy VIII (General and Non-Ferrous) 2

	9 to 10. 10 to	11.   11 t	D 12. I	2 to 1.	2 to 3.	3 to 4.	4 to 5.
Мон	Chem. or Fue Labor atory	l Eng	rg. Ia C	hemical o	or Fuel	Laborat	ory
Tues	- Chem.	F2 Met.	VIII	- 1	Engineer	ing Lab	oratory
WED	Chem. or Fuel Labor atory	Eng	g. Ia F	uel II	_	-	-
Тни	- Chem.	F2 Fue	l IIa	- 1	Engineer	ing Lab	oratory
FRI	Chem. or Fuel Labor atory	Eng	g. Ia M	et.VIII	Chem.	or Fuel	Lab.
SAT	- Chem.	F2 -	- }	-	-	-	-

### Second Year Time Table

#### Courses in Technology

#### Third Year Course

All students must attend :			H pei	ours week.
Technology of Fuel, III				I
Fuel and Metallurgical Laboratory			22 to	24
Fuel and Metallurgical Colloquium .		***		I
Gas Engineering Students will als arranged :	o atte	end as		
Properties of Gases IIIa				I
Organic Chemistry				3
Colour Chemistry IV (part) .				I
Metallurgical students will also att	tend :			
Metallurgy IX (Iron and Steel)				2
Metallurgy X (Metallography)				I

# Special Lecture Courses to be taken during the second or third years.

In addition to the above lectures, students must also attend, during either the second or third year, the special lectures given in the department by outside lecturers in the following or similar subjects :---\*

	METALLUI	RGICAI	. ST	UDENT
By Re	-Product C efractory Ma	oking aterials	Proc	esses

#### GAS ENGINEERING STUDENTS

By-Product Coking Processes Manufacture of Coal Gas Distribution and Uses of Coal Gas Refractory Materials

### II. Honours B.Sc. Course

Honours in Gas Engineering or Fuel and Metallurgy will be awarded to candidates who, having obtained the Ordinary degree, with either Gas Engineering or Fuel and Metallurgy as a principal subject, and being recommended as suitable to proceed with an Honours course, shall have spent one year in research or advanced study, or in the preparation of a thesis on some industrial process, to the satisfaction of

<sup>\*</sup> This list is subject to variation, either by substitution or addition, according to the arrangements for special lecture courses which may be in vogue during any particular session or sessions.

#### Fuel and Metallurgy

the examiners, attendance at the University during this fourth year not being compulsory.

### III. Ph.D. Course

The Degree of Ph.D. will be awarded to graduates of this and other approved Universities who complete a course of advanced study and research extending over two years in the Department, and also satisfy the other conditions laid down on pages 176-178.

### IV. Diplomas and Degree Courses for Post-Graduate Students

(a) A Diploma in either (i) Gas Engineering or (ii) Fuel and Metallurgy will be awarded to graduates of this or some approved University who, having graduated with Chemistry, Engineering, or Metallurgy as a principal subject, shall have attended for at least one year an approved course of lectures and laboratory work, and have passed an examination thereon. Students taking this special Diploma course must put in a full attendance at the University for at least one year.

Honours in Gas Engineering or Fuel and Metallurgy may also be conferred upon candidates who, having graduated in Science at this or an approved University, with Chemistry or Engineering as a principal subject, shall have subsequently (1) completed the course and passed the examination required for the diploma in Gas Engineering or Fuel and Metallurgy; and (2) spent an additional year in research in the department, to the satisfaction of the examiners.

### Diplomas and Diploma Courses

Diplomas in (1) GAS ENGINEERING:

(2) FUEL AND METALLURGY:

A candidate for either of the above Diplomas is required :----

I. During the Course-

- (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
- Ľ
- (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
- (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds_3$ .
- II. At the end of the Course-
  - (a) To reach a satisfactory standard in any final examination which may be set.
  - (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.
- III. A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is  $\pounds_1$ .

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

The University Diploma in Gas Engineering or Fuel and Metallurgy, will be granted to candidates who have taken one of the courses following, to the satisfaction of the Head of the Department. These courses are arranged

#### Fuel and Metallurgy

for Gas Engineers and Metallurgists who, while wishing to secure a certificate of successful study, cannot for any reason take the B.Sc. degree :—

- (a) a three years' course, the same as for the B.Sc degree.
- (b) a two years' course for students exceptionally prepared in general science.
- (c) a two years' course for students exceptionally prepared in technical subjects.
- (d) a four years' course to be arranged for students serving an apprenticeship or its equivalent in Gas Engineering or Metallurgy. This course might occupy three days per week or equivalent time for the first year, and at least two and a half days per week or its equivalent in the three succeeding years. A works' report in this case might be submitted for consideration in applying for the Diploma.

(a), (b), (c) and (d) would lead up to the same Diploma.

There will be a final examination for the diploma which will be the same as that in the principal subjects of the final examination for the degree of B.Sc. in Gas Engineering or Fuel and Metallurgy. The Fee for this examination is  $\pounds_3$ .

# SYLLABUS OF LECTURE COURSES

# I. Fuel and Metallurgy—Introductory Professor COBB

One hour a week throughout the session.

This Course is specially intended for Engineering Students and others who wish to acquire a general knowledge of fuel and metallurgy; it will also form part of the first year's course for students taking the B.Sc. Degree in either (i.) Gas Engineering or (ii.) Fuel and Metallurgy. An elementary knowledge of chemistry is essential in taking this course.

#### II. Technology of Fuel

Professor COBB and Mr. HODSMAN

One hour a week (first and second terms).

The subjects of course I. (without Metallurgy) will be treated in greater detail in these lectures.

IIa. The Physical Properties of Gases Mr. HODSMAN

One hour a week (first and second terms only).

# III. Technology of Fuel—Special Course (Carbonisation of Coal. Gaseous Fuels.) Professor Cobb

One hour a week in the first and second terms.

# IIIa. The Chemical Properties of Gases Mr. HODSMAN

One hour a week (first and second terms only).

# The following three Courses (IV to VI inclusive) will be given by specially appointed outside lecturers

# IV. The Manufacture of Coal Gas

Dr. HAROLD G. COLMAN

A special Course of Lectures (Wednesdays at 6 and 8 p.m.) during the *second* term (January to March), to be delivered in *alternate* sessions.

# V. The Distribution and Uses of Gas

A special Course of Lectures (Wednesdays at 6 and 8 p.m.) during the *second* term (January to March), to be delivered in *alternate* sessions by specially appointed lecturers.

# VI. By-Product Coking Processes

A special Course of 8 Lectures on Tuesdays, at 6 p.m. during the *second* term in *alternate* sessions by specially appointed lecturers.

# VII. Refractory Materials

Professor COBR

A special course of 8 Lectures on Tuesdays, at 6 p.m. during the *second* term in *alternate* sessions.

# Fuel and Metallurgy

# VIII. Metallurgy-General and Non-Ferrous Mr. SUMMERS

Two hours a week throughout the session.

The course is intended both as a general introduction to the study of metallurgy and to cover the principal processes for the extraction of non-ferrous metals.

# IX. Metallurgy-Iron and Steel

#### Mr. SUMMERS

Two hours a week throughout the session.

# X. Metallography and Alloys Mr. SUMMERS

One hour a week throughout the session.

This will take the form of special lectures, demonstrations, &c., in which the constitution, micro-structure and heat treatment of industrial alloys will be explained.

#### Fuel and Metallurgical Colloquium

There will be a weekly colloquium held in the department on Thursdays, at 4 p.m., for the discussion of questions relating to the technology of gases, fuel and metallurgy, and for the review of the current literature of those subjects.

# Fuel and Metallurgical Laboratory

The Laboratories will be open during the session from 9.30 a.m. to 1 p.m. and from 2 to 5 p.m. except on Saturday afternoons.

A fully equipped workshop, with a mechanic in charge, is provided.

#### Evening Laboratory Work

The laboratory will also be open on Wednesdays from 6 to 9 p.m. during the second term, and instruction will be given in pyrometry, calorimetry, photometry, gas analysis, general gas works testing, and metallography, to a limited number of students who satisfy the Head of the department of their fitness to enter upon the course.

# TEXTILE INDUSTRIES

#### Endowed by the Clothworkers' Company of the City of London

		Professor	BARKER	
Mr.	Hollis	Mr. Y	YEWDALL	Mr. Law
Mr.	PICKLES	Miss	BENTON	Mr. FARLEY
		Researc.	h Staff:	
	Mr. Pri	ESTMAN	Mr.	FISHER

The Department comprises the following sections :

- (a) Woollen Yarn Spinning.
- (b) Worsted Yarn Spinning (English and Continental systems).
- (c) Designing, Weaving, and Textile Manufacturing.
- (d) Finishing of Textile Fabrics.
- (e) Textile Testing and Research.

Each section possesses a complete plant of machinery designed and constructed for demonstrating the technicalities of the various processes of manufacture.

# Courses of Study

The following are the principal courses of study:

- (A) University Degree of B.Sc., combined with supplementary Textile Studies (Technical).
- (B) University Degree of B.A., or B.Com., combined with supplementary Textile Studies (Commercial).
- (C) University Diploma in Textile Industries.
  - The Diploma in Textile Industries may also be awarded under Courses of Study (A) and (B) in the case of students who have not matriculated.
- (D) Degree and Diploma Courses in Commerce, suitable for Textile students, will be found in previous pages.

In the case of those who are likely to succeed to the control of large businesses, Courses A, B and C are strongly

# Textile Industries

recommended. For the inside manager or the works technologist or designer, Course C is most suitable. Research work is arranged for post-graduate or advanced students.

# A.-Suggested Course for the Degree of Bachelor of Science when combined with Supplementary Textile Studies

(NOTE.—The Ordinances and Regulations governing the Degree course and the full list of subjects and options comprised in it will be found in previous pages).

First Year Mathematics, Intermediate Physics, Intermediate and Laboratory work Chemistry, Intermediate and Laboratory work French, Intermediate And the following Textile classes :----Textile Calculations I Cloth Structure I Colour Study I Loom Study I Cloth Analysis I Woollen Spinning Experimental Weaving and Spinning.

#### Third Year

Mathematics F2 Chemistry F2 and F3 and Laboratory work Experimental Cloth Finishing Worsted Spinning I Cloth Analysis II. Second Year Mathematics FI Physics FI and Laboratory work Chemistry FI and Laboratory work French Woollen Spinning Loom Study II Textile Calculations II Cloth Structure II Colour Study II

#### Fourth Year

Engineering II*a* and Practical work Electrical Engineering I and Practical work

Dyeing I and II and Laboratory work

Textile Testing Complex Textiles

Worsted Spinning II.

# B.—Suggested Course for the Degree of Bachelor of Arts when combined with Supplementary Textile Studies

(NOTE.--The Ordinances and Regulations governing the Degree course and the full list of subjects and options comprised in it will be found in previous pages.)

## First Year

Latin, Intermediate French, Intermediate German, Intermediate Economics, Intermediate Mathematics, Intermediate Chemistry, Intermediate and Laboratory work Loom Study I Experimental Weaving Woollen Spinning I and Experimental work. Second Year German F Economics FI Mathematics FI Accountancy Worsted Spinning and Practical work

Textile Calculations I Cloth Analysis I Colour Study II Experimental Weaving,

#### Third Year

French FI and F2 German Mathematics F2 Economics F2 Commercial Law Cloth Finishing Dyeing I and II Experimental Weaving and Finishing Cloth Analysis II Cloth Structure II Cloth Finishing.

#### C.-Suggested Course for a Course of Study for the Diploma in Textile Industries

First Year

Mathematics, Intermediate Physics, Intermediate and Laboratory work Chemistry, Intermediate and Laboratory work French or German, Intermediate Textile Calculations I Cloth Structure I Colour Study I Loom Study I Experimental Weaving Cloth Analysis I Woollen Spinning I.

#### Second Year

(Students during this year must work out at least four-figured styles under Mr. Farley in the Art Rooms).

Worsted Spinning I Accountancy Woollen Spinning I Experimental Weaving Loom Study II Textile Calculations II Cloth Structure II. Economics

# Textile Industries

#### Third Year

Experimental Cloth Finishing Textile 'Testing Machine Study and Testing Dyeing I and II Experimental Weaving and Finishing Accountancy Colour Study II Cloth Analysis II Worsted Spinning. Complex Textiles III

Diploma work: During the second or third year of this course, candidates for the Diploma must present an Essay on some approved Textile research. Such research must have a Mathematical, Physical, Chemical, Mechanical or Art basis.

Candidates for the Diploma must also submit all the work-sheets referring to each course of study taken.

In each year of Diploma Work the candidate is required to take two subsidiary subjects and to otherwise fulfil the conditions defined for each particular period.

# Lecture Courses, Experimental and Research Work\*

#### T1. Woollen Yarn Spinning I

FIRST YEAR : Lectures and practice on Thursdays from 2 p.m. to 5 p.m.

SUBJECTS.—Materials; Processes; Machinery; Calculations.

# T1a. Woollen Yarn Spinning II

SECOND YEAR: Lectures and Practice on Tuesdays, from 2 to 5 p.m.

SUBJECTS.—Processes; Machinery; Calculations.

#### T2. Worsted Yarn Spinning I

(English and Continental Systems.)

FIRST YEAR: Lectures and Practice on Mondays, from 2 to 5 p.m.

<sup>\*</sup> All these times are subject to revision under the present exceptional conditions.

SUBJECTS.—Characteristic features of a typical worsted thread, variations due to the use of materials different or mixed in quality and length, features due to special methods of treatment in manufacture; Processes; Machinery; Calculations.

Students taking this course are required to attend the first year course of lectures on Woollen Yarn Manufacture, in which raw materials and the operations up to drying are considered.

#### T2a. Worsted Yarn Spinning II

SECOND YEAR : Lectures and Practice on Fridays, from 2 to 5 p.m.

SUBJECTS. — Materials; Processes; Machinery; Calculations.

TEXT BOOKS

Wool Carding and Combing (Cassell & Co., Ltd.) Woollen and Worsted Spinning (Cassell & Co., Ltd.) (Scott, Greenwood & Son)

REFERENCE BOOKS FOR WOOLLEN AND WORSTED SPINNING. Textiles (Constable & Co.) Woollen and Worsted (G. Bell & Sons).

#### **Experimental Work**

Woollen Section.-Experiments in scouring, mixing, carding, spinning and twisting.

Worsted.—Experiments in carding, gilling, combing, drawing, spinning, and doubling.

The building, setting, construction, and manipulation of the different machines.

Senior students will also have practical demonstrations on the output and adaptability of the machines for the production of different types of yarn.

#### T<sub>3</sub>. Cloth Structure I

FIRST YEAR: Lectures on Tuesdays, from 10 to 11 a.m.

SUBJECTS.—Materials; Structures.

# Textile Industries

#### T<sub>3</sub>a. Cloth Structure II

SECOND YEAR : Lectures on Thursdays, from 10 to 11 a.m.

SUBJECTS.—*Structures*: Complex double cloths and cut double cloths. Reversible double cloths. Treble cloths. Matelasses. Drafting and complex loom mounting.

#### T<sub>3</sub>b. Complex Textiles III

THIRD YEAR : A course of study on Mondays, from 10 to 11 a.m.

SUBJECTS.—Cloth Structures; Loom Mountings.

#### TEXT BOOKS

Textile Design (Methuen & Co.) Textiles (Constable & Co.)

#### Experimental Work

The experimental hand and power loom weaving is organized to enable the student to grasp more perfectly the fundamental principles dealt with in the lecture room.

During the third and fourth years students have the opportunity of selecting the raw material, spinning it into yarn, weaving it into cloth, and finally finishing the cloth. By this means a sound, all-round practical knowledge of wool manufacturing is attained.

#### T<sub>4</sub>. Loom Study I

FIRST YEAR: Lectures on Tuesdays, from 2 to 3 p.m. The primary motions in weaving. The treadle and dobby hand looms. The principles of shedding.

The power loom. The various types of tappet looms. The simple dobby loom. Taking-up mechanisms. Picking mechanisms.

#### T4a. Loom Study II

SECOND YEAR: Lectures on Wednesdays, from 4 to 5 p.m. The various types of dobby looms. Shedding mechanisms. Boxing mechanisms. Special constructions. The various types of jacquards—single and double lift centre and open shedding. Harness calculations. Harness and shaft mountings.

Shed designs and organisation. Power production and transmission, lighting, heating and ventilation of sheds.

Техт Воок The Mechanism of Weaving (Longmans & Co.) REFERENCE BOOK Jute and Linen Weaving (Macmillan & Co.)

#### T<sub>5</sub>. Textile Calculations I

FIRST YEAR: Lectures on Tuesdays, from 9 to 10 a.m.

Wool yields. Conditioning and re-gains. From carded or prepared sliver to finished yarn. Yarn counting. Yarn diameter. The set systems. Warp and weft calculations. Cloth calculations.

#### T<sub>5</sub>a. Textile Calculations II

SECOND YEAR : Lectures on Thursdays, from 9 to 10 a.m.

The fundamental principles of textile calculations. Material calculations. Varn calculations. Twist calculations. The metric system of calculations for yarn and cloths. Complex cloth calculations. Complex problems in cloth structure.

#### TEXT BOOKS

Textile Design (Methuen & Co.) Analysis of Woven Fabrics (Scott, Greenwood & Son)

#### T6. Colour Study I

FIRST YEAR: Lectures on Tuesdays, from 11 a.m. to 12 noon.

Colour theories and the attributes of colours. Contrast and analogy. Colour blending. Application of colour to woven design. Special colour and weave effects. Synthesis and Analysis.

#### T6a. Colour Study II

SECOND YEAR : Lectures on Thursdays, from 11 a.m. to 12 noon.

# Textile Industries

The economical introduction of colour into woven fabrics. The colour limitations of woven design. The introduction of colour into stripes, checks and figured fabrics. The colouring of special woven styles. The colouring of double cloths, gauges and plushes.

REFERENCE BOOK Colour in Woven Designs (Whittaker & Co.)

#### T<sub>7</sub>. Cloth Finishing

Lectures on Fridays, from 9 to 10 a.m.

The objects of finishing. Scouring, crabbing, milling, drying, and tentering, raising, brushing, and steaming, cutting, and pressing.

Changes in fabrics from the loom to the finished state. Shrinking. Particular finishes.

**TEXT BOOKS** 

Finishing of Woven Fabrics (Scott, Greenwood & Son). Analysis of Woven Fabrics (Scott, Greenwood & Son).

### T8. Cloth Analysis I

FIRST YEAR: Lectures and Demonstrations on Thursdays, from 10 to 11 a.m., with class work on Thursdays, 9 to 10 a.m., and 11 a.m. to 12 noon.

The analysis of simple weaves, twills, sateens, and corkscrews. The analysis of simple textural stripes and checks. The analysis of colour effects and colour and weave relationships. Weights of materials. Finished weights per yard.

#### T8a. Cloth Analysis II

SECOND YEAR: Lectures and Demonstrations on Fridays, from 10 to 11 a.m., with class work on Wednesdays, from 2 to 3 p.m., and Fridays, from 11 a.m. to 12 noon.

The analysis of the more complex single structures. The analysis of warp and weft backed cloths and imitation backed cloths. The analysis of double and triple cloths, fancy fabrics &c. Calculations on production. Departmental costings.

NOTE. -Additional Cloth Analysis may be taken by special arrangement.

TEXT BOOK

The Analysis of Woven Fabrics (Scott, Greenwood & Son).

#### T9. \*Textile Testing

Lectures or demonstrations on Mondays, from 11 a.m. to 12 noon.

Microscopic examination, fibres, yarns and fabrics. Fibre, yarn and cloth testing for strength, elongation and elasticity. Quality tests of yarns and fabrics. Physical qualitative tests. The study and use of special testing apparatus.

#### T10. Industrial Economics

Three series of lectures on Mondays and Fridays, from 12 to 1 p.m., dealing with the special problems involved in the control of works and in directing labour.

#### TII. Commercial Law

Two series of lectures during the first and second terms upon :---

- (a) The Law of Contracts and its bearing upon the buying and selling of goods;
- (b) The Machinery of Commerce, being methods of combination for the purpose of industrial developments.

#### Research Work

The equipment in the various sections of the department affords special facilities for original research in the processes of yarn spinning, fabric structure and designing and finishing. Special arrangements are also made for those students specialising in Textile Engineering to conduct special researches in the Textile Industries Department.

# Art Applied to Textile Design

Mr. FARLEY

The courses of study relate to the analysis, composition and colour qualities of decorative design applicable to the various styles of woven fabrics, and comprise first, second, and third year classes in both lectures and practice.

Textile students for the Diploma in Designing and Weaving and also students in the Designing of carpets,

 $<sup>^{*}</sup>$  Note,—Students take the Chemical Technology of the Textile fibres in the Colour Chemistry Department. Large scale experiments, however, may be arranged for in the Textile Industries Department.

# Textile Industries

tapestries, mantle cloths and other figured fabrics are required to take the courses in Applied Art.

Students from the Leeds School of Art are also admitted to these courses at the discretion of the Professor.

# T12. First Year Course

Lectures on Wednesdays, from 10 to 11 a.m.

Practical Work in the Art Studio by special arrangements to fit in with the student's time table.

Text Book for First and Second Year Courses Ornamental Design for Woven Fabrics (Methuen & Co.)

# T12a. Second Year Course

Lectures on Thursdays, from 11 a.m. to 12 noon.

Practical work in the Art Studio on Thursdays, from 9 to 11 a.m., and from 2 to 4 p.m.

#### T12h. Third Year Course

Wednesdays or Thursdays, from 9 a.m. to 12 noon, and from 2 to 4 p.m.

Arrangements may be made by which students who wish to devote themselves more closely to the artistic side of Textile Design may attend the Department for two or more days per week.

# T13. Technical French and German

Special courses are arranged to promote the easy reading of the French and German Textile journals and books.

# COLOUR CHEMISTRY AND DYEING

	Professor	PERKIN	
Dr.	Forster .	Mr.	King
Mr.	Sewell	Mr.	Cross

#### Mr. DAVIS

The instruction given in this Department is primarily directed towards the provision of a sound and broad education in preparation for a career in any of the branches of industry in which the chemistry of the colouring-matters and of textile fibres and processes plays an important part. The courses of study arranged qualify students for taking positions as dyers' chemists, masters of dyeworks, practical dyers. printworks chemists, bleacher's chemists, experts in dyestuff analysis, travelling chemists to dye manufacturers, chemists in colour works, lake-pigment manufacturers, chemists in textile works, chemists in artificial silkworks, &c. Advanced chemical students can also make arrangements to carry out special work in the department in any of the collatoral branches of chemical industry based upon applied organic chemistry, such as tar and petroleum distillation and products, synthetic drugs, synthetic perfumes, cellulose products, ink manufacture, &c.

The particulars which follow give the courses of study prescribed for students who have not already passed through a chemical training. Students holding a science degree of any University (English or foreign), the Associateship or Fellowship of the Institute of Chemistry, or otherwise bringing forward evidence of sufficient previous education in pure chemistry and general science will be admitted to the later stages of any of the courses and will be permitted to undertake at once more specialised work in the department.

The lectures upon "Colouring-Matters" are open to senior chemical students without entrance upon any special course or other work in the department.

Attention is drawn to the provisions of the Ordinances of the University by which periods of study and examinations passed at other Universities may be accepted by the Senate as exempting undergraduates from a certain amount of attendance and from certain examinations in this University.

## Colour Chemistry and Dyeing

Graduates or persons who have passed the Final examinations for degrees of other approved Universities may, under certain conditions, enter the University and after not less than two years of attendance on advanced study or research, become candidates for the degree of Ph.D. or M.Sc. without taking the B.Sc. degree.

# SYLLABUS OF COURSES

# I. Four Years' Course qualifying for B.Sc. Degree and Diploma in Colour Chemistry

Suitable for those desiring to become chemists in colour works, dyers' chemists, print works chemists, travelling chemists for dye manufacturers, experts in analysis of dyewares, &c.

If taken after Matriculation this course qualifies for an Ordinary or Honours B.Sc. degree. Unmatriculated students are eligible for the Diploma in Colour Chemistry under the conditions mentioned on pages 350-351.

#### First Year

#### (Intermediate)

					Per	week.
Lectures on Chemistry (Gen	eral ar	nd Tuitio	on C	Course)	4	hrs.
Chemical Laboratory					2 I	"
Lectures on Physics (Intern	nediat	e Cours	e)		3	,,
Physical Laboratory				,	3	,,
Mathematics (Intermediate	Cours	se)			3	,,
German						

The work in the chemical laboratory will consist of inorganic preparations and qualitative analysis.

#### Second Year

Per queek

Lectures on Inorganic and	Organi	c Cher	nistry (	(FI		
and F3)				· · · ·	6	hrs.
Chemical Laboratory					22	,,
Experimental Dyehouse					5	.,
German					2	

The work in the chemical laboratory will consist of quantitative analysis, organic analysis, and organic preparations.

## Third Year

		Fer 7	veer.
Experimental Dyehouse, Calico Printing, and	)		
Practical Dyehouse		24	hrs.
Colour Chemistry Laboratory			
Lectures on Chemistry (F2)		3	,,
Lectures on Chemical Technology of Textil	e )		
Fibres (1st Term)	}	- 3	,,
Lectures on Dyeing (2nd Term)	)	Ť	
Lectures on General Engineering (II A)		3	,,
German			
Practical Cloth Finishing (3rd Term)			

The work in the experimental dyehouse will include dyeing trials with various classes of colouring matters, methods of application upon different fibres, testing colours for fastness, comparison of dyes for strength and shade, identification of dyestuffs on the fibre and in bulk, examination of textile fibres, and technical analysis of dyewares.

#### Fourth Year

	1.61.5	week.
Colour Chemistry Laboratory	26	hrs.
Lectures on Artificial Colouring Matters (1st and	1.	
2nd Terms)	5 3	"
Lectures on Natural Colouring Matters (2nd and 3rd		
Terms)	2	,,
Lectures on Organic Chemistry (H1) 1st and 2nd		
Terms	3	"

The work in the laboratory will comprise further preparations of coal-tar products and colouring matters, identification of colouring matters and mixtures, determination of the constitution of colouring matters, and valuation of intermediate coal-tar products such as benzene, aniline, toluidine, naphthol, &c. Research work may also be undertaken by the more advanced students.

# II. Four Years' Course for Colour Chemists qualifying for the Diploma in Colour Chemistry

This course, which is identical with that qualifying for an Ordinary or Honours B.Sc. degree, has been arranged to

meet the requirements of unmatriculated students. The instruction given is identical with that outlined above in connection with course I.

# III. Three Years' Course qualifying for a Diploma in Dyeing

This course is recommended to students who wish to obtain a good scientific and practical education in the art of Dyeing, and are unable to remain at the University for the four years required for the Degree.

Students already holding a University degree or otherwise bringing forward satisfactory evidence of previous scientific training, may upon application, be admitted to the Diploma upon a shortened period of study.

For Diploma Regulations see pages 350-351.

### First Year

	4	Per 2	veek
Lectures on Chemistry (General Course)		4	hrs.
Chemical Laboratory		2 I	"
Lectures on Physics (Intermediate Course)		3	,,,
German			

The work in the chemical laboratory will consist of inorganic preparations and qualitative analysis.

#### Second Year

			Ľ	er w	eer.
Lectures on Inorganic Cl	hemistr	y (F1)	 	3	hrs.
Lectures on Organic Che	mistry	$(F_3)$	 	3	,,
Chemical Laboratory			 :	ε4	,,
Experimental Dyehouse			 ··· :	r 6	"
German			 		

The work in the chemical laboratory will consist of quantitative analysis and simple organic preparations. In the experimental dyehouse the work will comprise the study of the dyeing properties of the various classes of colouring matters in relation to different fibres, methods of application, colour-matching and mixing, tests for fastness, comparison of dyes for strength, &c.

# Third Year

Permeet

Experimental Dyehouse	1.57	
Practical Dyehouse	27	hrs.
Calico Printing		
Lectures on Chemical Technology of Textile )		
Fibres (1st Term)	- 3	••
Lectures on Dyeing (2nd Term) ]	Ŭ	
Lectures on General Engineering (II A.)	3	17
Practical Cloth Finishing (3rd Term)	Ū	

The work in the experimental dyehouse will include examination of the chemical properties of dye-stuffs, the detection of various colours on the fibre, preparation of mordants, examination of textile fibres, and the technical analysis of dyewares. The work in the practical dyehouse will consist in dyeing wool and cotton on a larger scale in model machines, thus giving a general knowledge of dyeing machinery and of the practical conditions of dyehouse work. In calico printing a practical study will be made of the principles of the more important styles.

# IV. Part-time Dyers' Apprenticeship Course

This course is designed for those who wish to make arrangements to be simultaneously apprenticed in a Dye-Works. The course will cover five years but work at the University will only extend over two terms in each year, viz: from the beginning of October to the end of March, the remainder of the year being spent in the works.

An alternative arrangement (especially recommended if the student is under 16) is for the first year to be spent entirely in the Dye-Works, the second, third and fourth years half-time at the University as above, and the fifth year entirely at the University.

The articles of apprenticeship must contain a provision that the apprentice is entitled to spend the whole of his time at the University during the periods specified.

The full course qualifies for the Diploma in Dyeing.

# Colour Chemistry and Dyeing

First Year Pe						
Chemistry Lectures (Int	. Cours	se)		4	hours	
Chemical Laboratory	•••			23	,,,	
Physics Lectures	•••			3	,,,	
Physical Laboratory				3	,,,	
Fee for the Half-year	(includ	ing Lib	rary an	d Union	Fees),	
£30.	- 1					
	Second	Year			1	
Inorganic Chemistry Le	ctures	(F 1)		3	hours	
Chemical Laboratory			•••	27	**	
Experimental Dye-house	÷		•••	3	"	
Fee for the Half-year	(includ	ling Lib	rary an	d Union	Fees),	
£30.	Thind	Vera				
		rear			hours	
Organic Chemistry Lect	ures (1	: 3)	•••	3	nours	
Chemical Laboratory	•••			12	,,	
Engineering (II A)			 T. 1	3	"	
Experimental Dye-house	e and 1	Dyeing	Labora	tory 12	>>	
Fee for the Half-year	(includ	ling Lit	orary an	d Union	Fees),	
£30.	Fourth	Vear				
Organic Chemistry Lect	11res	1 0001		2	hours	
Lectures on Chemical	Tech	nology	of Ter	tile)	nourb	
Fibres (1st term)	I COM					
Lectures on Dyeing (2n	d term	)		]	,,	
Experimental Dye-house	and	Dveing	Labora	torv 24		
Eas for the Half year	(includ	ling Lik	rary an	d Union	Fees)	
f 20	(meruu	ing Lit	nary an	u omon	1003/,	
2.50.	Fifth	Year				
Lectures on Artificial D	vestuff	s		3	hours	
Experimental Dyehouse						
Dveing Laboratory						
Practical Dye-house				30		
Calico Printing						
Textile Manufacture				]		
A ONLINE ALEMANDICANO						

Fee for the Half-year (including Library and Union Fees), £30. Diploma students are required at some time during their course to attend such classes in German as will qualify them to pass the reading test in this language.

# Regulations for Diplomas in Dyeing and Colour Chemistry

A candidate for a Diploma is required :----

- I. During the Course-
  - (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
  - (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and, if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
  - (c) To send in writing to the Clerk to the Senate not later than March 1st of the last Session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds_{3}$ .
- II. At the end of the Course-
  - (a) To reach a satisfactory standard in any Final examination which may be set.
  - (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.
- III. A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is  $\pounds_{I}$ .

# Colour Chemistry and Dyeing

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

# SYLLABUS OF LECTURES

# I. The Chemical Technology of Textile Fibres, General Course. Water and Mordants

Mondays and Wednesdays at 12 noon during the first term.

#### Books recommended

Georgievics, Chemical Technology of Textile Fibres. Matthews, Textile Fibres. Dannerth, Methods of Textile Chemistry.

#### II. The Chemistry and Technology of Dyeing, General Course

Mondays and Wednesdays, at 12 noon during the second term.

This course forms a continuation of I.

#### Books recommended

Knecht, Rawson, & Loewenthal, Manual of Dyeing (2 vols.) Hübner, Bleaching and Dyeing of Fibrous Materials. Matthews, Application of Dyestuffs. Whittaker, Dyeing with Coal Tar Dyestuffs.

#### **III.** Supplementary Course

Fridays at 12 noon during the first and second terms. These lectures form a continuation of the general course.

# IV. Chemistry of the Artificial Colouring Matters

Mondays and Wednesdays at 4 p.m., during the first and second terms.

# Books recommended

Georgievics, Chemistry of Dye-stuffs (translation by Salter). Cain & Thorpe, The Synthetic Dyestuffs. Bucherer, Lehrbuch der Farben-Chemie. Möhlau & Bucherer, Farbenchemisches Praktikum. Mason, A Text Book of Dye Chemistry.

#### V. Supplementary Course

Fridays at 4 p.m. during the second and third terms.

This course is intended more especially for those students who desire to enter a Colour factory.

#### VI. Chemistry of Natural Colouring Matters

Tuesdays at 4 p.m. during the second term, and Tuesdays, Wednesdays and Thursdays at 4 p.m., during the third term.

Books recommended Chemie der Naturlichen Farbstoffe, by H. Rupe. Thorpe's Dictionary of Applied Chemistry. The Natural Organic Colouring Matters, by Perkin & Everest.

#### LABORATORY WORK

#### A. Experimental Dyeing Laboratory

Open for work every weekday during the session from 9 a.m. to 5 p.m., Saturdays 9 a.m. to 1 p.m. The laboratory is fitted up with modern dyebaths suitable for comparative dyeing trials, drying stoves, and other appliances.

A special exposure chamber in an elevated position provides facilities for making tests of the fastness of colours to light.

#### B. Practical Dyehouse

The Practical dyehouse is equipped with machinery for carrying out experiments on a practical scale. The equipment includes many model machines, all of which are driven by electric motors.

In this dyehouse students of dyeing receive training in the treatment of various classes of textile materials.

Arrangements have also been made with the Technical College, Bradford, by which Senior Students of the Leeds University can, if they desire, spend a short period in the Practical Dyehouse of the Bradford College. This dyehouse has been recently equipped with modern plant for piece, warp and slubbing dyeing. No charge for attendance will be made to Students who have paid composition fees.

## C. Calico Printing

A practical course in calico printing is held during the third term, the work comprising experiments in the different styles, discharges, resists, printing with diazo compounds, aniline black, indigo, &c.

## D. Colour Chemistry Laboratories

The laboratories are spacious buildings provided with every facility for the conduct of chemical work upon colouring matters. The work carried out comprises the following subjects:

(a) Analysis of colouring matters and their intermediate products; ( $\phi$ ) preparation of coal tar derivatives and colouring matters; (c) researches upon artificial and natural colouring matters, directed to the determination of their constitution, discovery of new groups, the solution of technical problems, &c.

# Practical Cloth Finishing

Mr. W. LAW

The work of this course, which will demonstrate the operations of scouring, crabbing, milling, drying and tentering, raising, brushing and steaming, cutting and pressing, will be carried out in the Finishing Shed of the Textile Industries Department, in the third term, and will occupy three hours weekly.

# E. Clothworkers' Research Laboratory

#### **RESEARCH WORK**

Special facilities are provided for the conduct of original research in the chemistry of artificial and natural colouringmatters, and upon dyeing processes. The laboratory is a spacious one and well equipped for carrying out scientific and technical investigations in these subjects. Post graduate and other advanced students are admitted to research work under the direction of the Professor, and will find an extra year thus spent greatly to their future advantage. Graduates of other Universities (British or foreign), and other qualified chemists, may also obtain admission as research workers for any period desired.

# Special Fees for Apparatus, Chemicals and Dyeing Materials

To cover cost of materials and loan of special or large apparatus, fourth year degree students are required to pay  $\pounds_3$  3s., third year degree students  $\pounds_2$  2s., second year degree students 105 6d., third year diploma students  $\pounds_1$  115. 6d., and second year diploma students  $\pounds_1$  15. per session. Part time students from 105. 6d. to  $\pounds_1$  115. 6d. per session, according to time worked. All ordinary apparatus, however, must be provided by the student.

Students can only start work after production of receipts for these amounts respectively.

#### Museum

The museum of natural and artificial dyestuffs and textile fibres is open to students daily.

# LEATHER INDUSTRIES

# Assisted by the Skinners' Company of the City of London and by Members of the Leather Trades

# Professor McCandlish. Mr. Atkin Mr. Thompson

The course of study aims in the first instance at familiarising students, both by information in lectures and by practical handling of the material, with the principles and details of the tanning process, and the reasons why particular modes of treatment produce particular effects. This knowledge once gained, the student is in a position to judge of the causes of defects, and the changes which it is necessary to make to prevent or remedy them or to modify the leathers produced in such a way as may meet the requirements of the trade. Methods of chemical and microscopical analysis are taught and practised for determining the purity and value of the various materials employed, and for controlling the different stages of the tanning process. In the latter part of the course, students are encouraged to attempt the practical production of leathers in which they are interested. and to study the smaller details of the processes. Particular attention is paid to leather dyeing and the manufacture of coloured leathers, and small quantities of almost all kinds of leather are produced of commercially saleable quality.

The Laboratories are open during the session from  $9.30 \text{ a.m. to 1 p.m., and from 2 to 5 p.m. except on Saturday afternoons. No student is admitted to work until he has satisfied the Professor by examination or otherwise that he has a sufficient knowledge of general chemistry to enable him to profit by special work.$ 

Experiments in actual leather manufacture on a small scale are also carried on in such a way as to illustrate as far as possible the subject matter of the lectures, and to show the effect of variations in the processes. These are, when possible, supplemented by visits to works where the manufacture is carried on.

All the more important kinds of leather are made and finished in the experimental tannery and workshops from the raw materials, with the assistance of the students; and opportunities are given to those who are sufficiently advanced to work upon branches of manufacture in which they are specially interested, or to undertake scientific research in connexion with the trade.

There is also an Honours and M.Sc. course for graduates and advanced students, consisting principally of research work under the direction of the Professor and his assistants, with a special course of lectures on the Physics and Chemistry of the subject; and advanced students and others are admitted for independent research at reduced fees.

All the ordinary chemicals (except silver nitrate and alcohol) and small quantities of skin and leather for experimental purposes will be furnished by the Department, but larger quantities required for special experiment or research may be charged to, or provided by, students at the discretion of the Professor. A certain amount of laboratory apparatus must be purchased by the student, who will also be held accountable for breakage of apparatus belonging to the University.

## LECTURE COURSES

#### I. Physics and Chemistry of Leather Manufacture

## (Honours and M.Sc. course)

Lectures on Tuesdays and Thursdays, at 10 a.m. (or at a time to be arranged) throughout the session.

#### II. Materials used in Leather Manufacture

Lectures on Tuesdays and Thursdays, at 11 a.m. throughout the session.

#### III. Principles and Methods of Leather Manufacture

Lectures on Mondays, Wednesdays and Fridays, at 11 a.m. throughout the session.

#### IV. Analytical Chemistry of Leather Manufacture

Lectures on Saturdays, at 11 a.m. throughout the session.

These lectures will supplement the analytical textbooks in use in the Leather Industries Laboratories.

## Leather Industries

#### V. Technical Microscopy, Bacteriology and Mycology

Lectures and practical work at times to be arranged, during the third term.

# VI. Practical Leather Manufacture

# (for Elementary Students)

Demonstrations on Mondays, Wednesdays and Fridays, at 10 a.m. throughout the session.

Sole Leather; Dressing Leather; Light Leathers.

## VII. Practical Leather Manufacture

## (for Advanced Students)

Demonstrations in Workshops, Thursdays, 2-5 p.m. throughout the session.

In addition to work on the practical scale comprising all the principal kinds of commercial leather, the students themselves will conduct small individual experiments on special points of leather manufacture. A course in dyeing will be held, beginning with the dyeing of small samples and proceeding to the colouring and finishing of whole skins.

#### Text Books (which must be purchased by the student).

PROCTER'S Leather Industries Laboratory Book (E. & F. N. Spon Ltd.) PROCTER'S Principles of Leather Manufacture (E. & F. N. Spon Ltd.) PROCTER, STIASNY and BRUMWELL'S Leather Chemist's Pocket Book (E. & F. N. Spon Ltd.)

BENNETT'S Manufacture of Leather (A. Constable & Co. Ltd.) PROCTER'S The Making of Leather (Cambridge University Press)

# SCHEMES OF STUDY

The following schemes are arranged so as to give students the fullest advantage of the instruction provided by the University, and must generally be adhered to. Time is allowed, however, for taking up additional subjects, and special courses may be arranged for students who can satisfy the Vice-Chancellor and the Professor that they already have adequate knowledge of some of the subjects included. Some preliminary acquaintance with actual leather manufacture is very desirable before taking the University courses, and in no case is University training an adequate substitute for practical experience in actual manufacture, though it usefully supplements it, and greatly lessens the time which is necessary to its acquirement.

Students are not admitted to advanced courses unless they have sufficient elementary knowledge to follow them with advantage.

Degrees in Science of which particulars are given below are conferred in connexion with Leather Manufacture. Before beginning courses for Degrees, students must have passed the Matriculation examination of the Joint Board of the Northern Universities, or obtained exemption therefrom. A Diploma in Leather Manufacture, for which matriculation is not required, is also given by the University.

A one-year course for Honours or M.Sc. can be arranged for students who have already graduated.

# Scheme I. Three Years' Course for Ordinary B.Sc.

# First Year (Intermediate)

• Preparation for Intermediate examination in Physics and two of the following: Mathematics, Chemistry, Zoology, Botany.

An additional subject, selected from the list of Intermediate subjects given in the Calendar, must also be presented at some Intermediate examination during the course.

#### Second and Third Years

Preparation for Final examination in Chemistry, and Chemistry of Leather Manufacture. Approved courses on Physics and Engineering must also be attended.

	1	First	Year		Per	week.
General Course	of Chemi	stry (	Chem.	Int.)	 3	hrs.
Chemical Labor	atory		• • • •		 12	""
Physics Interme	diate				 3	,,
Physics Laborat	ory				 3	,,
Mathematics In	termediat	е			 3	,,
German or Fren	ch Intern	nedia	te		 3	"
Leather VI (Pra	ictical Lea	ather	Manufa	(cture)	 3	3 *

### Leather Industries

Second Year*		Per	week.
Chemistry F2 (Inorganic)		3	hrs.
Chemistry F3 (Organic)		3	,,
Chemical Laboratory (Inorganic and Organic)		I 2	• •
Engineering IIA		3	,,
Materials used in Leather Manufacture (L II)	• • • •	2	,,
Analytical Chemistry of Leather Manufacture (L.	IV)	1	,,
Leather Laboratory		II	,,

#### Third Year

Chemistry F1 (Inorganic)	Per v	hrs	•
Principles and Methods of Leather Manufacture			
(Ľ. III)	3	"	
Microscopy and Bacteriology of Leather Manu-			
facture (L. V)			
Practical Leather Manufacture (L. VII)	3	"	
Leather Laboratory	20	,,	

# Scheme II. Four Years' Course for B.Sc. with Honours

#### First Year

The Intermediate course for the Ordinary degree.

#### Second Year 1

The second year course for the Ordinary degree, except that Chemistry F1 is taken instead of Engineering IIA.

#### Third Year

The third year course for the Ordinary degree, except that Chemistry  $H_3$  is taken instead of Chemistry  $F_1$ .

#### Fourth Year 2

Engineering IIA., Leather I and Research in the Chemistry of Leather Manufacture.

<sup>\*</sup>Candidates applying for exemption from the Intermediate course must also apply for the substitution of Leather VI for Eng. IIA. in the second year course.

 $<sup>^1\!</sup>Candidates$  applying for exemption for the Intermediate course must also apply for the substitution of Leather VI for Chemistry F1 in the second year course

<sup>2</sup>Candidates may take Chemistry H $\tau$  in either the third or fourth years of their course, but this is not compulsory.

# Scheme III. Course for Diploma in Leather Manufacture

This course, extending over three years, is suitable for those who intend to become technical managers in leather works, and is recommended to sons of tanners and others who require a practical knowledge of the science and technology of the industry, but are unable to take a degree course. Though not actually prescribed in the course, the study of a modern language, especially of German, is extremely important, and time is allowed for taking it as an extra subject.

A candidate for the Diploma is required :---

- I. During the Course-
  - (a) To attend satisfactorily the classes in the subjects prescribed for the Diploma course.
  - (b) To reach a satisfactory standard in the terminal examinations in subjects prescribed for the Diploma course. A candidate who fails to reach a satisfactory standard in any subject in a terminal examination may, if still in attendance at the University, present himself for re-examination in that subject in a subsequent term without repeating attendance at the course, and if he reaches a satisfactory standard in such re-examination, will be qualified to take the Diploma examination at the end of the course.
  - (c) To send in writing to the Clerk to the Senate not later than March 1st of the last session of the course, notice of his intention to become a Diploma candidate, with (i) a statement of the position which he has reached in every class examination throughout the course, and (ii) the prescribed fee of  $\pounds_3$ .

# II. At the end of the Course-

(a) To reach a satisfactory standard in any Final examination which may be set.

# Leather Industries

- (b) To translate into English a passage of French or German technical literature. A foreign student who can show that he has received a good general education will be exempted from this language test.
- *III.* A Diploma may be granted upon a degree course provided that the subjects studied for the degree include those prescribed for the Diploma, and that the other conditions are complied with. In such case the fee for the Diploma is  $f_{a}r$ .

A student producing evidence of adequate previous scientific or practical training, may, upon application to the Senate, be exempted from a portion of the normal course and may qualify for the Diploma upon a shortened period of study.

First Year	Per	week.
General Course of Chemistry (Chem. Int.)	3	hrs.
Chemical Laboratory	18	39
Mechanical Drawing	3	,,
Leather Industries Workshops (L. VI)	3	"
Second Year	Per	weck.
Chemistry F <sub>3</sub> (Organic)	3	hrs.
Materials used in Leather Manufacture (L. II)	2	••
Analytical Chemistry of Leather Manufacture (L. IV)	I	>>
Chemical Laboratory (Organic)	6	,,
Leather Industries Laboratories and Workshops	18	,,
Third Year	Per	week.
Principles and Methods of Leather Manufacture		
(L. III)	3	hrs.
Technical Microscopy and Bacteriology (L. V)	Ŭ	
Engineering IIA	3	,,
Leather Industries Laboratories and Workshops	0	
(including Leather VII)	20	"

#### SHORTER COURSES

Shorter courses of study may be arranged for students possessing considerable knowledge of chemistry who cannot afford the necessary time for a degree or diploma course.

# AGRICULTURE

Professor Seton							
Mr.	HAYDON	Mr. Strachan	Mr. ROBERTSON				
Mr.	MCMILLAN	Mr. Lynn	Mr. H. THOMPSON				
Mr.	JOHNSTON-WAR	LLACE	Mr. Bowes				
Mr.	GODDEN	Mr. Comber	Dr. HANLEY				
Mr.	CLARKSON	Mr. Dodd	Dr. RUSTON				
Mr.	MILLARD	Mr. Bennett	Miss Scott				
Mr.	Burr	Mr. TAYLOR	Mr. H.W. THOMPSON				
Mr.	PARTON	Miss Mein	Mr. Galt				
Mr.	Eves	Mr. Lodge	Mr. Johnson				
Mr.	Copley	Mr. REDINGTON	Miss McKerrow				
Miss	MCGLASHAN	Mr. ANSTEY	Mr. WALKER				
Dr.	GILLIGAN	Mr. RICHARDSON	Dr. Ewing				
Mr.	ARCHIBALD						

The Winter Course in the Department of Agriculture will begin on Monday, October 10, 1921, when the Vice-Chancellor will admit students from 9.30 a.m. to 12.30 p.m., and also from 2 to 4 p.m. All students are expected to register their names on this day.

Lectures will begin on Tuesday, October 11.

The Winter Course extends over two terms: the first term begins October 10, and ends December 17, 1921; the second term begins January 9, 1922, and ends March 18, 1922.

The Summer Course extends over the third term, which commences April 19, and ends July 1, 1922. Lectures will begin on April 19 at 9 a.m.

Fee for the Winter Course  $\pounds_{20}$ , for the Summer Course  $\pounds_{10}$ .

The University reserves the right to revise the fees specified at any time, whether in the case of new students or those who have already begun their courses.

Students taking the course for the degree of B.Sc., are required to enrol on October 3, when the session opens for all students for degrees in Arts and Science. The conditions as to fees and attendance will be found in previous pages.

# Agriculture

## ADMISSION OF STUDENTS

The classes and laboratories are open to men and women on the same terms. Special arrangements are made for the convenience of women students.

No day students are admitted under the age of sixteen years. Students under seventeen years of age will be required to pass an entrance examination.

It is recommended that applicants for admission should have spent at least one year on an approved farm before entering the Department of Agriculture.

Candidates for admission to the University who are under nineteen years of age, and who have been at a school or other educational institution within one year of their application for admission, are required to produce a certificate of good conduct from the head of such institution.

Applications for admission to the University from persons residing out of the United Kingdom, must in all cases be accompanied by certificates of good conduct duly authenticated. Indian students are, in addition, required to produce certificates of identity, which should also, as a rule, be furnished by students from foreign countries.

All students are required, prior to admission, to sign a declaration that they will observe the statutes, ordinances, and regulations of the University for the time being in force.

# COURSES OF STUDY

The courses of study in Agriculture at the University are:

- 1. A general course designed without reference to the requirements of any examining body.
- 2. A course for the National Diploma.
- 3. A course for the B Sc. Degree.

# I and II.- General and National Diploma Courses Winter Course

Students may obtain a complete course during two sessions, and are free to devote the spring and summer months to practical farm work.

The instruction has been arranged to meet the requirements of young men who intend to become farmers, land agents, valuers, or teachers of agricultural science. The Diploma course extends over three winters and one summer term. Students can take a General Course which extends to two winters. The Diploma course prepares students for the examination\* for the National Diploma in Agriculture, awarded jointly by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland. Students are also prepared for the examination of the Surveyors' Institution.

The University of Leeds is among the places of professional education which have been accepted by the Surveyors' Institution. The effect of this recognition is that students of the University who have taken the two years' course in Agriculture are admitted to the examinations of the Institution in Sub-Division I, "chiefly Land Agency," without the usual period of pupilage in a land agent's or surveyor's office. Students preparing for the above examination are advised to attend in their last year a short course of lectures on Agricultural Law which may be arranged.

A course of lectures on Agricultural Economics, which all Agricultural Students are recommended to attend in their second or third year, may also be arranged.

The Agricultural Chemical Laboratory will be open on special terms to those who wish to devote their whole time to agricultural chemical analysis.

All students taking a full course will be required to follow closely the work at the University Farm at Garforth, including field operations, methods of feeding stock, and progress of experiments, and for this purpose students must attend regular classes at the Farm, where class-rooms and laboratories are provided, in which classes will be conducted when necessary.

Students will be required to pay their railway fares to and from Garforth.

### Summer Course

This course is for students who can devote the summer as well as the winter months to study. It will extend from April 19 to July 1, 1922. It should be

<sup>\*</sup> Regulations for this Examination may be obtained from The Secretary, Royal Agricultural Society of England,  $\tau 6$ , Bedford Square, London, W.C.

# Agriculture

attended, if possible, by all students, but is compulsory for those Students taking the course for the National Diploma in Agriculture, who are required to attend it in their first year.

The subjects will comprise Dairying, Chemistry, General Botany, Agricultural Botany, Horticulture, Poultry Keeping, Surveying and Levelling, and Practical Agriculture.

		FILS	t year	vv inter	Course		
	9 to 10.	10 t0 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Tutorial.	Physics & Mechanics	Chemistry		Chemi	cal Labora	tory.
TUE.	Agric.	Natural	History.		Physic	al Laborat	or <b>y</b> .
WED.	Agric.	Geology.			F	arm Clas	s.
THU.	Agric.	Physics & Mechanics	Tutorial.	34	Geolog	ical Labor	atory.
FRI.	Chemistry	Natural	History.	Geology.			
Sat.							ii.

# TIME TABLES

#### First Year Winter Course

# Second Year Winter Course.-A

[For Students taking the National Diploma in Agriculture.]

	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Chemistry (1st Term) Eng. (2nd Term).	Agric.	Botany.		Farm Im Chemistry (2nd Term)	plements a (1st Term).	t Farm
TUE.	Book- keeping.	Chemistry	Book- keeping.		Agric.	Zoology.	
WED.	Chemistry (2nd Term)	Chemistry (1st Term) Eng. (2nd Term).	Chem. La	boratory.			
Тнυ.	Chemistry (2nd Term)	Chemistry (1st Term) Eng. (2nd Term).	Agric.	Zoology.	Surveying	Buildgs. & Implmnts.	
FRI.		Surveying	Agric.	Botany.	Chemi	cal Labora	tory.
SAT.		Agric.	Botany.				
# Courses in Technology

## Second Year Winter Course.-B

[FOR STUDENTS TAKING THE GENERAL COURSE.]

	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Agric.		Ag. Chem.	Book- keeping.	Agric	ultural Bo	tany.
Tur.	Vety. Hg.	Agric.	Book- keeping.		F	arm Clas	s.
WED.	Agric.	Vety. Hg.	Ag. Chem.		Agric.	Chem. La	boratory.
Тни.	Agric.						
FRI.	Vety. Hg.	Agric.	Ag. Chem.		F	arm Clas	s.
SAT.	Vety. Hg.	Agric.	Chem. La	boratory.	- 11		

## Third Year Winter Course

[FOR STUDENTS TAKING THE NATIONAL DIPLOMA IN AGRICULTURE.]

	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Agric.	Agric.	Chem. La	boratory.			
TUE.	Vety. Hg.	Agric.	Ag. Chem.		F	arm Clas	s.
WED.	Agric.	Vety. Hg.	Ag. Chem.				
THU.	Agric.	Agric.	Chem. La	boratory.			
Fri.	Vety. Hg.	Agric.	Ag. Chem.		F	arm Clas	s.
SAT.	Vety. Hg.	Ag. Chem.				**	

#### Summer Course

[Compulsory in case of Students reading for National Diploma in Agriculture.]

	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Gen. and	Agric.	Botany.		Botany or	Farm Ex	cursion.
TUE.	Horti- culture.	Surveying	General	Botany.	Surveyin	g Field or office.	diawing
WED.	Dairying.	Poultry- keeping.	Surveying	÷	Surveyin	g Field or office.	drawing
Тнυ.	Dairying.	General	Botany.		Surveyin	g Field or office.	drawing
FRI.	Dairying.	Poultry- keeping.	General	Botany.	Chemistry	Chem. La	boratory.
SAT.	Chemistry	Chem, La	boratory.		4.4	**	

# Agriculture

#### III.—Degree Course

Students who intend to present themselves for the B.Sc. degree will not enter the Agricultural Department until they begin the work for the Final examination. Before beginning the Intermediate course, students are required to consult the Professor of Agriculture with regard to their proposed course of study and their previous experience of farm work. The fees and time tables for the Intermediate and Final examinations are the same as for all students of Science, viz.

Inter	mediate		£41
Ist	Year Fin <mark>a</mark>	1	£45
2nd	>>		£45
	0. 1		

For the B.Sc. degree, Students must pass three examinations, viz. :--- MATRICULATION,

INTERMEDIATE,

FINAL.

Candidates for the B.Sc. degree are ordinarily required to have completed not less than three years of study in the University, all of which must be subsequent to the date of passing, or obtaining exemption from, the Matriculation examination.

During the two years' study for the Final examination, students will be required to spend at least six months at the University Farm, Garforth, where each student must conduct an experiment on some Agricultural subject and present a report on the same.

TIME	TABLES	of	Agriculural	Classes	for	Degree	Students
			First Year	Final			

	9 to 10.	10 to 11,	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.				Ag. Chem.			
TUE.	Agric.		Ag. Chem.		Agric. Z	oology.	
WED.	Agric.		Agric. B	otany.	Fa	rm Cla	SS.
Тни.	Agric.	Ag. Chem.	Ag. Bot. Agric. Z	oology.	Agric. C	hem. Labo	ratory.
FRI.	Ag. Chem.	Agric.	- 44	- 10			- 44 U
SAT.	Agric. C	hem. Labo	ratory.				

# Courses in Technology

## Second Year Final

	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 3.	3 to 4.	4 to 5.
Mon.	Agric.						
TUE.		Agric.				••	
WED.	Agric.						
THU.	Agric.	11,		Ag. Chem.	Agric. C	hem. Labo	ratory.
FRI.		Agric.	Ag. Chem.		12.		
SAT.	Agric. C	hem. Labo	ratory.				

## SYLLABUSES

# FIRST YEAR

# Agriculture

Lectures on Tuesdays, Wednesdays and Thursdays, at 9, by Professor Seton or Assistant.

SUBJECTS.—Agriculture and its relation to the sciences.

Soils; Manures; Rotations; Seeds, Grasses, and Pastures.

# Chemistry

Mondays at 11 a.m., and Fridays at 9 a.m., by Mr. Clarkson.

SUBJECTS.—Chemistry so far as is sufficient to enable students to appreciate the importance of this science in relation to Agricultural practice.

# Physics and Mechanics (2A)

Mondays and Thursdays, at 10 a.m., by Dr. Ruston.

SUBJECTS.—Physics and Mechanics so far as is sufficient to enable students to appreciate some of the applications of these sciences to Agricultural practice.

# Natural History

Botany.—During first term only, Tuesdays and Fridays, 10 a.m. to 12 noon, by Mr. Bennett.

## Agriculture

SUBJECTS.—Elementary facts of the structure of plants; simple experiments on plant physiology.

Zoology.—During second term only, Tuesdays and Fridays, 10 a m. to 12 noon, by Mr. Thompson.

SUBJECTS.—Elementary facts of structure of the higher animals; the use and mechanism of special organs; drawing : the use of the microscope.

# Agricultural Geology

Lectures on Wednesdays at 10 a.m., and Fridays, at 12 noon, by Dr. Gilligan. Practical work Thursdays, from 2 to 5 p.m.

# **Tutorial Classes**

Mondays at 9 a.m., and Thursdays at 11 a.m., by Dr. Ruston.

SUBJECTS.—Correspondence, Calculations, Elementary Mathematics preparatory to Book-keeping, Surveying, and Engineering.

# \*Chemical and Physical Laboratory

Mondays and Tuesdays, from 2 to 5 p.m. by Mr. Clarkson and Dr. Ruston.

Selected experiments arranged to illustrate the Chemical and Physical principles underlying Agricultural operations. These will include the preparation of the elements of special interest to agriculturalists, and experiments leading up to a correct knowledge of the nature, properties, composition, and use of soils, manures, and feeding stuffs.

# Practical Agriculture

Wednesday afternoons at Garforth.

SUBJECTS.—Stock. Stock-feeding. Estimation of weights of crops and animals. Pastures and pasture plants. Practical examination of seeds, manures and feeding stuffs.

<sup>\*</sup>Apparatus is provided for the use of students, but a deposit of 10s. must be paid to cover the cost of breakages. Any balance remaining at the end of the session will be refunded.

Seasonable operations will be closely followed; different systems will, so far as practicable, be illustrated, and the reasons for the variations explained. Students will be required to follow closely stock-feeding and other experiments at Garforth.

# SECOND AND THIRD YEARS Agriculture

Lectures Mondays, Wednesdays and Thursdays at 9 a.m., and Tuesdays and Fridays at 10 a.m.

SUBJECTS.—Foods and Feeding Stuffs; Crops and Cropping; Live Stock; Horses; Cattle; Sheep; Pigs; Labour and Implements; Agricultural Economics.

# Chemistry

#### Second Year, Course "A"

Mondays at 9 a.m. (1st Term only) and 2 p.m. (2nd Term); Tuesdays at 10 a.m., Wednesdays and Thursdays at 10 a.m. (1st Term) and 9 a.m. (2nd Term), by Mr. Godden and Mr. Comber.

SUBJECTS.—Chemical combination. The atomic and molecular theories. Atomic and molecular weights. Quantitative chemical notation. Valency of the elements. General characteristics of the solid, liquid, and gaseous states of matter. Liquefaction of gases. Solution. Mass action. Transformation of chemical energy into other forms and vice verså. Classification, distribution, and functions in nature and the arts of the chemical elements. The chemistry of the more common elements and of their most important compounds. Chemistry of carbon and of some typical carbon compounds important in Agriculture. Chemistry of Fermentation.

# Agricultural Chemistry Third Year

Lectures, Tuesdays, Wednesdays and Fridays at 11 a.m., and Saturdays at 10 a.m. by Mr. Godden and Mr. Comber.

SUBJECTS.—The Plant; the Soil; Manures; Crops; Animal Nutrition; Dairying; Chemistry of Insecticides and Fungicides.

# Agriculture

# Agricultural Chemistry Second Year General Course

Lectures on Mondays, Wednesdays, and Fridays, at 11 a.m. by Dr. Hanley.

SUBJECTS.—A more elementary course based upon the foregoing syllabus and adapted to suit the requirements of students who have not received the full preliminary training in Chemistry of the Diploma Course.

# Chemical Laboratory

Second Year, Course "A<sub>\*</sub>"—Wednesdays, 11 a.m. to 1 p.m., and Fridays, 2 to 5 p.m.

Second Year, Course "B."—Wednesdays, 2 to 5 p.m.; Saturdays, 10 a.m. to 1 p m.

Third Year.-Mondays and Thursdays, 10 a.m. to 1 p.m.

The laboratory work for all classes is arranged to be supplementary to and illustrative of the lectures.

# Agricultural Botany

## Diploma Course

Mondays, 10 a.m. to 12 noon; Fridays, 11 a.m. to 1 p.m.; and Saturdays, 10 a.m. to 12 noon, by Miss Scott.

## Agricultural Botany

#### General Course

Mondays, 2 to 4.30 p.m., by Mr. Bennett.

# Agricultural Zoology (Zoology) Diploma Course

Tuesdays, 2 to 4 p.m., and Thursdays, 11 a.m. to 1 p.m., by Mr. Taylor and Mr. Thompson. (Lectures and laboratory work.)

SUBJECTS.—Structure and life history of insects; spiders, mites and ticks; centipedes and millepedes; worms; slugs and snails. Remedial and preventative measures. Sprays and spraying machines. Natural checks to the increase of insects—birds, small mammals, &c.

#### Courses in Technology

## Book-keeping

# Diploma and General Courses

Mondays at 12 noon and Tuesdays at 9 and 11 a.m. by Dr. Ruston.

SUBJECTS.—Accounts, Day Book, Cash Book, Ledger, Balance Sheet, Profit and Loss Account, &c.

Cost of Labour in connection with stock, cultivation, cropping, harvesting, &c.

# Veterinary Hygiene

# Second year General and Third Year Course

Tuesdays, Fridays and Saturdays at 9 a.m., and Wednesdays at 10 a.m., by Mr. Bowes.

SUBJECTS.—Anatomy and Physiology of farm animals. Recognition of diseases affecting farm animals. Means of preventing disease, including ventilation, drainage, judicious feeding, grooming. Nature of heredity, contagion, infection.

# Practical Agriculture

## Tuesday and Friday afternoons.

Classes at the Farm on the same lines as for first year students, with the addition of practical demonstrations by Mr. Bowes on conformation, handling, &c., and generally the application of veterinary hygiene to farm animals.

## Farm and Estate Engineering

#### Diploma Course

#### (A.) Surveying

Thursdays, 2 to 3 p.m. and Fridays, 10 to 11 a.m., by Mr. Archibald.

These lectures are intended for students who have attended the course of Surveying in the summer term.

#### (B.) Farm Buildings, Implements, and Machinery

Thursdays at 3 p.m. and Monday afternoons (1st term) at Garforth, by Mr. Archibald.

#### Agriculture

#### (C.) Agricultural Engineering

Mondays at 9 a.m., Wednesdays and Thursdays at 10 a.m., in the Second Term by Mr. G. S. Richardson.

SUBJECTS.—Power Transmission; Boilers; Steam, Gas, Oil and Petrol Engines; Hydraulics; Windmills; Costs and Working Expenses.

# Agricultural Economics

A short course may be given in the Economics and Statistics of Agriculture, chiefly in the United Kingdom. The course will deal with the principles of rent, the forms of land tenure, and the returns of acreage, stock, and output of Great Britain and Ireland.

One hour a week in the second term, at a time to be arranged.

# Agricultural Law

A course of lectures of one hour a week during one term may be given at times to be arranged, on the Law of Landlord and Tenant.

This course is intended for students in the Agricultural department who propose to present themselves for the examinations of the Surveyors' Institution in Sub-Division I, "chiefly land agency."

#### SUMMER COURSE

## Agriculture

A study of the practical operations and experiments at the Manor Farm, Garforth.

# Inorganic Chemistry

Fridays at 2 p.m., and Saturdays at 9.30 a.m., by Mr. Clarkson.

Continuation of First Year Winter Course.

Introduction to qualitative and quantitative analysis.

# General and Agricultural Botany

Mondays, 9 a.m. to 12 noon; Tuesdays and Fridays, 11 a.m. to 1 p.m.; and Thursdays, 10 a.m. to 12 noon, by Miss Scott and Mr. Bennett.

# Horticulture

Tuesdays at 9 a.m., by Mr. Galt.

SUBJECTS.—The Soil of the Garden; Manures and Lime; Vegetable Crops; Fruit Culture.

# Poultry Keeping

Wednesdays and Fridays at 10 a.m., by Mr. Parton.

# Dairying

Wednesdays, Thursdays and Fridays, at 9 a.m.

# Surveying

Tuesdays at 10 a.m., and Wednesdays at 11 a.m.; and Tuesdays, Wednesdays and Thursdays, 2 to 5 p.m., by Mr. Archibald.

# COUNTY LECTURES, DAIRY INSTRUCTION, &c.

The County Councils of the three Ridings of Yorkshire make annual grants to the University to enable it to carry out a system of instruction on subjects connected with Agriculture, and to give practical instruction also in Dairywork at various centres.

# County Lectures

Each course consists of five or ten Lectures given in the evenings at intervals of one week. Each Lecture may be followed by a class at which questions may be asked of the Lecturer. Before the University enters into any arrangements with a locality for the delivery of such a course of Lectures, a Local Committee must be appointed with a secretary to correspond with the University. The Local Committee will be required to guarantee a certain average attendance, also the local expenses, consisting of hire of hall, advertising, &c. With these exceptions the Lectures will be given free.

The Lecturer in Forestry at the Armstrong College, Newcastle-on-Tyne, is available for Lectures in Forestry at approved Centres in the three Ridings of Yorkshire.

# Agriculture

# District Classes in Agriculture

Extended Courses of Instruction in Agriculture and allied subjects for farmers' sons, labourers, etc., will be conducted by the District Lecturers in Agriculture at approved centres in the three Ridings.

#### District Classes in Poultry Keeping

Extended courses of practical instruction in Poultry Keeping will be conducted, at approved centres in the three Ridings, during the Summer months.

Communications with reference to these Classes should be addressed to "The Professor of Agriculture, The University, Leeds."

# Advisory Work

Members of the Staff of the Department of Agriculture of the University are prepared to give technical advice to farmers, horticulturists, poultry-keepers, etc., and to undertake the investigation of local problems.

Provision is made for the determination of fat and other solids in new milk.

Communications, with reference to Advisory work, milk testing, etc., should be addressed to "The Professor of Agriculture, The University, Leeds."

# Dairy Instruction

The Dairy School at Garforth is open for practical instruction from April to October. Three courses each of six weeks' duration are usually given in Butter and Soft Cheese making.

The Fee for the course is  $\pounds_5$ . Board and Lodging are provided in the Hostel at Garforth for women students for the period of six weeks for the sum of  $\pounds_7$ .

Single Demonstrations on Butter-making may be given during the winter months, and 10 days' Classes in Cheesemaking may be conducted during the summer.

# Field Experiments

The University undertakes the laying out and supervision of Field Experiments to illustrate the principles of Agricultural and Horticultural practice.

Reports on these experiments may be had on application to the Professor of Agriculture.

# Instruction in Horticulture in Schools in the East and West Ridings

The University supervises the instruction in School Gardens connected with various Day and Evening Schools in the East and West Ridings.

# Teachers' Saturday Training Courses in Horticulture

A course of Horticulture and Experimental Plant Physiology will be conducted on Saturdays at the University and the Manor Farm, Garforth, commencing 24th September, 1921, and concluding about the following June. The class is for qualified teachers intending to teach the subject of Horticulture.

A similar course will also be conducted at Bentley (nr. Doncaster), and possibly at one or two other Centres.

Special fee for the course,  $\pounds_3$  3s. od.

# Instruction in Farriery

Instruction in Horse Shoeing has been provided for and takes the form of Practical Demonstrations in the making of shoes and the shoeing of horses in smithies easily accessible to apprentice smiths in different localities. The work is so arranged that the apprentices attend one afternoon or evening in each week during the period the Instructor is in attendance. The Classes are preceded by a public Lecture on the Foot of the Horse and the Principles of Horse Shoeing, and at the conclusion of the Lecture those smiths who intend to join the Practical Class are asked to give in their names.

	9—10	10—11	11—12	12—1	2—3	3—4	4—5
Mon.			Zoology Int. a	Chemistry Lab.	Chemistry Int. a	Chemistr	y Lab.
TUE.	Phys. Int. x	Practical (10-	Zoology 12)	Phys. Int. a	Botan 2nd	y Int. a (2 & 3rd ter	-5) in ms.
WED.		Bot. Int.a 2nd & 3rd	(10-12) in terms.	Chemistry Lab.			
Тну.	Phys. Int. x	Practical (10-	Zoology 12)	Phys. Int. a	Chemistry Int. a		
Fri.			Zoology Int. a	Chemistry Lab.	Chemistry Int. a	Chemistr	y Lab.
SAT.	Phys. Int.x						

Course for the First Examination in Medicine

Times of Attendance in the Physics Laboratory will be arranged at the beginning of the session.

This course will meet the requirements of students preparing for the First examination in Medicine (M.B., Ch.B.), for Parts I and II of the First examination in Dental Surgery (B.Ch.D.) of the University of Leeds or for the Conjoint Board Examinations (L.R.C.P. and M.R.C.S.). It includes lectures in Chemistry, Physics, Biology (Zoology and Botany), with the requisite attendance in the Chemical, Physical, and Biological laboratories.

Composition fee for the course (including Library and Union fees)  $\pounds_{41}$ .

Students preparing for the Preliminary examination in Science for the Diploma in Dental Surgery, will attend classes in Physics and Chemistry as above during the first and second terms. Fee (including Library and Union fees),  $\pounds_{25}$ , but students who elect to continue attendance in the third term will be charged an additional  $\pounds_7$ .

## Time Table

# THE SCHOOL OF MEDICINE

#### Session 1921-1922

#### UNIVERSITY TERMS

The University session or academic year in the School of Medicine is divided into three terms. The first term begins on Monday, October 3, 1921, and ends on Thursday, December 22, 1921; the second term begins on Thursday, January 12, 1922, and ends on Wednesday, March 22, 1922; the third term begins on Thursday, April 20, 1922, and ends on Saturday, July 1, 1922.

## ADMISSION OF STUDENTS

Students will be enrolled at the School of Medicine for courses of instruction from 12 (noon) to 1 p.m., on October 3 and 4, 1921; and on April 20 and 21, 1922. The Fees due must be paid at the same time. The Composition Fee or the first instalment is payable at the commencement of the Long Vacation term of the *first* year at the University.

The Dean is generally in his office in the School of Medicine from 12 (noon) to 1 p.m. daily, and can be seen at other times by appointment.

Applications to attend the instruction on Infectious Diseases at the Leeds City Hospitals, and to attend instruction in Vaccination, must be lodged with the Dean in the first week of each term.

Inquiries relating to hospital attendance should be addressed to the Clinical Sub Dean, 27, Park Square, between the hours of 12 noon and 1 p.m.

Every student is required on entering the School to sign the following declaration :

I, the undersigned, being a student in the School of Medicine of the University of Leeds, hereby undertake to comply with all rules and regulations of the University, and to conduct myself on all occasions in an orderly manner. I fully understand that no allowance whatever will be made, and that I have no claim upon the Council of the University in respect of any fees paid by or due from me, in case such fees are forfeiled by any irregularity or misconduct on my part.

## Composition Fees

Students pursuing the first year's course of study are admitted at College Road according to the arrangements published on page 113

#### FEES

Except where otherwise stated, cheques are to be made payable to the University of Leeds.

The University reserves the right to revise the fees specified below at any time, whether in the case of new students or those who have already begun their courses.

All students are required to pay a Registration Fee of  $\pounds 2$ , when their application for admission to the University is accepted.

Students who entered in 1919 or earlier will be charged the Composition Fees in force in October, 1919.

## FEES FOR COURSES OF INSTRUCTION

Fees for classes and the Practice of the Infirmary are payable in advance, and, except for Post graduate and Miscellaneous Courses, may be paid either in the form of a composition fee or separately for each course of lectures, &c.

#### I. Composition Fees

	t.	5.	u.
A. Complete course as in Section I below, for First Examination (or preliminary scientific (M.B.) of University of London), inclusive of Library and			
Union rees	41	0	0
B After completing A One complete course as in			
Sections a and a and the practice of the			
Sections 2 and 3 and the practice of the			
Infirmary—			
If paid in one sum on entrance	174	0	0
If paid in instalments-			
Ôn entrance	60	0	0
	00	0	0
One year after entrance	60	0	0
Two years after entrance	45	0	0
Three years after entrance	25	0	0
	-5	-	-
C. After passing Second Examination. One complete			
course as in Section 3 and the practice of the			
Infirmary	120	0	0
Infinitiary	130	0	0
In addition to C a Union fee of $f_2$ per annum is			
payable.			
The privileges under B and C extend to eight and			

six years respectively.

# 380 School of Medicine

If additional courses are rendered necessary through failure in examination or unsatisfactory attendance a fee of  $\pm 3$  per term will be charged for each subject.

2. Se	parate	Fees (	(M. B.,	, Ch. B.	etc.)	
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Section I (Ist Exam.)—		£	s.	d.
Physics, Lectures		8	0	0
Physics, Laboratory		6	0	0
Chemistry, General Course of Lectures		10	0	0
Chemistry, Laboratory		16	0	0
Zoology		14	0	0
Botany	• •	7	10	0
Section - (and Town)				
Section 2. (2nd Exam.)-				
Descriptive Anatomy—				
General Course	• •	12	0	0
Use of Dissecting Room, with tutorial instructio	n,			
during attendance on the Anatomical Cours	se,			
covering five terms	••	15	0	0
Physiology-				
General Course	• •	13	0	0
Practical, Part B	• •	9	0	0
C and D	• •	6	0	0
Exper. Pharmacology	• •	6	0	0
Practical Pharmacy and Pharm.cology	• •	11	0	0
Section 3. (Final Exam)				
Pharmacology and Therapeutics		-	0	0
Pathology and Bacteriology (Lectures and		5	0	0
Practical)		T.4	0	0
Medicine (including a second course and Clinic	al	-4	Ŭ	0
Medicine)		0	0	0
Surgery (including Clinical Surgery)		ģ	0	0
Practical Surgery		6	0	0
Obstetrics £8 0 0] If paid at any tim		~	~	~
Gynaecology $f_5$ o of II paid at one th	ne	9	0	0
Forensic Medicine		8	0	0
Ophthalmology and Otology	••	5	0	0
Mental Diseases	•••	5	0	0
Public Health	• •	5	0	0
Infectious Diseases	••	3	10	0
Vaccination	• •	2.	10	0
Intern Matern.	¢ 7	3	10	0
Recapitulatory Courses-				
All subjects except Vaccination and Dissection	n n			
for three months	, iii,	2	ò	0
	•••	2	-	-

# Fees for Examinations

Dissecting Room or Physiological Laboratory-	£	s.	d.
Use of, with tutorial instruction, for every			
during the two years subsequent to the			
General Course	4	0	0
In other circumstances—			
For three months	5	0	0
For six months	9	0	0

# 3. Post Graduate and Miscellaneous Courses

	£	s.	d
Clinical Pathology	. 4	4	0
Medical Pathology	. 3	3	0
Surgical Pathology	• 3	3	0
Operative Surgery	. 4	14	6
For D.P. Health-			
Chemistry	. IO	10	0
Practical Bacteriology and Pathology	. 10	10	0
Lectures in Public Health	. 3	3	0
Tropical Medicine	. 3	3	0
Special Course at Infectious Diseases Hospital .	. š	8	0
in Sanitation (M.O.H., Leeds) .	. 15	15	0

# 4. Fees for Examinations

Fees in connection with Matriculation are payable to the Secretary, Joint Matriculation Board, 315, Oxford Road, Manchester.

			For first For subseq					equent			
The Fees are :			examination.				examination.				
			£	s.	d.		£	s.	d,		
Matriculation	11.	11	2	0	0	$\mathbf{x}$	I	10	o*		
Registration of an External Matricu-											
lation Certificate			2	0	0						
First M.B			6	0	0		3	0	0		
Second M.B.			6	0	0	• •	3	0	0		
Final M.B.			6	0	0	1.1	3	0	0		
Degree of Ch.M.			7	0	0		3	0	0		
, on confe	erment		7	0	0		-				
Degree of M.D											
On application			7	0	0						
On conferment			7	0	0						
Diploma in Public Health	h—										
Part I			6	6	0	1.1	4	4	0		
Part II			6	6	0		4	4	0		
Diploma in Psychological	Medici	ne	6	6	0		3	ò	0		
for each part											

\*A student who has failed in the July examination in any year will be admitted to the September examination of the same year only on the payment of this fee.

#### School of Medicine

#### Refectory

A well-appointed Refectory, which is open daily, excepting Saturdays, has been provided in the School of Medicine. It is under the combined management of the Board of the Faculty of Medicine and of the Students' Representative Council. Luncheon is served from 12 (noon) to 2 p.m. Tea, coffee, and light refreshments may be obtained until 5 p.m.

#### LIBRARY

#### Honorary Librarian : Emeritus Professor J. B. HELLIER

The Library contains a valuable collection of books, composed of the united libraries of the School of Medicine and of the Leeds and West Riding Medico-Chirurgical Society. The Library of the Old Infirmary, rich in medical classics, became the property of the School of Medicine in 1865.

The Library is supplied with most of the modern works of importance, and the chief English and foreign periodicals.

#### MUSEUMS

The MUSEUM OF PATHOLOGY contains, in addition to preparations illustrating the ordinary pathological processes, many rare specimens, some of historical interest. It draws largely for its supply from the General Infirmary, as well as from other institutions in the City. A collection of microscope sections from specimens in the Museum is available for the use of students on application.

A complete type collection of MATERIA MEDICA specimens is also placed here for the convenience of students.

The ANATOMY MUSEUM AND BONE ROOM adjoins the Dissecting Room, and has been fitted up, under the direction of the Professor of Anatomy, with a valuable collection of specimens specially arranged for study, which are also used in illustration of the lectures on Anatomy. Amongst them are a complete set of bones marked with the muscular attachments, and mounted in revolving cases ; and several series of wax models, illustrating the development of the fœtus.

# DEGREES IN MEDICINE AND SURGERY

The Degrees in Medicine and Surgery shall be :

Bachelor of Medicine and Bachelor of Surgery Ordinance (M.B. and Ch.B.)

Doctor of Medicine (M.D.)

Doctor of Philosophy (Ph.D.)

Master of Surgery (Ch.M.).

# Degrees of Bachelor of Medicine and Bachelor of Surgery

1. Candidates for the degrees of Bachelor of Medicine and of Surgery are required to present certificates showing that they will have attained the age of twenty-one years on the day of graduation, and that they have attended courses of instruction approved by the University extending over not less than five years, two of such years at least having been passed in the University, at least one year being subsequent to the date of passing the First examination.

During the first four years, a year of medical study must Regulations include attendance upon at least *two* of the prescribed courses of lectures or laboratory work, or one such course and hospital practice, in each term, if that year is to count as part of the degree course. In the fifth year clinical work will suffice. The attendance must be given at the University or at a college, medical school, or hospital recognised by the University.

2. Candidates for the degrees of Bachelor of Medicine Ordinance and of Surgery are required to satisfy the Examiners in the several subjects of the following examinations, entitled respectively:

The Matriculation examination, or such other examination as may have been recognised by the Joint Matriculation

## 384 Degrees in Medicine and Surgery

Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham in its stead; the First examination; the Second examination; the Final examination.

Regulations Except as provided below, candidates must present themselves and pass in all the subjects of any part of an examination at the same examination. But candidates who have failed (a) in Chemistry or Physics at the First examination for the degrees of M.B. and Ch.B., or (b) in Anatomy or Physiology at the Second examination for the degrees of M.B. and Ch.B., or (c) in any subjects of Part II and III of the Final examination for the degrees of M.B. and Ch.B. may be exempted from re-examination in such part of the examination as the combined Examination Committee may determine. Provided that this exemption shall not be allowed except at the examination next following that at which such candidates have failed when presenting all the subjects.

#### First Examination

Ordinance

3. The First examination shall consist of two parts :

PART I. Physics Chemistry.

PART II. Zoology Botany.

4. Candidates, before presenting themselves for the First examination, are required to furnish certificates of having attended courses of instruction in accordance with the Regulations of the University, and to have passed the Matriculation examination.

5. Students who have passed the Higher School Certificate examination of an approved examining body in one or more of the following subjects : Chemistry, Physics, Zoology, Botany, will be exempted at the first M.B. examination in such subject or subjects, provided that an approved alternative course of study has been taken in their first year at the University and provided that, as a result of terminal examinations or otherwise, they obtain and submit satisfactory reports of their work from the Heads of the Departments concerned at the end of such courses. 6. Candidates who have passed the Intermediate examination for the degree of Bachelor of Science in Chemistry, Physics, Zoology, and Botany, will, on payment of the required additional fee, be regarded as having passed the First examination for the degrees of Bachelor of Medicine and Bachelor of Surgery.

7. The names of candidates who have satisfied the Examiners in either part of the First examination shall be published in alphabetical order.

Candidates for the First examination are required to Regulations furnish certificates of having attended approved courses of instruction at the University or at an institution recognised for this purpose by the University; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.

The courses of instruction shall be as follows :

- I. Chemistry, Inorganic and Organic: lectures and laboratory work: at least one year.
- 2. Physics: lectures and laboratory work: at least one year.
- 3. Zoology: lectures and laboratory work: at least one year.
- 4. Botany : lectures and laboratory work : at least two terms.

The examination will include laboratory work in the four subjects. Candidates may pass in each part separately.

Students who have passed the Higher School Certificate examination in Chemistry must include more advanced Chemistry in their alternative course of study, but alternatives to Physics may be chosen from any department of study approved by the Deans of the Faculties of Science and Medicine. Students who have passed the Higher School Certificate examination in Physics or Chemistry and also in Zoology or Botany or both these latter subjects will only be granted exemption from the subjects of Zoology and Botany in the First M.B. examination provided (1) that the plan of study followed at school in preparation for the Higher

#### Degrees in Medicine and Surgery

School Certificate examination in these subjects is considered by the Senate to correspond sufficiently to the courses required at the University and (2) that an approved alternative course in special Zoology be taken at the University.

This examination is held in each session in June and September. The last date of entry and payment of fees will be MARCH 1st and AUGUST 1st.

#### Second Examination

Ordinance

8. The Second examination shall consist of two parts :

PART I. Anatomy Physiology.

#### PART II. Pharmacy.

9. Candidates, before presenting themselves for the Second examination, are required to furnish certificates of having attended courses of instruction in accordance with the Regulations of the University, and to have passed the First examination.

10. The names of candidates who have satisfied the Examiners in either part of the Second examination shall be published in alphabetical order.

Regulations

Candidates for the Second examination are required to have passed the First examination, and to have attended complete courses of instruction, approved by the University, in Anatomy and in Physiology during four terms; in Materia Medica and in Pharmacy for one term. The certificates must shew (1) that dissection has been practised during five terms at least<sup>1</sup>; (2) that laboratory instruction, approved by the University, has been received in Physiology; (3) that practical instruction, approved by the University, has been received in Materia Medica and Pharmacy.

## Subjects of examination

PART I.

Anatomy. Candidates may, at the discretion of the Examiners, be required to perform actual dissection.

Physiology includes laboratory work in Physiological Chemistry, Histology, and Experimental work.

<sup>1</sup> Work in the vacations is counted as one term, if sufficient.

PART II.

Practical Pharmacy. Candidates will be required to recognise drugs, and to compound medicines.

Candidates may pass in each Part separately.

Candidates who fail to satisfy the Examiners in Part I or Part II must before being readmitted to examination produce evidence of having pursued such further study as may have been required by the Examiners.

N.B.—This examination is held in each session in December and June.

#### Final Examination

11. The Final examination shall consist of three parts :

Ordinance

PART I. Pathology and Bacteriology

This may be taken at the end of the 10th term.

PART II. Forensic Medicine Public Health.

PART III. Medicine

Surgery Obstetrics and Gynæcology Pharmacology and Therapeutics.

Parts II. and III. may be taken at the end of the 15th term, either separately or together.

12. Candidates, before presenting themselves for any part of the Final examination, are required to have passed the Second examination, and to furnish certificates of having attended courses of instruction, in accordance with the Regulations of the University.

13. The names of candidates who have satisfied the Examiners in the first part of the Final examination shall be published in alphabetical order.

14. The names of candidates who have satisfied the Examiners in all the subjects of the Final examination, and are recommended for degrees, shall be published as follows :

- I. Those awarded First Class Honours
- 2. Those awarded Second Class Honours
- 3. Those who have satisfied the Examiners.

The names shall be in alphabetical order in each case.

## Degrees in Medicine and Surgery

#### Certificates of attendance

Regulations

Candidates, before presenting themselves for any part of the Final examination, are required to have passed the Second examination, and to have completed the tenth term of medical study. Candidates, before presenting themselves for the second or third part of the Final examination, are required to have passed the first part of the Final examination and to have completed the fifth year of medical study. Candidates must furnish certificates of having attended courses of instruction approved by the University, in the University, or in a medical school recognised for this purpose by the University, in the subjects in which they offer themselves for examination.

Candidates are required to furnish certificates as follows :

A. Of having attended courses of instruction, approved by the University, in the University or in a medical school or hospital recognised for this purpose by the University, in the following subjects :

- 1. Pharmacology and Therapeutics, one term.
- 2. Pathology and Bacteriology, three terms.

The certificate in Pathology and Bacteriology must in all cases testify that the candidate has attended a course of laboratory instruction in these subjects, approved by the University.

- 3. Forensic Medicine, one term.
- 4. Public Health, one term.
- 5. Obstetrics and Gynæcology, two terms.
  - The certificate in Obstetrics and Gynæcology must in all cases testify that the candidate has attended a course of practical instruction approved by the University, in the use of obstetrical and gynæcological instruments.
- Surgery, three terms; Practical Surgery, two terms; Ophthalmology, one term.
- 7. Medicine, four terms.

The certificate in Medicine must in all cases testify that the candidate has attended, during one term in each case, courses of instruction approved by the University in (a) Mental Diseases : (b) Infectious Diseases.

- B. In respect of Hospital work.
  - 1. In Medicine and Surgery, of having attended the medical and surgical practice of a hospital or hospitals, approved by the University, during at least two and one-half years, of which years two at least must be subsequent to the date of passing the Second examination, except when exemption has been granted by the Senate, after report from the Board of the Faculty of Medicine. Clinical Medicine, two years of clinical lectures. Clinical Surgery, two years of clinical lectures.
  - 2. In Pathology and Morbid Anatomy, of having attended during at least twelve months demonstrations in the post-mortem room of a hospital, including practical instruction.
  - 3. In Obstetrics, (a) of having attended during not less than one month the indoor practice of a lying-in hospital or the lying-in wards of a general hospital approved by the University, and (b) of having personally conducted not less than twenty cases of labour, subsequently to having acted as surgical dresser and clinical clerk.
    - The certificate must in all cases (a) testify that such attendance has been given under the direct supervision of a medical officer of the hospital, and (b) regarding the personal conduct of cases of labour, be signed by a member of the staff of a hospital or a maternity charity.
  - 4. In Gynæcology, of having, during at least three months, received in either a general or a special hospital, approved by the University, such clinical instruction in the diseases peculiar to women as shall be approved by the University.
  - 5. Of having received clinical instruction in diseases of the eye, ear, throat, and skin.
  - 6. Of having received instruction in the administration of anæsthetics.
  - 7. Of having acquired proficiency in vaccination.

## Degrees in Medicine and Surgery

- Of having acted as a surgical dresser for six months, as a clinical clerk for six months, and as a clerk for three months in the post-mortem room of a hospital recognised by the University.
- N.B.--This examination is held in each session in December and June.

# Detailed subjects of examination

#### PHARMACOLOGY AND THERAPEUTICS.

PATHOLOGY AND BACTERIOLOGY.

- Candidates will be examined practically on Bacteriology, Pathological Anatomy, Histology, and Chemistry.
- FORENSIC MEDICINE AND TOXICOLOGY AND PUBLIC HEALTH.
  - Candidates may be required to determine the character of stains and stained fabrics, microscopically and chemically, and to recognise poisonous articles of the materia medica.
- Obstetrics and Gynæcology: Systematic, Clinical and Practical.
  - Candidates will be required to show their practical acquaintance with obstetrical and gynæcological manipulations and instruments by the use of the phantom or otherwise, and will also be examined on museum preparations.
  - Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

SURGERY: SYSTEMATIC, CLINICAL, AND PRACTICAL.

- Candidates will be examined on the use of surgical instruments and apparatus, and on museum preparations; they may also be required to perform operations on the dead body.
- Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.
- MEDICINE: SYSTEMATIC AND CLINICAL, INCLUDING MENTAL DISEASES AND DISEASES OF CHILDREN.
  - Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

In determining the award of Honours account will be taken of the results of the Second examination.

Candidates who fail to satisfy the Examiners in any subject of the examination must, before being re-admitted to examination, produce evidence of having pursued such further study as may have been required by the examiners.

# Degree of Doctor of Medicine

Ordinance I. No candidate shall be admitted to the degree of Doctor of Medicine unless he has previously received the degrees of

Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examination for those degrees.

2. Candidates for the degree of Doctor of Medicine are required to present a dissertation. The dissertation, of which the subject must previously have received the approval of the Board of the Faculty of Medicine, and which must embody the results of personal observations or original research, either in some department of medicine or of some science directly related to medicine, provided always that original work, published in scientific journals or in the Proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the Candidates may be required to write a short degree. extempore essay on some topic connected with medicine. They may also be examined orally on the dissertation or other work submitted. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been accepted by the Senate.

3. The names of candidates who have been approved for the degree of Doctor of Medicine shall be published in alphabetical order.

Candidates for the degree of Doctor of Medicine are Regulation required to furnish three copies (printed or type-written) of the dissertation or published work which they desire to submit, together with any drawings or specimens which may be necessary for their illustration. These copies shall be sent in to the Clerk to the Senate at least six weeks before dates fixed for Final M.B. examinations. They will be retained by the University.

# Degree of Doctor of Philosophy

(See pages 176-178).

# Degree of Master of Surgery

1. No candidate shall be admitted to the degree of Master Ordinance of Surgery unless he has previously received the degrees of Bachelor of Medicine and Bachelor of Surgery, and at least one year has elapsed since he passed the examination for those degrees.

2. Every candidate, before presenting himself for the examination for the degree of Master of Surgery, is required to have graduated as Bachelor of Medicine and Bachelor of Surgery, and to furnish certificates of attendance in accordance with the Regulations of the University.

3. Subjects of Examination: Surgical Anatomy Surgery Operative Surgery Clinical Surgery Ophthalmology Pathology and Bacteriology.

4. The names of candidates who have satisfied the Examiners shall be published in alphabetical order.

Regulations

Candidates, before admission to the examination for the degree of Master of Surgery, are required to furnish certificates which shall be deemed satisfactory by the University that they, since taking the degree of Bachelor of Medicine and of Surgery, have held, for not less than six months, a Surgical appointment in a public hospital or other public institution affording full opportunity for the study of Practical Surgery.

Candidates proposing to present themselves for this examination are required to give notice, in writing, to the Clerk to the Senate and pay the fee on or before June 1st.

Candidates for the degree of Master of Surgery are also required to furnish certificates :

- Of having attended a special course of instruction on Operative Surgery, approved by the University, and of having personally practised the principal surgical operations on the dead body.
- Of having attended a systematic course of instruction, including practical work, approved by the University, on Bacteriology.
- 3. Of having attended a course on Ophthalmology, and of having received instruction in Ophthalmic Surgery approved by the University.

# I. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

#### PHYSICS

Professor WHIDDINGTON, Lecturers and Demonstrators.

#### Intermediate Course

If necessary, four parallel Intermediate courses will be given, known as Int. a, Int. b, Int. c, and Int. x.

Medical students are recommended to attend Int. a or Int. x if possible.

It is very desirable that students taking these courses should have an elementary knowledge of Algebra, Trigonometry and Mechanics.

The following subjects will be treated in an elementary manner, illustrated by experiments: Electricity, Magnetism, Sound, Light, Heat, and Properties of Matter.

Suitable text books will be recommended by the lecturer.

The Physical Laboratory is open daily. Students' times of attendance are arranged at the beginning of the session, and must not be altered subsequently without permission.

#### CHEMISTRY

# Professor SMITHELLS, Professor COHEN, Lecturers and Demonstrators.

#### I. First M.B.

This course will consist of lectures on Monday, Thursday and Friday, at 2 p.m.

#### **II.** Practical Chemistry

During the session, on Monday, 12 to 1 p.m. and 3 to 5 p.m.; Wednesday, 12 to 1 p.m.; and Friday, 12 to 1 p.m. and 3 to 5 p.m.

N

#### III. Organic Chemistry

During the session, at 12 noon, on Tuesday, Thursday and Saturday.

## IV. Practical Organic Chemistry

During the third term, 4 hours per week.

(Classes III and IV are suitable for the examination in Organic Chemistry for the London M.B.)

#### V. Sanitary Chemistry

For practitioners who are preparing for a diploma or degree in Public Health. During the second and third terms, on Tuesday and Thursday from 2 to 5 p.m. The hours are subject to re-arrangement.

N.B.—For students who wish to take additional practical work of whatever kind, the Chemical Laboratory is open daily from October to June inclusive.

#### ZOOLOGY

#### Professor GARSTANG, Lecturers and Demonstrators.

#### BOTANY

#### Professor PRIESTLEY, Lecturers and Demonstrators.

Medical Students preparing for the First examination of the University of Leeds, or other Licensing Body, take the courses specified on pages 288 and 291.

Lectures on Zoology during the session on Monday and Friday at 11 a.m. Practical work in the Zoological Laboratory throughout the session on Tuesday and Thursday mornings (10 a.m. to 12 noon). Lectures and practical work on Botany during the second and third terms only on Tuesday at 2 to 5 p.m., and on Wednesday at 10 a.m. to 12 noon.

Each student will be required to provide himself with a microscope (suitable also for his subsequent studies), a dissecting case, a biological drawing book, and some simple instruments for microscopic work.

Microscopes may be had on loan from the University at the rate of 15s. each per session for elementary work, and 21s. each per session for advanced work.

First M.B. students can obtain the loan of microscopes for their courses in both Zoology and Botany at the rate of 15s. each per session.

These fees must be paid in advance to the Accountant immediately after the student has arranged with the Laboratory Steward for the loan of a microscope.

## II. COURSES HELD IN THE SCHOOL OF MEDICINE

#### ANATOMY

#### I. Systematic and Descriptive Anatomy

## Professor JAMIESON

Mondays, Wednesdays and Fridays, at 9.30 a.m., during the session (Tuesdays, Thursdays, Saturdays in fourth term).

The general course of lectures begins in the Long Vacation term and extends over this term (July), the first, second and third terms of the second year, and the first term of the third year. For students who cannot begin their anatomical studies till the winter, special arrangements are made to enable them to follow the lectures with profit.

Systematic tutorial classes are held in connection with the above courses, and attendance on these is obligatory.

#### **II.** Practical Anatomy

## Professor JAMIESON and Demonstrators

The dissecting room is open daily from 9.30 a.m. till 5 p.m., (Saturday until 12.30 p.m.). Special instruction is given to all students who are about to present themselves for examination, particularly to those preparing for the higher examinations, such as University degrees and the Primary F.R.C.S., Eng.

Only those students are admitted into the Dissecting-room who have entered for the Anatomy course, or who have paid the fee for the use of the room.

#### III. Applied Anatomy

The class meets on Monday and Thursday at noon, during the first and third terms, in the Anatomy Theatre. It is intended for senior students and for qualified practitioners.

## PHYSIOLOGY AND BIO-CHEMISTRY.

## Professor RAPER, Dr. McDowall., Mr. WINFIELD and Demonstrators

## I. General Course

A. During the first term on Tuesdays, Thursdays, and Saturdays, at 9.30 a.m. During the second and third terms on Tuesdays, Fridays and Saturdays, at 9.30 a.m.

B. Senior lectures during the first term on Mondays, Wednesdays ane Fridays.

#### II. Microscopical Demonstrations

Held at 11 a.m. every Saturday during 1st, 2nd, and long vacation terms to all students attending courses of Physiology.

## III. Practical Physiology

A. Introductory Course.—first term, Tuesdays and Thursdays, at 10.30 a.m.

Students are required to provide themselves with

(a) A good microscope, which is to be submitted to the approval of the Professor, who will be glad to assist students in the choice of an instrument. Students will not be allowed to attend the class unless provided with a suitable instrument.

(b) Accessories : scissors, forceps, needles in handles, slides and coverglasses, &c.

B. Practical Histology.—During the third term, on Monday, Wednesday and Friday, 10.30 a.m. to 12.45 p.m.

C. Chemical Physiology.—During the second term, on two afternoons a week, and during the first term of the third year on one afternoon per week.

D. Experimental Physiology.—During the first term, in the third year, on two afternoons per week.

#### IV. Practical Physiology for Dental Students

A three months' course for Dental Students preparing for the Diploma in Dental Surgery, which will include Histology, Dental Microscopy, and the elements of Chemical Physiology.

# V. Chemical Physiology

A special course of lectures for candidates taking this as an elective subject for the B.Sc. with Honours in Chemistry. Time to be arranged.

#### VI. Physiological Demonstrations and Catechetical Classes

These classes are held regularly during the session at such times as are found most convenient.

#### VII. Recapitulatory Class

Short laboratory courses for the repetition of laboratory work are formed in the second and third terms, and will meet twice a week, usually in the morning.

#### The Physiological Laboratories

These laboratories are open daily for research. Special instruction is arranged for those preparing for Honours courses and Higher examinations (F.R.C.S. Eng., &c.).

# PATHOLOGY AND BACTERIOLOGY

Professor Stewart, Dr. McLeod, Dr. McAdam and Demonstrators

## I. General Course in Pathology and Bacteriology for Medical Students

Tuesday, Wednesday and Friday, from 12 noon to 1.30 p.m. during each Term.

This course begins in the second term of the session and consists of lectures, with correlated practical work. General Pathology is taken during the second term, when the subjects dealt with are the vascular disturbances, the degenerations, inflammation and repair, atrophy, hypertrophy, new growth, etc. In the third and first terms General and Special Bacteriology, the Pathology of Bacterial Diseases, and Systemic Pathology are taken up.

Each student must be provided with a good microscope, having an oil immersion lens and a condenser, and with the usual accessories, or he will not be permitted to attend the class.

## II. Tutorial Classes in Medical, Surgical and General Pathology

will be held from time to time as may be arranged.

III. Bacteriology for D.P.H. (See page 407)

# IV. Bacteriology for Science Students

Held in the second term at hours to be arranged. It comprises both lectures and practical work.

#### V. Agricultural and Technical Bacteriology

Instruction may also be given, by arrangement, in Agricultural and other Technical Bacteriology.

#### VI. The Laboratories of Pathology and Bacteriology

are open daily for research work.

In this department the various bacteriological and pathological investigations required by county and municipal authorities and by private practitioners are carried out.

## PRINCIPLES AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE

# Professor GRIFFITH, Clinical Lecturers and Demonstrators

The lectures are given by Professor Griffith at 9 a.m. during the second and third terms. Students attend during both terms in their first year after passing the second M.B. examination, and in the following year they attend again during the third term.

Tutorial classes are held by the Demonstrator at hours which are arranged.

Clinical Medicine : This course is given in the first term at 9 to 10 a.m. on Wednesday.

#### SURGERY

The Lectures in Systematic Surgery will be given by the Assistant Surgeons of the Infirmary on Tuesday and Saturday, at 9 to 10 a.m., during the second and third terms.

# CLINICAL SURGERY

#### Professor Sir Berkeley Moynihan

A course of lectures chiefly Clinical is given in the first term at 9.10 a.m. on Tuesday. Attendance upon them is required as part of the course of instruction in Surgery, and they do not take the place of the ordinary Clinical lectures given by the surgeons at the Infirmary.

## PRACTICAL SURGERY

Mr. Dobson

Monday and Thursday at 12 noon, during the second and first terms.

# **OPERATIVE SURGERY**

#### Mr. Collinson

Classes will be formed for the performance of operations on the dead body, under the superintendence of the lecturer at times to be arranged. As all the important operations will be done by the students, every opportunity will be given for gaining practical experience in this branch of surgery.

# OBSTETRICS

Professor Croft

Monday, Wednesday and Friday, at 9 a.m. during the second term at 9 a.m.

Tutorial classes are also held from time to time.

The necessary facilities for clinical instruction in Obstetrics are given by the Leeds Maternity Hospital.

#### **GYNÆCOLOGY**

#### Dr. Oldfield

Tuesday, Friday and Saturday, at 9 a.m. in the third term.

# PHARMACOLOGY AND THERAPEUTICS

Dr. TELLING and Demonstrator

Monday, Wednesday and Friday, at 4 p.m. during the second term.

# PHARMACY

Mr. Gough

In July, at hours to be arranged. Subjects :

(a) Materia Medica.

(b) Practical Pharmacy.

The first hour is given to demonstrations and tutorial teaching in Materia Medica, the remaining time being devoted to Practical Pharmacy.

#### PUBLIC HEALTH

Professor JERVIS

Wednesday and Saturday, at 9 a.m., during the first term. N.B. For candidates for degrees or diplomas in Public Health, the course is supplemented by additional lectures.

## FORENSIC MEDICINE

#### Professor EURICH

Monday, Tuesday, Thursday, and Friday at 9 a.m. during the first term.

#### OPHTHALMOLOGY

# Mr. LEE

Monday, Thursday and Friday at 9 a.m. during half of the first term.

## OTOLOGY

Mr. BAIN

Monday, Thursday and Friday at 9 a.m. during half of the first term.

# MENTAL DISEASES

#### Professor Bolton

Systematic lectures are given at the School of Medicine on Thursday and Friday at 4 p.m., and clinical lectures and demonstrations at the West Riding Asylum, on Tuesday, at 3 p.m., during the third term.

# Hospital Practice

# HOSPITAL PRACTICE

I. While for the Leeds M.B. degree two and one-half years' hospital practice are required, for certain degrees three years' hospital practice is necessary, and one of these should be taken before the Second examination has been passed. Students intending to take such degrees should enter their names upon the Infirmary Register at *the beginning of the third year of their studies in medicine*. Failure to do this will prevent them from completing the necessary attendance by the time when they would normally present themselves for the Final examination. For the degree of the University of Leeds students enter their names at the beginning of the eighth term.

2. In order to be entered upon the Infirmary register students must first interview the Clinical Sub-Dean (Dr. Vining) at 31, Park Square, from whom advice can be obtained in arranging their work at the Infirmary.

3. The attention of students is directed to the necessity for carefully arranging, beforehand, the time at which they propose attending at the Fever hospital, as during the period of such attendance they are excluded from the surgical, ophthalmic and gynæcological wards and cannot act as maternity clerks.

Full information as to clinical instruction and appointments offered to students is contained in the prospectus of the School of Medicine.

# Leeds General Infirmary

The medical and surgical practice required by medical students is taken at this institution, which offers abundant opportunities for clinical study. Situated in the centre of a densely populated manufacturing and mining district, and drawing patients also from a wide surrounding area, its wards present an ample field for the study of diseases and injuries. The concentration of medical, surgical, gynæcological, ophthalmic, aural, children's and skin diseases in one hospital leads to much economy in time and labour to the student.

The nature of the work done in the Leeds Infirmary makes the clerkships and dresserships of great value, and the
resident appointments involve so much practical work and personal responsibility as to give the holders a very varied and valuable experience.

## Leeds Public Dispensary

About 35,000 medical and surgical cases are treated annually, partly as out-patients, and partly at their own homes. There are one senior and four junior resident medical officers.

The practice of the Dispensary is open to any student on application to one of the honorary staff.

# Leeds City Fever and Small Pox Hospitals

Students are admitted at the Leeds City Hospitals (Medical Superintendent, Mr. A. E. Pearson) on having obtained sanction from the Dean of the Faculty of Medicine, subject to such regulations as may be made from time to time by the Leeds City Council.

Students must abide by the rules laid down as to disinfection and other matters, and must satisfy the Corporation authorities that they are sufficiently protected against smallpox by vaccination.

Courses lasting two months are held in each term on three afternoons in each week.

At the Small Pox hospital a minimum period of one week's residence may be required with payment in advance of 12s. a week for board and lodging.

The hospitals are not open to students during April, August, and September. Clinical lectures and demonstrations on infectious diseases will be given by the Medical Superintendent of the hospitals, and the attendance of students at these lectures and on the practice must be completed during the term for which they enter.

Those desirous of attending the practice outside the ordinary classes or clinical instruction, and not requiring a certificate of their attendance, must apply for permission to the Medical Officer of Health of the City of Leeds, at his office, 12, Market Buildings, Vicar Lane, between the hours of 10 and 11 a.m.

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### Hospital Practice

## Hospital for Women and Children

The wards contain 53 beds for the treatment of gynæcological and obstetric diseases. Students are eligible to attend the practice of the hospital in accordance with the University regulations. Two resident House Surgeons, who must be legally qualified, are appointed for periods of six months, with a salary at the rate of  $\pounds_{50}$  per annum with board. Two Anæsthetists, who must be legally qualified, are appointed annually. Each receives an honorarium of  $\pounds_{20}$  per annum. Honorary Clinical Assistants are also appointed by the Honorary Staff. These appointments are specially valuable to those wishing to do post graduate work in gynæcology.

## Leeds Maternity Hospital

The Maternity Hospital is attached to the University of Leeds for the purposes of clinical training in Obstetrics. There are 70 beds for cases of labour, and others for the treatment of morbid pregnancy. There is also an outpatient department and large extern districts.

## West Riding Lunatic Asylum, Wakefield

This institution, which accommodates 2,250 patients, offers unusual advantages to those who desire to make themselves conversant with the treatment and management of the insane. A hospital containing 330 beds has been provided for the treatment of acute insanity, and a separate home for 70 imbecile and idiot children has been lately opened. Clinical lectures and demonstrations are given at the Asylum by Professor J. Shaw Bolton, Medical Director of the Asylum.

## Instruction in Vaccination

This instruction is given under the control of the Local Government Board at the General Infirmary at Leeds, on Thursdays at 3 p.m., by the Instructor in Vaccination. Classes begin in October, February, and May. Each class consists of seven meetings, six of which must be attended, four of them consecutively. Not more than ten students can be admitted to any one class.

# DIPLOMA IN PUBLIC HEALTH

#### Regulations

The curriculum shall extend over a period of not less than nine calendar months.

The examination is held twice in each year, in June and December, under the following Regulations :

1. The examination is in two parts, and is written, oral, and practical.

2. Candidates, before entering for the first part of the examination, must have held for not less than twelve months a registrable qualification in Medicine, Surgery, and Midwifery, and must present satisfactory certificates,

- Of having attended an approved course of instruction in Public Health in the University, or in a college or medical school recognised for this purpose by the University; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.
- ii. Of having attended, after obtaining a registrable qualification, during at least six months practical instruction in laboratories approved by the University, the courses including Chemistry as applied to Public Health, Bacteriology, and the Pathology of those diseases of animals which are communicable from animals to man. At least 240 hours must be spent in laboratory instruction, of which not more than 120 may be devoted to Chemistry. Three months at least must be spent in attendance on courses in the University.

Candidates before entering the second part of the examination must present certificates,

iii Of having, after obtaining a registrable qualification, attended at least twice weekly during not less than three months the clinical and administrative practice of a hospital for infectious diseases approved by the University.

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Diploma in Public Health

iv. Of having, after obtaining a registrable qualification, during six months of not less than 60 working days (of which at least three months shall be distinct and separate from the period of laboratory instruction required under ii), been diligently engaged in acquiring a knowledge of the duties, routine and special, of Public Health administration under the supervision of (a) the medical officer of health of a county, or of a single or combined sanitary district having a population not less than 50,000, or (b) a medical officer of health devoting his whole time to Public Health work, or (c) a medical officer of health who is also a teacher in the Department of Public Health of a recognised medical school, or (d) a sanitary staff officer of the Royal Army Medical Corps having charge of an Army Corps, district or command, recognised for the purpose by the General Medical Council, or in charge of a Base District on Lines of Communication of a British Expeditionary Force, and holding a diploma in Public Health or other Public Health qualification, or (e) an assistant medical officer of health of a county or of a single sanitary district having a population of not less than 50,000, provided (1) the Medical Officer of Health of the county or district in question permits the assistant officer to give the necessary instruction and issue certificates or (2) that he himself held for a period of not less than three years an appointment as Medical Officer of Health of a sanitary district within the British Dominions, and having a population of not less than 15,000, or (f) of having attended during three months as required above, and during three months, after obtaining a registrable qualification, having attended a course or courses of instruction, approved by the University, in subjects bearing on Public Health Administration.

3. Part I is divided into five sections, as shown under "Subjects of Examination" below. Candidates may present themselves for Part I, Sections 1 and 2, Part I, Sections 3, 4 and 5, and Part II separately or at the same time, provided that no candidate be allowed to pass in Part II unless he has already passed in Part I. No candidate's name will be published until he has satisfied the Examiners in both Parts of the examination.

4. The fee for each part is  $\pounds 6$  6s., and must be paid at least fourteen days before the commencement of the examination. For any subsequent examination in the same part the fee will be  $\pounds 4$  4s.

Every candidate who has passed both parts of the examination, and who is legally registered, will receive a diploma in Public Health.

Medical Practitioners registered or entitled to be registered on or before January 1, 1890, may be exempted from producing the above required certificates of study.

#### Subjects of Examination

#### Part I (A)

I. CHEMISTRY AS APPLIED TO PUBLIC HEALTH :

Chemistry, with special reference to the examination of air and water. Methods of qualitative and quantitative analysis.

2. PHYSICS AS APPLIED TO PUBLIC HEALTH:

Elements of Heat, with special reference to warming, ventilation, and meteorology. Meteorological instruments and their use.

#### Part I (B)

3. ÆTIOLOGY OF DISEASE :

Pathology of epidemic and endemic diseases, including diseases of animals communicable to man. Influence of unwholesome food, air, water, occupation, dwelling, climate, season, soil.

4. PRACTICAL PATHOLOGY AND BACTERIOLOGY:

Practical Bacteriology, detection and cultivation of vegetable parasites, bacteriological analysis of air and water. Recognition of parasites and of the lesions which they produce in man. Recognition of diseased meat.

#### MICROSCOPY AS APPLIED TO PUBLIC HEALTH:

Foods, their adulterations, contaminations, and parasites. Air and water, their microscopical impurities.

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#### Part II

- I. ENGINEERING AS APPLIED TO PUBLIC HEALTH :
  - Water supply. Drainage, sewerage, and disposal of refuse. Construction of dwellings, schools, hospitals, including their warming and ventilation. Geological data referring to the above. Interpretation of plans.
- 2. SANITARY LAW AND ADMINISTRATION :
  - Domestic and general sanitation of houses, villages, and towns. Regulation of offensive, dangerous, or unhealthy trades and occupations. The prevention and control of epidemic disease by isolation, disinfection, vaccination, and other methods. Statutes and bye-laws relating to Public Health. The control of the food supply.

3. VITAL STATISTICS.

4. SANITARY REPORTING :

The candidate will be required to visit and report upon the sanitary condition of some locality assigned to him by the Examiners.

### COURSES OF INSTRUCTION FOR CANDIDATES PREPARING FOR DIPLOMA IN PUBLIC HEALTH

The following courses of instruction are arranged to prepare for the University diploma, and for those of other examining bodies:

**I. Public Health.** (See page 400).

**2. Sanitary Chemistry.** In the Chemical laboratory, College Road. (See page 286).

3. Bacteriology. This course is held at the School of Medicine from 2 to 5 p.m. on two days per week (Monday and Friday) during the second and third terms, and includes practical instruction in the pathology of those diseases of animals which are communicable from animals to man. (See Regulations of the University as to Diploma in Public Health). Fee,  $\pounds_1$  to 105.

4. Attendance at a Hospital for Infectious Diseases. A special course, including instruction in administration, is given in the Leeds City Hospitals in accordance with the requirements of the General Medical Council. Times of attendance to be arranged.

5. Practical Work in Sanitation. With the sanction of the Sanitary Authority of Leeds, the Medical Officer of Health arranges courses of six months' instruction in out-door and office sanitary work.

# DIPLOMA IN PSYCHOLOGICAL MEDICINE

#### Regulations

1. The examination is in two parts, and is written, oral and practical.

2. Candidates, before entering for the first part of the examination must produce evidence

- (A) I. Of being graduates in Medicine of at least one year's standing.
  - 2. Of having attended approved courses of instruction on the subjects of examination during six months at least after graduation.
  - 3. Of having acted as Clinical Clerk or Assistant Medical Officer in an Asylum, recognised for this purpose, for a period of at least six months.
  - 4. Of having attended a course of systematic instruction on the normal and morbid anatomy of the brain for a period of six months in the recognised laboratories of the University.

(2, 3 and 4 may be taken concurrently, and as evidence of (4) must be produced a laboratory note book record of practical work which has been regularly inspected and signed by a recognised teacher.)

- (B) 1. Of having acted as Assistant Medical Officer in an Asylum of not less than 500 beds for a period of at least two years.
  - 2. Of having attended a course of systematic instruction on the normal and morbid anatomy and histology of the brain for a period of six months in the recognised laboratories of the University

(As evidence of this must be produced a laboratory note book record of practical work which has been regularly inspected and signed by a recognised teacher.)

## Diploma in Psychological Medicine

3. In addition to the laboratory work under (2), or in lieu of three months thereof, candidates may submit a dissertation which must embody the results of personal observations or original research in relation to psychological medicine, provided always that original work, published in scientific journals, or in the proceedings of learned societies, or separately, shall be admissible in lieu of or in addition to a dissertation specially written for the diploma.

#### Subjects of Examination

PART I.

- (i.) The Development, Anatomy, Histology and Physiology of the Brain (Human and Comparative).
- (ii.) The Morbid Anatomy and Morbid Histology of the Brain from both theoretical and practical aspects.

PART II.

- (iii.) Psychology, with especial reference to the symptomatology of Mental Disease.
- (iv.) Clinical Psychiatry, Asylum Administration, and the Medico-Legal aspects of Insanity.

Candidates, in order to pass, must satisfy the examiners in the clinical part of the examination.

Candidates may present themselves for Parts I and II separately or at the same time, provided that no candidate be allowed to pass in Part II. unless he has already passed in Part I. No candidate's name will be published until he has satisfied the Examiners in both parts of the examination.

The fee for the examination is  $\pounds 6$  6s., and must be paid at least fourteen days before the commencement of the examination. For any subsequent examination the fee in each part will be  $\pounds_{3}$ .

Every candidate who has passed both parts of the examination and is legally qualified and registered, will receive a diploma in Psychological Medicine.

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# DIPLOMA IN NURSING

### Regulations

I. Each candidate who satisfies the examiners shall receive a Diploma, and shall be styled a Diplomate in Nursing, University of Leeds.

2. Before presenting themselves for examination for the Diploma, candidates must have completed four years' training in a General Hospital recognised by the University for the purpose, and shall have received a certificate to this effect.

3. Candidates shall furnish evidence of having attained an adequate standard in general education satisfactory to the University.

- 4. The four years' hospital training shall include—
- (a) Practical instruction and tuition in the following :---
  - i. Ward nursing, medical, surgical and special.
  - ii. The Principles of Surgical Technique and operation service.
  - iii. Bandaging and the preparation and use of splints and other appliances.
  - iv. Invalid cookery.
  - v. The feeding and management of infants.
  - vi. The Principles of Ward administration.
  - vii. Elementary urine testing.
  - viii. Preparation for autopsies.
- (b) Attendance on the following courses of Lectures and Lecture Demonstrations :-
  - i. The Principles and Practice of Nursing 20 lectures.

11.	Elementary	Anatomy	and	Physiol	logy	20	>>
iii.	Elementary	Medicine				I 2	,,
iv.	Elementary	Surgery				I 2	,,
v.	Elementary	Obstetric	s and	ł Gynæ	cology	8	
vi.	The manage	ement of i	nfan	cy and	child-		
	hood					6	
vii.	Elementary	Hygiene				8	
	1	10					77

Candidates shall furnish certificates of such attendance and of having passed satisfactorily a class examination in each subject. At least three months must be spent in attendance on courses in the University of Leeds (for this purpose lectures delivered in the Leeds General Infirmary shall be deemed to have been delivered in the University of Leeds). The number and the character of the courses shall be determined in each case by the University.

5. Candidates must also attend a Course of Lectures in the University of Leeds on Social Economics or some other approved subject.

6. A nurse may be registered as a candidate for the examination *at any time* after she has been accepted for full Hospital Training, upon

- (a) Payment of a registration fee of five guineas.
- (b) Producing the necessary evidence of general education.

7. The examination may be taken at any time after lodging the certificate of completion of training (as defined in paragraph 2), upon

- (a) Payment of a further fee of five guineas.
- (b) The production of the certificates of attendance upon the prescribed courses of lectures (paragraphs 4 and 5).

8. The examination shall be held twice annually, and shall be

- (a) By written papers.
- (b) In practical work.

(c) Viva Voce.

There shall be a written paper in each of the following subjects:—

- (a) The Principles and Practice of Nursing.
- (b) Elementary Medicine and Surgery.
- (c) Elementary Anatomy and Physiology.
- (d) Elementary Obstetrics and Gynæcology, the care of Infancy and Childhood, and Elementary Hygiene.

Enquiries as to fees, courses, &c., should be directed to the Dean of the Faculty of Medicine, or to the Matron of the Leeds General Infirmary.

# DEGREES IN DENTAL SURGERY

Ordinance

 The degrees in Dental Surgery shall be : Bachelor of Dental Surgery (B.Ch.D.) Master of Dental Surgery (M.Ch.D.)

## Degree of Bachelor of Dental Surgery

2. All candidates for the degree of Bachelor of Dental Surgery shall be required to have passed the Matriculation examination, to have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the University subsequently to the date of passing Parts I and II of the First examination, and to have completed such period of pupilage or hospital attendance, or both, as may be prescribed by the Regulations of the University. No candidate shall be admitted to the degree who has not attained the age of twenty-one years on the day of graduation.

3. All candidates shall be required to have passed the following examinations : The First examination, the Second examination, the Final examination.

4. Each examination shall include practical work in the subjects offered.

5. All candidates shall be required, before presenting themselves for examination, to furnish to the Registrar certificates testifying that they have attended the prescribed courses of instruction in accordance with the Regulations of the University in each of the subjects which they offer, and that they have fulfilled the other requirements of the Ordinance and Regulations in respect of such examination.

Regulation In each examination the names of candidates who have satisfied the Examiners shall be published in alphabetical order.

## First Examination

Ordinance

6. The First examination shall consist of three parts :

PART I. Physics Chemistry.

### Degrees in Dental Surgery

PART II. Zoology. Botany. PART III. **Dental Mechanics** Dental Metallurgy.

7. Candidates shall be allowed to pass in each part separately.

8. Candidates who have passed the Intermediate examination for the degree of Bachelor of Science, and have in that examination satisfied the Examiners in Chemistry, in Physics, or in Biology, shall, on payment of the difference between the fees required for the two examinations, be regarded as having satisfied the requirements of Parts I and II of the First examination for the degree of Bachelor of Dental Surgery, in those subjects in which they have passed.

9. Candidates shall be required, before presenting themselves for Parts I and II of this examination, to have passed the Matriculation examination, and to have attended courses of instruction in accordance with the Regulations of the University.

10. Candidates shall be required, before presenting themselves for Part III of this examination, to have completed two years from Matriculation, and to have attended courses of instruction in accordance with the Regulations of the University.

Candidates for the First examination are required to Regulations furnish certificates of having attended approved courses of instruction at the University or at an institution recognised for this purpose by the University; or of having attended, at some other institution, courses of instruction which shall be accepted by the University as equivalent.

- Ι. Chemistry, Inorganic and Organic; lectures and laboratory work : at least one year.
- Physics : lectures and laboratory work : at least one 2. year.
- Zoology: lectures and laboratory work: at least 3. one year.
- 4. Botany: lectures and laboratory work: at least two terms.

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The examination will include laboratory work in the four subjects. Candidates may pass in each Part separately.

Every candidate for Part III of the First examination shall be required to have spent two years in the Prosthetic Department of a recognised Dental or General Hospital, or in pupilage to a qualified and registered dental surgeon, and to have attended, during at least one year, courses of lectures and practical instruction approved by the University, in the subjects of the examination, namely: Dental Mechanics (including electrical appliances used in Dentistry): lectures and laboratory work. Dental Metallurgy: lectures and laboratory work

The First examination shall be held twice in each calendar year.

## Second Examination

Ordinance 11. The subjects of the Second examination shall be :

Anatomy Physiology Dental Anatomy and Physiology Dental Materia Medica.

12. Candidates shall be required, before presenting themselves for the Second examination, to have passed the First examination not less than one year previously, and to have attended courses of instruction in accordance with the Regulations of the University.

Regulations Candidates for the Second examination shall be required to have attended courses of instruction approved by the University, as follows: Anatomy lectures, two terms; Practical Anatomy and demonstrations, including the dissection of the head and neck, three terms; Dental Anatomy and Physiology, one term; Dental Microscopy, one term; Physiology lectures, two terms; Physiological Laboratory, one term; Practical Histology, one term; Dental Materia Medica, one term.

The Second examination shall be held twice in each calendar year.

#### Degrees in Dental Surgery

#### Final Examination

13. The subjects of the Final examination shall be :

Ordinance

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Dental Surgery Dental Pathology and Bacteriology Operative Dental Surgery Medicine and Surgery.

14. Candidates shall be required, before presenting themselves for the Final examination, to have passed the First examination not less than two years previously, to have passed the Second examination not less than six months previously, and to have attended courses of instruction in accordance with the Regulations of the University.

Candidates for the Final examination shall be required to Regulations have attended courses of study, approved by the University, as follows : Surgery lectures, two terms ; Special Surgery of the Mouth, six lectures ; Medicine lectures, two terms ; Dental Surgery and Pathology lectures, two terms ; Operative Dental Surgery lectures, one term ; Demonstrations on Anæsthetics, two terms ; Dental Bacteriology, lectures and practical work, one term ; Dental Clinical Lectures, two terms.

Candidates shall be required to present certificates of two years' Medical, Surgical and Dental practice at hospitals recognised by the University. These certificates must show that practical instruction has been received in Medicine, Surgery, and the administration of Anæsthetics. Every candidate shall be required to have acted as clerk and as dresser, for three months in each case, in a hospital recognised by the University.

The Final examination shall be held twice in each calendar year.

# DIPLOMA IN DENTAL SURGERY Regulations

Candidates for the diploma in Dental Surgery (L.D.S.) are required to present certificates showing that they have attained the age of twenty-one years, that they have attended courses of instruction, approved by the University, extending over not less than four years, two of which must have been spent in the University after passing the Preliminary Examination in Science.

Candidates are required to satisfy the Examiners in the several subjects of the following examinations :

A Preliminary examination in Arts; a Preliminary examination in Science; the First Professional examination; and the Final examination.

#### Preliminary Examination in Arts

The requirements of the Preliminary examination in Arts shall be fulfilled by passing an examination recognised for this purpose by the General Medical Council.<sup>1</sup>

#### Preliminary Examination in Science

The Preliminary examination in Science shall be held twice yearly. Its subjects shall be :

## Chemistry

Physics.

Candidates are required to have attended courses of instruction at the University as follows: Chemistry, lectures and laboratory, two terms; Physics, lectures and laboratory, two terms; or to present evidence of having given adequate attendance, at some other institution, upon courses of instruction which shall be accepted by the University as equivalent to the above courses.

N.B.—This examination is held in June and September. The latest dates of entry and of payment of fees are MARCH lst and AUGUST lst respectively.

## First Professional Examination

The subjects of the First Professional examination are Dental Metallurgy Dental Mechanics.

<sup>&</sup>lt;sup>1</sup> Full particulars can be obtained from the Registrar, General Medical Council, 44, Hallam Street, Portland Place, London, W.

## Diploma in Dental Surgery

Candidates are required to have passed the Preliminary examination in Science not less than six months previously, and to have attended courses of instruction, recognised by the University, in the subjects of the examination, according to the syllabus of the Royal College of Surgeons. They are also required to give evidence of having been engaged for two years in pupilage.

#### **Final Examination**

The Final examination shall consist of two parts :

PART I. Anatomy

Physiology

Dental Anatomy and Physiology

PART II. Surgery

Dental Surgery, Pathology and Bacteriology Operative Dental Surgery (Practical) Dental Materia Medica and Therapeutics.

Candidates must pass in Part I before being examined in Part II, and may pass the two Parts separately. The examination in Part II shall be held immediately after that in Part I, so that the two Parts may be passed, if desired, in immediate succession.

Candidates, before presenting themselves for examination in Part I, are required to have passed the First Professional examination not less than one year previously, and to have attended courses of instruction recognised by the University, as follows: Anatomy lectures, two terms; Practical Anatomy, three terms; Physiology lectures, two terms; Practical Physiology, one term; Dental Anatomy and Physiology lectures, two terms; Practical Dental Histology, one term; Surgery lectures, two terms.

Candidates before presenting themselves for examination in Part II, must have passed in Part I, and must produce evidence of having (1) completed four years from the beginning of their pupilage; (2) completed two years' Medical and Surgical practice at hospitals recognised by the University; (3) completed two years' Dental Hospital practice; (4) attended courses of instruction recognised by the University, as follows: Medicine, one term; Dental Surgery Therapeutics and Pathology lectures, two terms; Dental Bacteriology lectures, one term; Dental Materia Medica, one term; Operative Dental Surgery lectures, one term; Six Special Anæsthetic demonstrations; Special Surgery of the Mouth, six lectures; Surgery Lectures, two terms; Dental Clinical Lectures, two terms. The certificates of Medical and Surgical practice must show that practical instruction has been received in Medicine and Surgery, and in the administration of Anæsthetics.

N.B.—The First Professional and Final examinations are held in December and June.

#### Fees for Dental Classes

The University reserves the right to revise the fees specified below, at any time, whether in the case of new students or those who have already begun their courses.

All students are required to pay a Registration fee of  $\pounds z$ when their application for admission to the University is accepted.

Fees are payable in advance, and Courses of Lectures may be paid for in the form of a composition fee or separately for each course. In addition to the fees given below there is a Union fee of  $\pounds_2$  per annum.

The fees for lectures and practical work in Dentistry are as follows: Dental Surgery and Pathology,  $\pounds 9$ ; Operative Dental Surgery,  $\pounds 6$ ; Dental Anatomy and Physiology,  $\pounds 9$ ; Dental Mechanics, lectures  $\pounds 5$  and practical work  $\pounds 5$ ; Dental Metallurgy, lectures  $\pounds 5$  and practical work  $\pounds 5$ ; Dental Microscopy,  $\pounds 5$ ; Dental Bacteriology,  $\pounds 3$  10s.; Dental Materia Medica,  $\pounds 3$  10s.

#### Composition Fees\*

For the degree in Dental Surgery the composition fees are as follows :

(a) Fee covering all the requisite courses is £105, payable in two instalments of £60 and £45 respectively, or £100 if paid in one sum.

<sup>\*</sup> Students who have paid one or more instalments of the Composition Fees at the old rate will be allowed to complete the payments at the rates given in the Dental Prospectus for 1920-21.

- (b) Fee for the courses, excluding Parts I and II of the First examination,  $\pm 84$ .
- (c) Fee for the courses for the Second and Final examinations,  $\pounds_{75}$ .

For the diploma in Dental Surgery the composition fees are as follows :

- (a) Fee covering all the requisite courses is  $\pounds 90$ , payable in two instalments of  $\pounds 50$  and  $\pounds 40$  respectively or  $\pounds 85$  if paid in one sum.
- (b) Fee for the courses for the First Professional and Final examinations, £75.
- (c) Fee for the courses for the Final examination (Parts I and II),  $\pounds$ ,66.

#### Fees for Dental Examinations

For the First examination for the degree of B.Ch.D.,  $\pounds 6$ ; and for each subsequent examination,  $\pounds_3$ .

For the Second examination for the degree of B.Ch.D.,  $\pounds_5$ ; and for each subsequent examination,  $\pounds_3$ .

For the Final examination for the degree of B.Ch.D.,  $\pounds 5$ ; and for each subsequent examination,  $\pounds 3$ .

For the Preliminary examination in Science for the diploma of L.D.S.,  $\pounds_3$ ; and for each subsequent examination,  $\pounds_3$ .

For the First Professional examination for the diploma of L.D.S.,  $\pounds_3$ ; and for each subsequent examination,  $\pounds_3$ .

For Part I of the Final examination for the diploma of L.D.S.,  $\pounds_4$ ; and for each subsequent examination,  $\pounds_3$ .

For Part II of the Final examination for the diploma of L.D.S.,  $\pounds_{+}$ ; and for each subsequent examination,  $\pounds_{3}$ .

#### Degree Fees

For conferment of degree or diploma,  $\pounds 6$ .

## Courses in Dental Surgery

## I. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

The courses arranged in Physics, Chemistry, Zoology and Botany will be found under Courses in Medicine.

## 2. COURSES HELD IN THE SCHOOL OF MEDICINE

The courses arranged in Anatomy, Physiology and Bio-Chemistry, Pathology and Bacteriology, Principles and Practice of Medicine, and Surgery, will be found under Courses in Medicine.

## DENTAL SURGERY AND THERAPEUTICS

## Mr. G. A. PHILLIPS

Thursday at 12 during the first and second terms.

## OPERATIVE DENTAL SURGERY

## Mr. S. D. HEY

Wednesday, at 2 p.m., during the third term.

## DENTAL ANATOMY AND PHYSIOLOGY

#### Mr. J. W. MAWER

Thursday at 4 p.m. during the first and second terms.

## Practical Physiology and Dental Microscopy

A three months' course for dental students preparing for the Diploma in Dental Surgery, which will include Histology, Dental Microscopy, and the elements of Chemical Physiology.

## DENTAL MECHANICS

## Mr. C. RIPPON

Tuesday at 3 p.m. during the third and first terms.

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## DENTAL METALLURGY<sup>1</sup>

Mr. W. Lowson

Monday and Friday at 10.30 a.m. during the first half of the third term (lectures).

Thursday at 2 p.m. during the first term (practical).

N.B. The lectures will be supplemented by practical work in the laboratory.

## MATERIA MEDICA

Mr. J. H. Gough

In July at hours to be arranged.

1 These lectures will be given at College Road.

## EVENING COURSES

Advanced Technological Courses are held in the following Departments of the University:

Civil and Mechanical Engineering Electrical Engineering Coal Mining Textile Industries Colour Chemistry and Dyeing Leather Industries Geology.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department concerned, without examination.

So far as Leeds students are concerned, the instruction given in the Evening Courses in the University is co-ordinated with the City Scheme for evening instruction in Technology, and Leeds students who are under 22 years of age will be required to produce certificates of satisfactory attendance at these preparatory City Evening Classes, or, failing that, to pass an Entrance examination, or give other evidence of adequate preparation.

Students who have previously been in attendance at Technical Evening Schools of the City should call at the Central Technical School any evening from September 12th to 16th inclusive. Certificates will be given to such students, if qualified, admitting them to the University without Entrance examination on payment of the prescribed fee.

Students resident in the administrative area of the West Riding County Council, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at Technical Schools aided or maintained by the County Council, or, failing that, to pass an Entrance examination, or give other evidence of adequate preparation. Those who have attended a Technical School or Schools, must prior to September 1st, submit to the Technical Branch, Education Department, County Hall, Wakefield, full particulars of the

courses of instruction previously followed, and examination successes gained. Certificates will be issued to such students, if qualified, admitting them to the University Course without Entrance Examination, on payment of the usual fees.

Students under 22 years of age, who do not hold certificates from the City of Leeds and the West Riding, will be required to take an entrance examination or to produce satisfactory evidence of preliminary training.

The opening date for the Evening Class Session will be Monday, September 19th, 1921. The first term ends on Friday, December 16th, 1921. The second term begins on Monday, January 9th, 1922, and ends on Wednesday, March 22nd, 1922. For dates of the Mining session see page 436.

The fee for the whole, or any part of a group course, is  $\pounds_{I}$  is, payable to the Accountant in advance.

## THE ENGINEERING DEPARTMENTS

For each of the Engineering Departments, Evening Class students resident in the City of Leeds who are under 22 years of age must produce certificates of satisfactory attendance at Leeds Municipal Evening Courses in Mathematics, Mechanics, and Machine Drawing for four sessions, or must be able to furnish evidence that they have taken similar work elsewhere in a Technical Institution of a corresponding standard.

For students who cannot furnish such evidence or certificates an Entrance examination will be held in the subject which they propose to take in the University, also in Elementary Mathematics, including Algebra up to quadratic equations, Logarithms, Trigonometry up to the solution of triangles, and Geometry equivalent to Euclid, books I and II.

West Riding students who are under 22 years of age desiring to enrol for evening group courses in any of the Engineering Departments of the University, must produce evidence of satisfactory attendance and work at group

courses of at least the Fourth Year grade in local Technical Schools, embracing at least the subjects of Mathematics, Mechanics, and Machine Drawing; or evidence that they have satisfactorily taken similar work elsewhere of a corresponding standard. Such students will, nevertheless, in accordance with the arrangements entered into between the University and the Education Authorities of the City of Leeds and the West Riding respectively, be required to attend at the Central Technical School, Leeds, for such portions of the further course of instruction desired as are shewn below to be conducted at the Technical School.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department, without examination.

Students are strongly recommended to take up one of the group courses authorised by the Leeds City Council or the West Riding County Council before enrolling at the University.

The courses of the Leeds City Council are set out below.

West Riding students will usually commence attendance in connection with the Fifth or Sixth Year of these group courses.

West Riding students who are under 22 years of age desiring to enrol for less than the complete evening group course indicated in the University Prospectus may receive authorisation for enrolment at the University on application to the Technical Branch, Education Department, County Hall, Wakefield, before September 1st.

## CIVIL AND MECHANICAL ENGINEERING

## Protessor GOODMAN

Mr.	GILCHRIST	Mr.	NAYLOR	Mr.	Kelly
Mr.	Somerscales	Mr.	Colles	Mr.	RICHARDSON

The evening courses are arranged to cover the work required for Sections A and B of the examination for Associate Membership of the Institution of Civil Engineers.

#### Enrolment of Students

Students wishing to attend evening classes at the University must attend at the University on Monday, September 19th, at 7.30 p.m., to bring their exemption certificates and to confer with the Head of the Department as to their training, eligibility and proposed courses of instruction, and to produce any certificates obtained either from the Board of Education or from other educational authorities.

The examinations for those who do not produce exempting certificates will be held as follows, the standard in all cases being that of the "Lower Examination," or former second stage, of the Board of Education :

Tuesday, September 20th, at 7.30 p.m., Electrical Engineering. Mechanical Laboratory Courses.

Wednesday, September 21st, at 7.30 p.m., Mathematics.

Thursday, September 22nd, at 7.30 p.m., Strength of Materials and Structures. Heat Engines. Hydraulics.

After these dates students will only be admitted in very exceptional circumstances.

## Course II (a). (Mechanics)

(Numbers in brackets denote the classes in the Technical School Time Table).

YEAR.		Monday.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
	Α.		Mach. Drng. (M.31a)		Mechanics (M.21a)	Pract. Maths. (M.11a).
	В.		Mechanics (M.21b)		Mach. Drng. (M.31b)	Pract. Maths. (M.11b)
THIRD	С.	Mach. Drng. (M.31c)	Mechanics (M.21c)			Pract. Maths. (M.11c)
	D.	Mach. Drng. (M.31d)		Pract. Maths. (M.11d)		Mechanics (M.21d)
	F.	Prac. Maths. (M.11f)		Mechanics (M.21f)		Machine Drng. (M.31f)
	G.	Prac. Maths. (M.11g)	Mach. Drng. (M.31g)			Prac. Mechs. (M.21g)
	<i>A</i> .		Mach. Drng. (M.32a)	Prac. Maths. (M.13a)		App. Mechs. (M.22a)
Fourtu	В.	App. Mechs. (M.22b)			Mach. Drng. (M. 32b)	Prac. Maths. (M.13b)
FOURIES.	С.		App. Mechs. (M.22c)	Mach. Drng. (M.32c)	Prac. Maths. (M.13c)	
	D.		Prac. Maths. (M.13d)	Mach. Drng. (M.32d)	Chemistry for Engineers (C.74)	App. Mechs. (M.22d)
Fifth		Applied Mechs. II. (Machines) (M.23)	Jig, Tool, and Fixture Design (M.36) Prac. Maths. (M.14b)	App. Mechs. (Materials) (M.24) or Chemistry for Engineers. (C.75)	Machine Construction (M.33) Mechanical Engineering (M.65)	Practical Mathematics (M.14 <i>a</i> )
Sixth		Machine Design (Engine) (M.35)	Applied Mechs. III. (Machines) (M.26) or Eng. Lab. (Testing of Materials) (University)	Structures (1) Strength of Materials. (University)	Jig and Tool Design (M.37) or App. Mechs. (Materials) III. (M.27)	Practical Mathematics (M.14 <i>a</i> ) or Mach. Design (Lathe) (M.34)
SEVENTH		Machine Design (Engine) (M.35)	Engineering Laboratory (University)	Structures(II) Hydraulics (Optional) (University)		Machine Design (M.34)

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Technical Branch, Education Department, County Hall, Wakefield.

Year.	Monday.	Tuesday.	WEDNESDAY.	THURSDAY.	FRIDAY.
THIRD		Same as	Course IIa	(Mechanics).	
Fourth.		Heat Engines and Steam Calculations (M 41).	Practical Mathematics (M 13a).	Heat Engines Laboratory (M 42).	Applied Mechanics (M 22d).
<b>Fifth</b>	Heat Engines and Steam Calculations (advanced). (M 43).		Heat Engines Laboratory (M 44).	Machine Construction (M 33), Mechanical Engineering (M 65).	Practical Mathematics (M 14 <i>a</i> ).
Sixth		Engineering Laboratory Heat Engines I (University)	*Theory of Heat Engines, A, or B in alternate years (University).	Heat Engines (Entropy) (M 45).	Practical Mathematics (M 14 <i>a</i> ), or Machine Design (M 34). provided Machine Construction (M 33), be done.
Seventh		Engineering Laboratory Heat Engines II (University)	*Theory of Heat Engines B, or A in alternate years (University).		Machine Design (M 34), provided Machine Construction (M 33) be done.

## Course II. (b). (Prime Movers)

#### \* Includes Turbines.

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Technical Branch, Education Department, County Hall, Wakefield.

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YEAR.	Monday.	Tuesday.	WEDNESDAY.	THURSDAY.	Friday.
THIRD		Same as	Course IIa	(Mechanics).	
Fourth.		Same as	Course IIa	(Mechanics).	
<b>Fifth</b>	Applied Mechanics, Hydraulics (M 25), Graphic Statics. (M 16).			Machine Construction (M 33), Mechanical Engineering (M 65).	Practical Mathematics (M 14a).
Sixth	To be sele Machine Design (M 35).	cted from C Engineering Laboratory, Hydraulics I (University).	ourses IIa, Hydraulics Lecture I (University).	IIb, or from:	Practical Mathematics (M 14a).
Seventh	To be selec	ted from the Engineering Laboratory, Hydraulics II (University).	<i>above, or from</i> Hydraulics Lecture II (University).	Courses IIa,	IIb, or from :— Machine Design (M 34).

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Technical School Prospectus, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth and Fifth Year Courses, which are available in Technical Schools within the West Riding, may be obtained from the Technical Branch, Education Department, County Hall, Wakefield.

#### Engineering Laboratory

N.B.—Only those students who have attended or are attending the corresponding Lecture Courses will be admitted to the Laboratory classes.

Courses of instruction will be given in the Engineering Laboratory, on Tuesdays, from 7.30 to 9.30 p.m., beginning on September 27th, as follows :

### Course A. Testing of Materials

The testing of iron, steel, alloys, &c., in tension, torsion, compression, bending, and shearing. This work is done on :

- 1. A 100-ton Buckton testing machine, fitted with an autographic recorder.
- 2. An Olsen machine of 50,000 lbs. capacity.
- 3. A Denison machine of 5,000 lbs. capacity.
- 4. A Denison machine of 10 tons capacity.
- 5. A Buckton machine for torsion testing.
- 6. A Denison machine for testing the hardness of metals.
- 7. A beam testing machine.

## Course B. Steam, Gas, and Oil Engines Elementary Course

*Indicating.*—The high and low pressure cylinders of the 30 h.p. Fowler steam engine, and the 70 h.p. Willans' engine; Green's steam driven boiler pump : air pump of the Fowler engine; Campbell oil engine; air compressor.

The mechanical efficiency of the above-mentioned plant is obtained by dynamometer brakes or other suitable apparatus.

*Testing.*—Simple steam engine and boiler trials ; efficiency test of a Pulsometer steam pump. Trials on the oil engine, Dorman petrol engine, and De Laval steam turbine.

## Advanced Course

Complete compound engine trials with saturated and superheated steam; complete boiler trials; measurement of the flow of steam through nozzles; analysis of furnace gases and exhaust gases from the oil engine.

## Course C. Hydraulics

Experiments on the flow of water over weirs and through orifices, the friction of water in pipes, the resistance of valves and obstructions, the pressure of jets on surfaces, the bursting strength of pipes, &c., by a Berry's high pressure test pump.

Tests of a Pelton wheel; a Gilkes' turbine, fitted with a Kent Venturi water meter; a  $6'' \times 4''$  Green reciprocating pump; a Hett centrifugal pump; a Wilfley centrifugal pump.

A student attending laboratory classes will be held responsible for the apparatus with which he is working, and will be required to make good any damage.

No student will be admitted to any lecture course unless he is taking, or has taken, the corresponding laboratory course.

## **Hydraulics**

#### (Engineering Lecture Theatre)

Wednesdays, 7.30 to 8.30 p.m., beginning on September 28th.

Pressure due to head; total pressure on immersed surfaces; centre of pressure; flow of water through orifices, over notches and weirs; time required to empty tanks through orifices and sluices.

Bernoulli's stream line law; Venturi water meter.

Losses of head due to sudden contractions and enlargements in pipes and channels; friction of water in pipes and channels; pressure of jets on flat and curved surfaces; turbines and water wheels.

#### The Strength and Elasticity of Materials

(Engineering Lecture Theatre)

Wednesdays, from 8.30 to 9.30 p.m., beginning on September 28th.

Part I.—Relation of stress and strain. Stresses due to alteration of temperature.

Strength of material under tension, bending, and torsion. Use of Euler, Gordon, and Rankine strut formulae. Part II.—Distribution of stress due to bending and torsion. Maximum stress due to combined stresses.

Deflection of beams and springs.

Diagrams for load intensity, shear, bending-moment, slope, and deflection for beams initially straight.

Note:-Part II. will not be included in the course unless a sufficient proportion of the class shows proficiency in Part I. during the rst Term.

*Columns*: Euler and Gordon theories. Effect of end holding. Columns loaded eccentrically.

#### Book recommended:

GOODMAN'S "Mechanics Applied to Engineering" (Longmans, 14s. net).

#### Heat Engines I and II

Wednesdays, 7.30 to 9.30 p.m.

If a sufficient number of advanced students desire to have a course of Lectures on Steam Turbines and Internal Combustion Engines, arrangements will be made on the first night of the session, otherwise a course of Lectures on General Thermodynamics with applications to Steam and Internal Combustion Engines will be given.

#### Structural Engineering I

#### Mr. GILCHRIST

Wednesdays, from 7.30 to 8.30 p.m., beginning on September 28th.

*Typical Structures.*—Bridges, roofs, cranes, skeleton or framed buildings, walls and dams.

*Elements of Structures.*—The plate web girder; methods of design with numerical examples. Arrangement of plate girders in bridges, buildings, &c. Lattice girders; types of girders and methods of calculation. Design of the flange and web members, and their joints and connections.

Continuous Girders.—Simple cases of two and three spans.

Masonry.—Properties of stone, brick, cement, concrete, &c. Principles of design of masonry structures. Reinforced concrete; beams and columns.

# Structural Engineering II

Mr. Gilchrist

Wednesdays, from 3.30 to 9.30 p.m., beginning on September 28th.

If a sufficient number of students present themselves, an advanced course will be arranged, the course to consist of the complete study of some special branch, such as the theory of continuous girders, arches, &c.

The subject will be arranged with the class.

# ELECTRICAL ENGINEERING

## Mr. FRENCH Mr. CRAIG

To meet the requirements of those who are engaged during the day, but have spare time at their disposal in the evening, there is an advanced evening course of instruction in electrical engineering. This consists of an advanced lecture and a Problem class on Thursdays, beginning September 2 and, from 7.15 to 8.15 p.m., and from 8.30 to 9.30 p.m., on Alternating Current Practice. The course is arranged to meet the requirements of the electrical examination for the Associate Membership of the Institution of Civil Engineers, and the Institution of Electrical Engineers.

#### Enrolment of Students

Students wishing to attend evening classes at the University must attend at the University on Monday, September 19th, at 7.30 p.m., to bring their exemption certificates and to confer with the Head of the Department as to their training, eligibility and proposed courses of instruction, and to produce any certificates obtained either from the Board of Education or from other educational authorities.

The examinations for those who do not produce exempting certificates will be held as follows, the standard in all cases being that of the "Lower Examination," or former second stage, of the Board of Education :

Tuesday, September 20th, at 7.30 p.m., Electrical Engineering.

Wednesday, September 21st, at 7.30 p.m., Mathematics.

After these dates students will not be admitted unless under very exceptional circumstances.

YEAR.	Monday.	TUESDAY.	WEDNESDAY,	Thursday.	FRIDAY.
THIRD	Electricity and Magnetism (Practical and Theoretical) I.		Practical Mathematics, I.	Mechanics, Practical and Theoretical.	
Fourth.	Electrical Engineering, I. (Practical and Theoretical)	Practical Mathematics, II.		Mechanical Drawing.	
<b>Fifth</b>	Electrical Engineering, II. O.G. (Lecture and Drawing). Direct Current Work.	Laboratory Calculations. Practical Mathematics, III.	Electrical Engineering Testing, II.		
Sixth		Electrical Engineering Testing, III. Alternating Current Work (University).		Electrical Engineering III. O.G Alternating Current Work (University).	

## Course D (For Electrical Engineers)

Classes not marked "University" are taken at the Central Technical School (Leeds Institute). For particulars of these classes intending students should see the Handbook of Technical Education, which may be obtained at the City Education Department. Particulars of classes in the Third, Fourth, and Fifth Year Courses which are available in Technical Schools within the West Riding, may be obtained from the Technical Branch, Education Department, County Hall, Wakefield.

#### Laboratory Course

The course of advanced practical work in the electrical engineering laboratories in connection with lecture courses consists of about 26 attendances on Tuesdays, from 7 to 9-30 p.m., commencing September 27th, at 7 p.m. The course will embrace the following advanced practical work :---

Calibration and standardisation of all commercial instruments and meters; photometry; efficiency and commercial

testing of secondary cells, of direct and alternating current generators and motors, transformers and rotary converters; and rectifiers, insulation; resistance, dielectric strength of insulators; extra high tension switch gears and oscillograph; polyphase transmission; testing of iron.

For the laboratory course, students must get Parr's Advanced Electrical Engineering Testing (Chapman & Hall, 9s. net).

### MINING

## Professor Poole Mr. Brown

## [The four years' Coal Mining Course, mentioned below, though regarded now as a Day Course, is inserted here for the convenience of students.]

## Four Years' Coal Mining Course

This course is intended for miners and sub-officials who are occupied in or about collieries, and can only attend for one afternoon per week, but desire to qualify themselves for Managers' Certificates under the Coal Mines Act, 1911, and particularly for those who have attended complete courses of instruction in Mining at one of the local centres appointed by the West Riding County Council, or have attended the preparatory evening courses of the Leeds City Council.

Students who have reached 22 years of age may be admitted to this course at the discretion of the Head of the Department.

Students resident in the City of Leeds, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at the preparatory evening courses in Mining of the Leeds City Council\* for at least two sessions, or to have made satisfactory attendance at the West Riding Mining Course of Fourth Year grade, or to give evidence of possessing equivalent knowledge in the subjects of Mathematics, Mechanics and English.

Students resident in the West Riding Administrative Area, who are under 22 years of age, desiring to enrol for the four

<sup>\*</sup> Particulars regarding progressive Mining Courses available in Leeds may be obtained at the City Education Department.

years' course in the Mining department, will be required to produce evidence of satisfactory attendance at courses of at least the Fourth Year grade in a Technical School or Class within the Riding, if available<sup>†</sup>; or evidence that they have taken a similar course in a Technical School elsewhere.

For students who cannot satisfy these tests an Entrance examination will be held on Monday, September 26th, 1921, at 7-30 p.m.

The course extends over four years. The first, third and fourth year students attend on Mondays, beginning on October 10th, from 3 to 7 p.m; the second year students on Tuesdays during the same hours, beginning on October 11th. Students must call at the University office on either October 10th or 11th, between 2 and 3 p.m. to register their names and take out their class tickets.

The instruction in Engineering, Electrical Engineering, and Geology will be given in the respective Departments, the remaining subjects in the Mining Department. In the class on Mathematics the subject will be dealt with entirely from the mining point of view, the examples being taken from mining practice. Students will be given mining data in the examples set, and will be required to copy these out into an indexed pocket-book to form a nucleus for the observations which they subsequently make as a result of their own experience. A similar mode of treatment will be adopted for the Chemistry course, the properties of matter and chemical change being illustrated as far as possible from ordinary examples to be met with at a coal mine. In addition to the course of Surveying drawing, a course of practical work in the use of surveying instruments is given during the third term. Lectures will be given in connection with the two Surveying courses as they become necessary to explain the work in hand.

A certificate will be awarded to each student completing the course whose attendance at the lectures and work in the

<sup>†</sup>Particulars regarding Mining Courses available in the West Riding may be obtained from the Technical Branch, Education Department, County Hall, Wakefield.

examinations has been satisfactory to the examiners. Students who wish to repeat an examination, or go in for one from which they have been absent, or to complete work which should have been done by them, may do so in any subsequent session without repeating attendance on the lectures or laboratory work in question. All decisions affecting the award of this Certificate in any case, will rest finally with the Committee of lecturers and examiners concerned. The Certificate will be filled in at the end of a student's fourth year of attendance.

The attention of students attending this course is directed to the information respecting Scholarships, Laboratory Work, Office Work, &c., appearing in the Prospectus of Day Classes in the Mining Department.

Candidates for Surveyors' Certificates and others who desire to do extra work in Mine Surveying are advised to attend the ordinary lecture course in Mine Surveying and to do additional Practical and Office Work in this subject. To meet the convenience of external students all lectures and practical instruction in Surveying will be given on one day only—Thursday.

The work of the session will be taken in three terms as follows :

Monday, October 10th to Tuesday, December 20th, 1921. Monday, January 16th to Tuesday, March 21st, 1922. Monday, April 24th to Tuesday, June 20th, 1922.

#### Syllabus

First Year

Second Year

Mathematics Engineering Engineering Laboratory Mining Mining Chemistry of Coal Mining Mine Surveying Geology Geology Laboratory Third Year

Mining Electricity Electrical Engineering Laboratory

Fourth Year

Mining Electricity Electrical Engineering Laboratory,

# First Year Time Table

			3 to 4.	4 to 5.	5.30 to 7.
ist Term.	Mon.		Mathematics.	Engineering.	Engineering Laboratory.
2nd TERM.	Mon.		Mining.	Mathematics.	Engineering Laboratory.
3rd Term.	Mon.		Mining.	Engineering.	Engineering Laboratory.

# Second Year Time Table

		3 to 4.	4 to 5.	5.30 to 7.
ist Term.	Tue	Mining.	Chemistry of Coal Mining.	Mine Surveying, Drawing, and Calculations.
2nd TERM.	TUE	Mining	Geology.	Geological Laby.
3rd Term.	Tue	Mining	Geology.	Practical Mine Surveying.

# Third Year Time Table

	3 to 4.	4 to 5.30.	6 to 7.
Monday	Electricity.	Electrical Engineering Laboratory.	Mining

# Fourth Year Time Table

	3 to 4.	4 to 5.30	6 to 7.
Monday	Electricity.	Electrical Engineering Laboratory.	Mining.

Fee for each year in the above course  $\pounds I$  is.
#### TEXTILE INDUSTRIES

	Pr	ofesso	r Barker		
Mr.	Priestman	Mr.	Hollis	Mr.	YEWDALL
Mr.	LAW	Mr.	PICKLES	Mr.	Fisher
	Miss BENTO	)N	Mr.	FARLEY	

The Evening Courses in the Department of Textile Industries are primarily designed to meet the requirements of those who, having already passed through approved courses of study in Day or Evening Classes, wish to take up some particular line of Research work, or to conduct trade investigations necessitating the use of such special equipment as the Department possesses. The Evening session commences on Monday, September 19th, 1921.

Students are required to submit their work, under the conditions indicated in each class, for examination at the end of each term.

# Courses Qualifying for Research Work and Trade Investigations

The following Courses A, B, and C, are accepted as qualifying students for advanced work :---

# A. Special Lecture and Practical Demonstration Course in Textile Industries\*

Alternate Tuesday evenings from 7.30 to 9.30.

NOTE.—Students under twenty-two years of age will not, as a rule, be admitted to this Course unless they present such Certificates as are indicated under Scheme C.

#### LECTURE I.

Sheep and Wool. Typical Breeds of Sheep and Mendelian Theories. The conditions of Marketing Wool.

### LECTURE II.

Wool and Top Qualities. Wool Sorting. Wool Washing. The Physical, Chemical and Mechanical Principles involved. Wool Drying.

# LECTURE III.

The Re-manufactured Materials. Woollen Blending. Carding and Mule Spinning.

<sup>\*</sup> This series of lectures will only be given once every two years.

LECTURE IV.

The Various Types of Woollen Yarns and Fabrics. The Economical Principles involved.

LECTURE V.

Long and Short Wool Preparation or Carding for Wool Combing. Combing. Finishing and Conditioning. LECTURE VI.

Worsted Drawing—English, Cone and French Systems. Worsted Spinning—Flyer, Cap, Ring, and Mule. Twisting. Yarn Finishing Processes.

LECTURE VII.

Wool, Cotton, Silk, &c., Yarns. Warping, Dressing, Twisting-in, and Looming. The Principles of Weaving.

LECTURE VIII.

Cloth Construction. The use of Point Paper. The Simpler Classic Makes. Colour in Textiles.

LECTURE IX.

The Dobby and Jacquard Looms. Box Mechanism. The Production of Figured Styles.

LECTURE X.

The more complex Cloth Structures, including Doublecloths, Figured Styles, Plushes, and Gauzes.

LECTURE XI.

Defects in Fabrics. Testing and Testing Machinery. LECTURE XII.

The Principles of Finishing. Typical Styles of Finish.

NOTE.—The Lectures will occupy about an hour, the second hour being devoted to the study of the actual operations dealt with.

Text Books

Textiles (Constable & Co.). Wool Year Book (Marsden & Co.).

# B. Elementary and Intermediate Courses in Yarn Spinning, Weaving, Designing, &c.

Students will not be admitted to these Courses, save under exceptional circumstances, until they have passed through the Third Year Preparatory Textile Course held in the Central Technical School (Leeds Institute) or its equivalent elsewhere.

Students resident in the Administrative Area of the West Riding County Council will be admitted to these Courses subject to the provisions of the fifth paragraph of page 405, regard being had to the standard they have reached in their own local schools.

# Woollen and Worsted Yarn Spinning

# First Year

Lectures, Thursdays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Thursdays, 8.15 to 9.15 p.m.

Materials Study and Testing, Fridays, 7.15 to 9.15 p.m.

SUBJECTS.—*Materials*: Their character, qualities, uses and relative values.

*Processes* through which the materials are passed in preparation for the carding, preparing, drawing, and spinning operations.

*Machinery*: Particulars of machines for ducting, steeping, scouring and drying; also for the treatment of soft and hard wastes, and the production of mungo and shoddy.

Calculations : Relating to materials and machinery.

# 1. Woollen Yarn Spinning

# Second Year

ectures, Thursdays, from 8.15 to 9.15 p.m.

Machine Study and Testing, Fridays, 7.15 to 9.15 p.m.

Recording Experiments and Testing, Thursdays, 7.15 to 8.15 p.m.

*Processes*: For carbonising, burring, blending, scribbling and carding.

*Machinery*: The various types of machinery used for carbonising, burring, teazing, blending, oiling, scribbling and carding.

Calculations: Dealing with materials, blends and machinery.

# Third Year

Lectures, Wednesdays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Wednesdays, 8.15 to 9.15 p.m.

Machine Study and Testing, Fridays, 7.15 to 9.15 p.m.

Processes : For condensing, spinning and folding.

*Machinery*: The principles and construction of the various types of condensers, of spinning machines on the intermittent (self-actor mule), and continuous systems and twisting frames.

*Calculations* : Concerning machinery output, and also on results.

Техт Воокз

Wool Carding and Combing (Cassell & Co., Ltd.). Woollen and Worsted Spinning (Cassell & Co., Ltd.).

Year.	Monday.	Tuesday.	Wednes- day.	THURSDAY.	FRIDAY.
FIRST and SECOND YEARS.	Tak	en in Branch	Artizan Sch	nools.	
THIRD VEAR.	Take	n in Central	Technical S	chool.	
A	Lecture on Textile Industries.	Textile Mathe- matics.		Textile Mechanics.	
В	an	d one Comr	Lecture on Tex. Indus. nercial subje	Textile Maths. ct.	
Fourth Year (1st Year University).		Special Lectures.		Lecture, 7.15-8.15. Experi- mental Work, 8.15-9.15.	Materials Study and Testing, 7.15- 9.15.
FIFTH YEAR (2nd Year University).				Experi- mental Work, 7.15-8.15. Lecture, 8.15-9.15.	Machine Study and Testing, 7.15-9.15.
Sixth Year (3rd Year University).			Lecture, 7.15-8.15. Experi- mental Work, 8.15-9.15.		Machine Study and Testing. 7.15-9.15.

# Course BI. Woollen Yarn Spinning

#### 2. Worsted Yarn Spinning

### Second Year

Lectures, Fridays, from 7.15 to 8.15 p.m.

Recording Experiments and Testing, Fridays, from 8.15 to 9.15 p.m.

Machine Study and Testing, Wednesdays, 7.15 to 9.15 p.m.

SUBJECTS.—Principles underlying the construction of a typical worsted thread; the influence of materials on the character of a thread.

*Processes*: Preparing long and medium wools by gilling ; preparing medium and short wools by carding, backwashing, combing, and finishing.

*Machinery* : Gill boxes ; carding engines ; backwashers ; combing machines on various principles, &c.

Calculations : Relating to speeds, drafts, weights, &c.

#### Third Year

Lectures, Fridays, from 8.15 to 9.15 p.m.

Recording Experiments and Testing, Fridays, from 7.15 to 8.15 p.m.

Machine Study and Testing, Mondays, from 7.15 to 9.15 p.m.

SUBJECTS.—*Materials* : Tops, their qualities, defects, and values.

*Processes*: Re-combing; mixing; drawing; spinning; doubling; twisting and yarn finishing.

*Machinery*: The different types of drawing, spinning, doubling, and twisting frames, with particulars of setting and manipulation.

*Calculations*: On speeds, drafts doublings, twists, weights and production.

YEAR.	Monday.	Tuesday.	WEDNES- DAY.	THURSDAY.	FRIDAY.
FIRST and SECOND YEARS.	Take	en in Branch	Artizan Sch	ools.	
THIRD VEAR.	Take	en in Central	Technical S	chool.	
A	Lecture on Textile Industries.	Textile Mathe- matics.		Textile Mechanics.	
В	ai	nd one Comr	Lecture on Tex. Indus. mercial subject	Textile Maths.	
Fourth Year 1st University).		Special Lectures.		Lecture, 7.15-8.15. Experi- mental Work. 8.15-0.15.	Materials Study and Testing, 7.15-9.15.
FIFTH YEAR (2nd University).			Machinery Study and Testing, 7.15–9.15.		Lecture, 7.15-8.15. Experi- mental Work, 8.15-9.15.
Sixth Year (3rd University).	Machine Study and Testing. 7.15-9.15.				Experi- mental Work, 7.15-8.15. Lecture, 8.15-9.15.

# Course B2. Worsted Yarn Spinning

# 3. Designing and Weaving First Year

Lectures and Demonstrations, Tuesdays, from 7.15 to 9.15 p.m.

Pattern Analysis and Calculations, Fridays, 7.15 to 9.15 p.m.

SUBJECTS.—Designing: Principles of cloth construction, plan making, drafting, materials, yarns and settings, simple patterns due to arrangement of coloured threads.

*Calculations*: For woollen, worsted, cotton and union yarn, and fabrics.

*Machinery*: Hand looms:—treadle loom, single and double action witch machines; Power looms: the tappet loom; shedding, picking, beating-up, letting-off the warp and setting-up the cloth.

TEXT BOOK. — Textile Design (Methuen & Co.).

### Second Year

Lectures on Designing and Weaving, Wednesdays, 7.15 to 8.15 p.m.

Lectures on Colouring, Wednesdays, 8.15 to 9.15 p.m.

Pattern Analysis and Calculations, Mondays, 7.15 to 9.15 p.m.

\*Experimental Work and Machine Study, Tuesdays, 7.15 to 9.30 p.m.

SUBJECTS.—*Designing*: Combinations of weaves to form stripe, check, diagonal, and other patterns; also backed, imitation backed, and other compound fabrics.

*Machinery*: The principal makes of power looms for woollen and worsted fabrics.

*Calculations*: On setting and costing fabrics, speeds of looms.

*Colouring*: Theories of colouring, qualities of colours, analogy, various styles of patterns produced by colours in solid colour threads, twists, marls and mixtures.

#### TEXT BOOK

Analysis of Woven Fabrics (Scott, Greenwood & Son).

### Third Year

Lectures on Designing, Mondays, from 7.15 to 8.15 p.m. Lectures on Colouring, Mondays, 8.15 to 9.15 p.m.

Pattern Analysis and Calculations, Thursdays, trom 7.15 to 9.15 p.m.

Experimental Work and Machine Study, Wednesdays, 7.15 to 9.50 p.m.

SUBJECTS.—*Designing*: The principles of designing compound fabrics, including double and treble-make cloths, vestings, matelasses, rugs, shawls, gauzes, velvets, and plushes.

Colouring: Application of colour to compound cloths.

*Finishing*: Principles involved in finishing Woollen and Worsted Coatings and Dress Fabrics.

<sup>\*</sup> Under exceptional circumstances exemption from this work will be granted.

*Machinery*: Shuttle box motions and pattern chain making, the Jacquard or harness loom.

The looms for the use of Third Year students are mounted to weave backed and double-make textures for trouserings, suitings and mantlings, also for Jacquard patterns in dress fabrics, vestings, rugs and shawls.

Year.	Monday.	Tuesday.	Wednes- day.	Thursday.	FRIDAY.
First and Second Years.	Tak	en in Branch	Artizan Sch	100ls.	
THIRD YEAR.	Taken	in Central '	Technical Sc	hool.	
А	Lecture on Textile Industries.	Textile Mathe- matics.		Textile Mechanics.	
В		d one Comp	Lect. on Tex. Indus.	Textile Maths.	
			ierciar subjec		
FOURTH YEAR (1st University).		Lecture and Demon- strations, 7.15-9.15.			Pattern Analysis and Calcu- lations, 7.15-9.15.
FIFTH YEAR (2nd University).	Pattern Analysis and Calcu- lations, 7.15-9.15.	Experi- mental Work 7.15-9.15.	Lecture, 7.15-8.15. Lecture on Colour, 8.15-9.15.		•
Sixth Year (3rd University).	Lecture on Design, 7.15-8.15. Lecture on Colour, 8.15-9.15.		Experi- mental Work, 7.15-9.50.	Pattern Analysis and Calcu- lations, 7.15-9.15.	

# Course B3. Designing and Weaving

C. Courses corresponding to (A) or (B) at the Bradford, Huddersfield or Haltfax Technical Colleges; or Approved Courses at any Technical School in the West Riding of Yorkshire.

Students making application for admission to Advanced Courses of Study in the University, on the strength of having passed through one of these Courses are required to present

a Certificate of Attendance at the College or school concerned, together with a Certificate showing that a reasonable standard has been attained in the Sessional examinations.

Students from a Technical School in the Administrative Area of the West Riding will also be required to present a certificate, for which application should be made prior to the 1st September, to the Technical Branch, Education Department, County Hall, Wakefield.

#### Research Work : Trade Investigations

Those wishing to conduct Researches or Investigations of interest to the Textile Industries must fill in and forward to the Professor of Textile Industries, on or prior to September 15th, the special form (supplied on application) specifying the particular problem or problems they wish to investigate, and the number of evenings per week they propose to devote to such investigations.

Notification of the acceptance or otherwise of such proposed Researches or Investigations will be forwarded on or before September 17th, and students will be expected to commence work on September 19th, or the nearest possible date to this.

Foremen and Overlookers in responsible positions who have qualified by one of the above causes, will be given special privileges on making application preferably a week before the session starts and not later than the first week of the session.

Special attention is drawn to the fact that the Department is equipped with complete sets of machinery for Woollen Carding and Spinning (Fine and Medium qualities), Worsted Preparing, Combing, Drawing and Spinning (English, Cone, and French Systems), Hand and Power Loom Weaving and Cloth Finishing, along with the necessary Laboratories for the conducting of Scientific Investigations.

### The Designing of Figured Textiles

Advanced University students and specially qualified students from the City School of Art may attend in the Art Rooms on Monday, Wednesday and Thursday evenings to study approved Figured Textiles and to prepare their Sketches and Point Paper plans for the Loom.

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# DEPARTMENT OF TEXTILE INDUSTRIES

# Time Table.-Evening Classes

	7.15 to 8.15	8.15 to 9.15
Monday	 3rd Year Machine Study Worsted Yarn	and Testing, Spinning.
	2nd Year Pattern Anal	ysis and Calculations.
	3rd Year Lecture, Designing and Weaving. Figure	3rd Year Textile Colouring. Designing.
Tuesday	 1st Year Lecture, Designing and Weaving.	1st Year Tutorial Work, Designing and Weaving.
- 21	2nd Year Experimental Special Lectures	Weaving and Machine Study. alternate Tuesdays.
Wednesday .	 2nd Year Lecture, Designing and Weaving.	2nd Year Textile Colouring.
	 3rd Year Lecture, Woollen Yarn Spinning.	Woollen Yarn Spinning.
	Machine Study	and Testing.
	3rd Year Eperim (7.15 to	ental Weaving.
	Figure	Designing.
THURSDAY	 ıst Year Woollen and Worsted Yarn Spinning	1st Year Experimental Work, Woollen and Worsted Yarn Spinning.
	2nd Year Experimental Work, Woollen Yarn Spinning.	2nd Year Lecture, Woollen Yarn Spinning.
	3rd Year Pattern Anal	ysis and Calculations.
	Figure	Designing
Friday	 2nd Year Lecture, Worsted Yarn Spinning.	2nd Year Experimental Work, Worsted Yarn Spinning
	3rd Year Experimental Work. Worsted Yarn Spinning.	3rd Year Lecture, Worsted Yarn Spinning.
	2nd & 3rd Year Machine Study Woollen Yarn	and Experimental Work Spinning.
	Materials Study	and Testing.
	1st Year Pattern Anal	ysis and Calculations.

Research and Investigations of Trade Difficulties on any evening throughout the session.

#### DYEING

# Professor Perkin Mr. King Mr. Cross

The courses of instruction will consist of Lectures and Laboratory Work and are intended to meet the requirements of practical men, foremen dyers, and apprentices, as well as for students intending to take the City and Guilds examinations in dyeing. When possible, students should also attend a class in Organic Chemistry at the Central Technical School or elsewhere.

Students who have reached 22 years of age may be admitted at the discretion of the Head of the Department without examination.

Students resident in the City of Leeds who are under 22 years of age, will be required to produce certificates of satisfactory attendance at the Central Technical School upon the third year's work of the group course arranged for students of Dyeing, or failing that, to pass an entrance examination, or give other evidence of adequate preparation.

Students resident in the Administrative Area of the West Riding, who are under 22 years of age, will be required to produce certificates of satisfactory attendance at courses up to at least the Fourth Year grade (including Organic Chemistry) in a Technical School aided or maintained by the County Council, or to furnish evidence that they have taken work elsewhere to a corresponding standard.

Other students under 22 years of age must give evidence of possessing equivalent knowledge in the subject of Chemistry, or may be required to pass an entrance examination which will be held at a date to be fixed by the Head of the Department.

#### Lecture Course

A course of twenty-six lectures on the Technology of the Textile Fibres, Dyeing and Dyeing Materials will be given on Monday evenings from 7 to 8 p.m., beginning on September 19th, 1921.

- (a) Textile Fibres.—Wool, mohair, silk and artificial silks, cotton, ramie, linen, jute and hemp. Properties of the various fibres, identification and estimation in mixtures. Scouring, bleaching, weighting of silks, chlorination of wool, carbonising, mercerising, methods of treatment to resist dyeing and to increase dyeing properties, mordants, mordanting assistants, detection and remedying of faults in textiles, shoddy and its recognition, &c.
- (b) Dyeing.—Colour, fading of colours, matching of shades, machinery used in dyeing, application to different fibres of the various classes of dyestuffs, basic, acid, salt, mordant, acid mordant, vat, sulphide dyes, logwood, fustic, indigo, turkey red, para red, aniline black and cutch. Shoddy and union dyeing, testing and detection of dyes on the fibre. Relative fastness to milling, washing, light, cross-dyeing, carbonising, stoveing, &c.

#### Experimental Dyeing Course

This class is held on Monday evenings, between 7 and 10 p.m., beginning on September 19th, 1921. It is intended for apprentice and foremen dyers, or others engaged in practical work during the day, and will also be found useful for all those who in their daily business handle dyed materials or who are otherwise interested in the dyeing industry. No previous knowledge of dyeing is demanded from those attending.

*First Year.*—Students in this class will make systematic dyeing trials on wool with the different groups of natural and artificial dyestuffs and study the effect of different assistants and mordants.

Second Year.—The work will comprise dyeing trials upon cotton unions and shoddy, shade matching (using a Dalitelamp), valuation of dyestuffs, analysis of dyers' materials and the identification of dyestuffs on the fibre.

Special courses are arranged for students desiring to investigate any particular branch of work.

### LEATHER INDUSTRIES

# Professor McCandlish Mr. Atkin Mr. Thompson

A course of lectures on "The Materials of Leather Manufacture," will be given on Wednesdays, at 7 p.m.

†A practical class for the analytical investigation of materials used in leather manufacture, will be held from 6.45 to 9.45 p.m. in the laboratory of the Leather Department on Tuesdays, and a course of lectures on "Analytical Chemistry of Leather Manufacture," in conjunction with this class will be given by Mr. Thompson on Wednesdays, at 8 p.m.

Evening Class students resident in the City of Leeds, who are under 22 years of age, must produce certificates of satisfactory attendance at the third year's work of the group course arranged for students of Leather Industries, or failing that, must pass an Entrance examination, or give other evidence of adequate preparation.

Students resident in the Administrative Area of the West Riding, who are under 22 years of age, desiring to enrol at the University for evening courses in Leather Industries, are required to furnish evidence of satisfactory attendance at courses of at least the Fourth Year grade (including Organic Chemistry) in a Technical School aided or maintained by the County Council, or evidence that they have taken similar work elsewhere of a corresponding standard.

Other students must give evidence of possessing equivalent knowledge in the subject of Chemistry, or may be required to pass an Entrance examination which will be held at a date to be fixed by the Head of the Department.

Students desiring to take Analytical lectures and laboratory work must have passed through Chemistry of the fourth

<sup>&</sup>lt;sup>†</sup> These classses, which are arranged by the City Education Authority were given at the Central Technical School, but are now, for greater convenience, given at the University.

year course at the Central Technical School, or must have otherwise attained the necessary practical knowledge of Chemical Analysis.

The practical class will begin on Tuesday, September 20th, 1921, and the opening lecture will be on Wednesday, September 21st, 1921.

For further information on these courses application should be made to the Central Technical School for special pamphlets.

#### GEOLOGY

#### Professor KENDALL

#### Geology applied to Sanitary and Civil Engineering

About fifteen lectures on Mondays, at 5 p.m., beginning January 9th, 1922.

SYLLABUS. Stratified rocks, their mode of origin and physical peculiarities. Forms of stratification, folds, joints, and faults.

General succession and lithological characters of the stratified rocks.

The origin and distribution of the drift deposits.

British rainfall, its measurement and variations. The destination of this water. Evaporation, discharge by rivers and percolation, how they are proportioned and upon what conditions they depend. The mode and rate of percolation of underground water. The water-bearing capacity of sandstones and limestones. How water is stored in these rocks.

The principal water-bearing strata of Britain, and the character of the supplies which they yield. Some detailed examples of the supply of water from deep wells.

The application of geological knowledge to selection of sites for bridges, roads, tunnels, puddle-trenches, sewagefarms, &c.

# **EXTENSION LECTURES**

#### I. UNIVERSITY EXTENSION METHOD

The essential features of the University Extension method consist of the delivery of a weekly or fortnightly lecture upon the lines of a syllabus previously issued for the guidance of the students, followed by a class in which the lecturer discusses with the students any points of difficulty which may have arisen during the lecture. Thus, while the lecture audience consists of those who are interested in the subject generally, the class is attended by those students who are prepared to work at home in connection with the teaching. At the end of each lecture, essay subjects are given out by the lecturer, to whom the papers are sent by the students, in order that the written work may be returned by the lecturer at the next week's class. In their choice and use of books the students are assisted by the printed syllabus, which gives an analysis of the lectures and contains lists of books recommended for private study. In connection with each course, the University issues a travelling library which contains, as far as possible, copies of the books recommended by the lecturer. The library is returned to the University at the end of the course. At the end of the course an examination is held, if the local committee so desire, by an examiner other than the lecturer, appointed by the University. Entrance to the examination is optional and open to all students, over 15 years of age, who have attended not less than three-fourths of the classes during the course and have satisfied the lecturer with their written work. Certificates are granted to successful candidates, and distinction is awarded on the joint recommendation of the lecturer and the examiner.

The majority of University Extension courses deal with subjects drawn from Language and Literature, History, Geography, Art and Economics, or with such aspects of physical science as may conveniently be treated in a course which is designed for a comparatively large audience. The lectures and classes are arranged in courses of six and upwards. The lectures are given at weekly or fortnightly intervals, as may be preferred.

### **II. APPLICATIONS FOR COURSES**

The University requires that the responsibility for each course should be undertaken by a local committee, which may be :---

- (a) A Committee specially formed for the purpose;
- (b) A public body, such as the Education Committee of a County or County Borough, the Education Committee of a Co-operative Society or Trades Union Council, the Committee of a Public Library or of some other institution.

The Local Committee is required to guarantee a fund sufficient to cover the University's charges for the lecturer's services and other expenses of the course.

The Secretaries and Members of the University Committee are glad to do anything in their power to assist Local Committees in the organisation of a course.

Applications for courses of University Extension Lectures should be addressed to The Secretary for University Extension, The University, Leeds, and should state :---

- 1. The name of the lecturer or lecturers desired.
- 2. The subject of the proposed course.
- 3. The number of lectures required in the course.
- 4. The day of the week preferred for the lectures and whether the lectures should be at weekly or fortnightly intervals.
- 5. The nature of the Committee which makes itself responsible for the local organisation and expense, and the name and address of the Local Secretary.

The Local Committee is responsible for providing a suitable lecture room and, in the case of a course illustrated by lantern slides, a lantern and operator.

It is requested that the Local Secretary will communicate with the lecturer at least a week before the first lecture as to the detailed arrangements which have been made for the course.

### III. FEES

The courses, particulars of which will be given on application, are divided into two series. The fees mentioned below include the services of the lecturer, the supply of not more than 100 copies of the syllabus of the course, and the loan of a travelling library of suitable books. The only other charges paid to the University are the travelling expenses of the lecturer and a fee of not less than two guineas (varying according to the number of candidates) for the examination if one is held.

				Series	A				
ml in	per of lea the cour	ctures se.					Fee for syll and	lectu abuse book	ires, es
							£	s.	d.
	6						22	10	0
	8		• • •				28	10	0
	10			e			34	IO	0
	I 2				•••		40	10	0
	24				• • •	•••	76	10	0
				Series	в				
	6						16	10	0
	8						20	10	0
	10						24	10	0
	12						28	10	0
	24						52	10	0

All incidental local expenses, such as hire and lighting of hall, advertising, etc., are borne by the Local Committee.

#### IV. EXAMINATIONS

The University is prepared to conduct an examination at the conclusion of a course of Extension Lectures held under the authority of the University, but certificates will not be awarded except on a course of not less than ten lectures.

When an examination is desired the Local Committee should communicate with the Secretary of the University at least twenty-one days before the date proposed for the examination, and should state, approximately, the number

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of candidates. A special form (No.  $K_4$ ) is issued on which the details of the examination are to be entered. After the hour and date of the examination have been confirmed by the Secretary no change may be made without his consent.

Students will not be admitted to the certificate examination unless they have attended at least three-fourths of the lectures and classes, and have satisfied the lecturer with their written work. Candidates must be not less than 15 years of age.

The examination will be conducted by means of printed or typewritten papers and will be, as a rule, of three hours duration.

The Local Committee is required to make arrangements for a suitable room for the examination, to appoint a qualified supervisor, or supervisors, and to provide the necessary materials.

The Secretary of the University will send the Examination Papers to the Secretary\* of the Local Committee, who will be responsible for their safe custody.

The packets of papers must not be opened until the commencement of the examination, nor in any other place than in the examination room.

A form (No. K5) on which the names of the candidates are to be entered, together with a copy of these Regulations, will be forwarded with the examination papers.

The Supervisor (or one of the Supervisors) must be present during the whole time of examination, and will be responsible for giving out the papers, for preserving silence, for preventing copying from books or otherwise by any of the students, for collecting the papers when the allowed time has expired, and generally for the orderly and proper conduct of the examination.

\* Should the Secretary be a candidate at the examination the local committee must nominate some other person to receive the papers. In any circumstances, if preferred, the papers will be sent direct to the Supervisor.

On the completion of the examination the Supervisor or the Local Secretary shall, without delay, despatch :---

(a) the candidates' answers;

(b) copies of the examination paper;

(c) Form K5, properly filled up,

by registered post to the Secretary, University Extension Committee, The University, Leeds, or to such other person as may be named by the University Secretary.

When the papers have been judged by the Examiner the University will send a list of the names of the successful candidates arranged in alphabetical order to the Secretary of the Local Committee. An asterisk will be placed against the name of any candidate to whom the Examiner has awarded distinction.

Fees for the examination, including the cost of certificates, &c., are as follows :---

For the examination of 21 candidates or

any	lesser num	ber		•••	Two	guineas.
For each	additional	candi	date up to	40	Two	shillings.
**	3.5	>>	beyond	40	One	shilling.

# V. TRAVELLING LIBRARIES

The University issues travelling libraries to University Extension lecture centres without any additional fee. The libraries, each of which contains a selection of books chosen by the lecturer, are the property of the University and are placed by them in the hands of the Local Committee, who are responsible for their care and are required to replace any volume or volumes that may be damaged or lost while the books are in their charge. The travelling library must be returned to the University within one month of the completion of the course.

In order to provide for the students special facilities for obtaining books bearing on the courses, Local Committees are advised to invite the co-operation of the authorities of public libraries in their district.

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It is further recommended that in all centres students' associations should be formed for the purpose of supplementing the work done in the lecture room.

## VI. INTRODUCTORY COURSES OF LECTURES

In addition to the provision of University Extension Lectures of the ordinary type, the Committee are also prepared to receive applications for Introductory Courses of Lectures.

The Courses in question will consist of not less than four, and usually not more than six, Lectures, and will be given by Lecturers appointed by the University Extension Committee. The subjects will be dealt with in a manner adapted to interest those who have not made a previous study of the questions, and will aim at stimulating a desire for further knowledge. Each lecture will usually occupy an hour, and opportunity for discussion will be given at the close.

As the object of these Introductory Courses is to prepare the way for University Extension Courses proper (including class-work as well as lectures), the Committee are not prepared to arrange for an Introductory course at a centre where University Extension teaching has already been provided or for more than two such Courses at any centre

Applications must be made to the Secretary for University **Ex**tension, the University, Leeds.

The fees payable for Introductory Courses are as set out below:—  $\pounds$  s d.

4	lectures	 	 	4 I4	6
5	lectures	 	 •••	5 1 5	6
6	lectures	 	 	6 16	6

The Local Committee will also be responsible for defraying the third-class travelling expenses of the Lecturer, together with all local expenses, *e.g.*, the hire of room, heating, lighting, advertising, etc., and, where necessary, the cost of providing a lantern and operator.

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The amount due for fees and travelling expenses will become payable immediately after the completion of a course, and must be remitted to the Accountant, the University, Leeds. Payment should not be made directly to the Lecturer.

# UNIVERSITY TUTORIAL CLASSES

The purpose of these Classes is to bring University Teaching in appropriate subjects within the reach of those who would otherwise not be able to obtain it and to reproduce, so far as conditions permit, that close personal contact between Tutor and Student which is so valuable a phase of University life. The arrangements as to the subject to be studied as well as the day and time of meeting will be largely controlled by the students themselves, and ample opportunity will be afforded for the free interchange of thought and opinion, the theory being that the members of the Classes will be not merely pupils, but co-operators with the teachers in the quest of knowledge. The size of the Classes will be such as to admit of individual attention being given to the students, while the Tutors will be ready to give advice and guidance not merely in Class, but at other times, personally or by letter. The regular preparation and examination of Essays will prove a most valuable aid in this direction. The Classes are open to women equally with men; but, if desired, special Classes for women only will be arranged for.

The scheme provides for the organisation of Classes with little, if any, financial risk to Local Centres, and at so nominal a charge to students as to be easily within reach of all. The number of classes which can be organised is limited by the funds at the disposal of the Advisory Committee.

Applications for the formation of Tutorial Classes may be made by any responsible local body, such as a Local Education Authority, a Branch of the Workers' Educational Association or a Co-operative Society. In every case, however, it is very desirable at the outset to seek the

sympathy and co-operation of educational and working-class organisations, and usually to hold a conference of representatives of such bodies.

Among the subjects in which Classes may be arranged are the following:—Economics, Industrial History, General Modern History, Literature, and Natural History.

The course of instruction for each Class will cover a period of three Winter Sessions of 24 weekly meetings each. Each lesson will be of two hours' duration—one hour's Lecture by the Tutor, followed by an hour for questions and discussion. A certain number of essays (not usually more than twelve) will be required from each student during the Session on subjects set by the Tutor.

No Class will be established unless there are at least twenty-four students, approved by the Committee and pledged (unless prevented by illness, circumstances of work, or other unavoidable causes) to attend throughout the whole Course and to do all the essays and exercises set by the Tutor. Not more than thirty-two students may be admitted to a Class on its formation.

Subject to the sanction of the Joint Committee, the members of any Class will be allowed to choose the subject of study, and the day and hour of meeting.

# FELLOWSHIPS, SCHOLARSHIPS, EXHIBITIONS, BURSARIES, FREE STUDENTSHIPS, AND PRIZES

# GENERAL REGULATIONS

1. No election to a Scholarship will take place unless the candidate has attained a sufficient standard of merit. A candidate who has attained such standard may, if the Senate think fit, be elected to a Fellowship or Scholarship without emolument.

2. All Scholarships are held subject to the good behaviour of the Scholar. The University reserves the power to determine the tenure of a Scholarship for the Scholar's irregularity in attendance at lectures, or for any other sufficient cause. A Scholar who fails in any University examination for which he prepares in the University, or who is reported unsatisfactory in the aggregate of his terminal examinations during the session, will forfeit his Scholarship, unless his retention of it be specially allowed.

3. Scholars are required to devote the whole of their time to their studies, except so far as stated below. The undertaking by a Scholar of outside work, such as teaching, or the acceptance of any post of profit outside the University will involve surrender of the Scholarship, unless such work be undertaken with the sanction of the Vice-Chancellor. The Clothworkers' Scholars and others preparing for any profession or trade, the principles of which are taught in the University, will be granted special exemption from this rule if the Senate is satisfied that an adequate cause has been shown for such exemption, and approves the arrangement proposed in each particular case.

4. The Senate reserves power to declare any Scholarship or Exhibition vacant or to reduce its value on the ground that the Scholar has previously or subsequent to his election

### Scholarships

acquired another Scholarship. In cases where a student holds more than one Scholarship the aggregate amount will not normally be allowed to exceed  $\pounds_{75}$ , though consideration may be given to special cases.

5. Scholars who are preparing for University degrees are required to present themselves for the degree examinations of the University of Leeds, and are not allowed (except by the special permission of the Senate) to present themselves for the examinations of any other University.

#### Applicable to Entrance Scholarships

6. Candidates for an Entrance Scholarship may be required to undergo a *vivá voce* examination, in addition to the examination by written papers.

Applicable to Scholarships awarded on the results of examinations held by the Joint Matriculation Board.

7. Candidates for these Scholarships must satisfy one of the following conditions :---

- Candidates who have passed the Matriculation Examination of the Joint Matriculation Board in a previous year, or before entering for the Scholarships have obtained from the Joint Matriculation Board a certificate of exemption from the Matriculation Examination, are required to take only the papers of the Higher Certificate Examination in the subjects prescribed by the regulations of the respective scholarships for which they are competing.
- (2) Candidates who, previous to entering for the Scholarships, have neither passed the Matriculation Examination nor obtained from the Joint Matriculation Board a certificate of exemption from the Matriculation Examination, must

(a) Take the papers of the Higher Certificate examination in the subjects prescribed by the regulations of the respective scholarships for which they are competing and

# Entrance Scholarships

 $(\delta)$  Obtain a certificate of matriculation by passing at the same time in the other subjects required by the regulations of the Matriculation Examination.

In no case will Scholarships be awarded to candidates who have not passed or obtained exemption from the Matriculation examination.

8. The University does not charge any fee to candidates who present themselves at the Matriculation examination *as Scholarship candidates only* and who do not require any certificate of having passed the examination for Matriculation purposes.

9. Those who are candidates for Matriculation as well as for Scholarships must conform to the Regulations of the Joint Matriculation Board as to filling up the prescribed entrance form and paying the Matriculation fee of  $\pounds_2$ .

10. In certain cases (see Regulations for the separate Scholarships), successful candidates are required to pursue degree courses in the University as a condition of the tenure of their Scholarships. Should such candidates not have paid the Matriculation fee of  $\mathcal{L}_2$  prior to the examination, they will be required to pay it before entrance at the University. On payment of it they will be entitled to Matriculation certificates.

# ENTRANCE SCHOLARSHIPS

The latest date of Entry for Entrance Scholarships is April 25th, after which no application will be received.

#### I. SUMMARY

The following Entrance Scholarships, tenable from October, 1922, at day classes in the University of Leeds, will be offered for competition to candidates who have not been registered students of the University. Attendance on University classes or laboratories not exceeding three hours a week in any session will not be held to preclude a student from becoming a candidate for an Entrance Scholarship under this regulation.

# Entrance Scholarships

### Awarded by the University

(a) On Results of Examinations held by the Joint Matriculation Board \*

Name of	Scholarshi	р	Number Offered.	Annual value of each.	Periods for which tenable.	Departments in which tenable.
Emsley			One	£20	2 years	Arts, Sci., Tech, exc. Text.
Edward	Baines		One	£20	2 years	Arts, Sci., Tech, exc. Text.
Charles V	Wheatley	•••	One	£25	3 years	Arts
William	Summers		One	£35	3 years	Arts
Brown			One	£40	2 years	Science, Tech.
Akroyd			Two	£60	and renewable 2 years	Science, Tech.
Craven			One	£25	and renewable 3 years	Tech, (Engineering.)
Medical			One	Fees for co (excluding	mplete course. Clinical Instr	Medicine uction).

(b) By Special Examination or Selection

Corbet Woodall	One	£60	3 years	Tech. (Gas Engineering)
William Cooke & Co.	One	£21	3 years	Tech, (Mining)

## Awarded by Public Bodies or Trustees

Name of Scholarship.	Number Offered.	Annual value of each.	Periods for which tenable.	Departments in which tenable.
Local Education Authorities	Not specified	Var	ious	Arts, Sci., Tech.
Board of Education Assisted Students	Not specified	Var	ious	Science, Tech.
William Walker Exhibitions	Two	£70-90	3 years and renewable	Fuel and Leather

\*The Examinations to which reference is made in these Regulations are those conducted by the Joint Matriculation Board of the Universities of Manchester, Liverpool, Leeds, Sheffield and Birmingham. The next Examinations will be held in July, 1922. Syllabuses of the Examinations may be obtained from the Secretary to the Board, Joint Matriculation Board, 315, Oxford Road, Manchester, to whom all enquiries with regard to these Examinations must be addressed and to whom the fee, and the entryform jor the Examination duly filled up, must be sent direct before April 25th.

### II. AWARDED BY THE UNIVERSITY

# In the Faculties of Arts, Science or Technology Emsley

This Scholarship was endowed in 1886 by the late Thomas Emsley, Esq., of Burley-in-Wharfedale, who bequeathed  $\pounds_{1,000}$  for the purpose of founding one or more Scholarships in the Yorkshire College.

There will, as a rule, be offered one Scholarship annually, of the value of  $\pounds_{20}$  a year, tenable for two years.

The Scholar will be required to pursue a course of study prescribed for a degree in Arts, Science or Law of the University, or an alternative course in the Faculties of Arts, Science, or Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. Candidates are required to take the papers at this examination in three "full" subjects from the same Group and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from candidates for this Scholarship on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

- 1887 Croft, Emily
- 1888 Houfton, Ernest Henry
- 1889 Hurst, Thomas Ockerby
- 1890 Byles, William Esdaile
- 1891 Oyston, William Fletcher
- 1892 Jackson, Edwin
- 1893 Bell, Ambrose John
- 1894 Barley, Bunten Archibald Hurd

1895 Corrie, William Edward

- 1896 Christien, Alfred Eustace
- 1897 Oddy, Annie Maude
- 1898 Hunt, Arthur Douglas
- 1899 Robinson, Ethel Margaret
- 1900 Findlay, George Hindson

- 1901 Landman, Samuel
- 1902 Convers, Hilda
- 1903 Bibby, Edward Ernest
- 1904 Brook, Annie
- 1905 Leslie, May Sybil
- 1906 Wigglesworth, Frank
- 1907 Claridge, Marjorie Muriel
- 1908 Wilkinson, Eric Fitzwater
- 1909 No award
- 1910 Wurzal, Joseph
- 1911 Richardson, Herbert
- 1912 Clayton Booth, Ethel Jane
  - Driver, Constance Jennie
- 1913 Whitaker, Elsie Dinah
- 1914 Atkin, John

1915	Anderson, Margaret Lucy	1919 <sup>1</sup> Cooper, William Ralph
1916	Brown, Winifred	<sup>1</sup> Fletcher, Evelyn
1917	Miller, George	1920 Olszewska, Mary Cecilia
1918	Aspinall, Arthur	1921 Wilson, Arnold Vernon

#### EDWARD BAINES

The Edward Baines Scholarships, founded in 1885, are established by the University in consideration of the sum of  $\pounds$ 3,000 which was raised to commemorate the public services of the late Sir Edward Baines. One-half of the sum annually devoted to this purpose is awarded by the University in the form of a Scholarship tenable by candidates who have attended a Public Elementary School within the City of Leeds; the other half is awarded in the form of a Scholarship by the Yorkshire Union of Institutes. For full particulars of the latter Scholarship see pages 478 and 479.

Candidates for the Edward Baines Scholarship must be not less than 17 years of age at the date of the award; they must have attended a Public Elementary School in the City of Leeds, and must state the name of such School on the prescribed form of application.

There will, as a rule, be offered in each year one Scholarship, of the value of  $\pounds_{20}$  a year, tenable for two years.

The Scholars will be required to pursue a course of study prescribed for a degree in Arts, Science or Law of the University, or an alternative course in the Faculties of Arts, Science, or Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

This Scholarship is awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. Candidates are required to take the papers at this examination in three "full" subjects and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from candidates for this Scholarship on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1 Scholarship divided.

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Entrance Scholarships

1886	Hutchinson, Herbert	1908	Dawes, Ivy Emily
1888	Legg, Thomas Percy	1909	Stephenson, Cyril Richard
1891	Dawson, Harry Medforth		William
1892	Parker, George Robert	1910	Mawson, Constance
1894	Hampshire, Florence	1911	Webster, Fred
	Elizabeth	1912	Kirkwood, Winifred
1895	Warmington, Edith	1913	Seanor, Kathleen Mary
1896	Scholes, Thomas Wilfrid	1914	Eckstein, Dorothy Mary
1897	Westerman, Ethel	1915	Hopkin, Jessie Melville
1898	Stevenson, Ethel Mary		Sinovitch, Israel
1899	Savage, Hilda	1916	Taylor, Emily Augusta
1900	Mc Keand, Maggie Woodrow	7	Williams, Margaret
1901	Calam, Harold	1917	Brown, George Middleton
1902	Robinson, Lilian Dorothea		Warhurst, Jennie Phedora
1903	Wilson, Florence Grey	1918	Sclare, Mabel
1904	Hargreaves, Edith		Wainwright, Amy
1905	Christie, John Hugh	1919	Raisman, Jacob
1906	Marsh, Frank Salton	1920	Storey, Ralph Charles
1907	Guy, Ernest	1921	Erdheim, Joseph Eli

#### In the Faculty of Arts

### CHARLES WHEATLEY

This Scholarship was established by the University in 1903, in consideration of the sum of  $\pounds$ 1,500 given by the Misses Robinson of Mirfield and Mrs. Steele of Kettering, in memory of the late Charles Wheatley, Esq., of Mirfield. In case of equality of candidates, a preference is to be given to residents in Mirfield.

The Scholarship is of the annual value of  $\pounds 25$ , tenable for three years, and will be awarded as often as the funds at the disposal of the Trust admit.

The Scholar elected will be required to pursue a course of study at the University preparatory for the B.A. or I.L.B. degree of the University.

This Scholarship is awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. Candidates are required to take the papers in three "full" subjects, in either Group I or Group IIa and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

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1904	Scholes, Katherine Louise	1914	Tesh, Elsie
1905	Frank, Dorothea Ethel	1915	Kaye, Ruth Armitage
1906	Batchelor, Edith	1916	McLeannan, Florence Lilian
1908	Redfearn, Florence Mary	1917	No award
1909	Cass, Muriel	1918	Cordukes, Redvers Baden
1910	Greenwood, Josemee	1919	Opie, Eleanor Mary
	Marguerite	1920	Dunwell, Wilfrid
1911	No award	1921	Roberts, Gertrude Mary
1912	No award		Rayner
1913	Dean, William Henry		

### WILLIAM SUMMERS

This Scholarship was founded by Mr. and Mrs. Buckley, of Ryecroft Hall, Audenshaw, near Manchester, in memory of William Summers, Esq., late M.P. for Huddersfield, and for many years a member of the Court of the Victoria University.

Candidates for this Scholarship must have been resident in the Parliamentary Borough of Huddersfield during one full year previous to the 1st of June of the year in which they compete, or must have attended a public school in the said Borough for the same period.

The Scholarship is of the annual value of  $\pounds_{35}$ , and is tenable for three years. Any accumulations of the Scholarship Fund will be expended by the Council as it may from time to time determine in prizes or exhibitions for candidates who shall have acquitted themselves sufficiently well in the examination without having obtained the Scholarship.

The successful candidate will be required to pursue in the University of Leeds a regular course of study in one of the following Honours Schools: (1) Classics; (2) English Language and Literature; (3) Modern Languages and Literatures; (4) History; (5) Philosophy; or any other Honours School in the Faculty of Arts approved by the Senate. Such course must be commenced in the October next after election to the Scholarship.

The Scholarship is awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. Candidates are required to take the papers in three "full" subjects in either Group I or Group IIa and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from

#### Entrance Scholarships

candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1905	Hirst, John Crosland	1914	No award
1906	Dearnley, Charles	1915	Whitley, John
1907	Hobson, Julia	1916	No award
1908	Carter, John Wilfrid	1917	No award
1909	No award	1918	Schofield, Beatrice Rachel
1910	No award	1919	No award
1911	No award	1920	Smith, Kathleen Gertrude
.1912	No award		Mary
1913	No award	1921	Michelbacher, Beatrice Elsie

# In the Faculties of Science and Technology BROWN

These Scholarships were endowed in 1877 by the late Henry Brown, Esq., of Bradford and Rawdon, who bequeathed  $\pounds_{5,000}$  to the Yorkshire College for the purpose of founding five or more Scholarships to be called the Brown Scholarships, for students attending the said College and receiving instruction in the various branches of those Sciences which are applicable to the Industrial Arts.

In general there will be offered in each year one or two Scholarships of  $\mathcal{L}_{40}$  a year, each tenable for two years, with power of extension. Applications for extension must be sent to the Clerk to the Senate before the end of the second term.

A preference will be given, *cæteris paribus*, to candidates who have declared their intention of entering some industry, instruction in the principles of which is given in the University, or of engaging in the teaching of Science. In the case of equality of candidates, a preference will be given to residents in Bradford or natives of Bradford.

The selected Scholars will be required to pursue a course of scientific or technical study which will qualify for a degree in Science, or for a diploma of the University, or otherwise to devote themselves, in a manner approved by the Senate, to the study of one or more branches of pure or applied science taught in the University.

Brown Scholarships are not tenable by students who propose to enter, or who have already entered, on courses of study in the Faculty of Medicine, unless they are reading

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# Entrance Scholarships

for the B.Sc. degree of the University of Leeds. They are now awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. *Candidates* are required to take the papers in three "full" subjects from Group III and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

Skirrow, Benjamin Beck 1881 Overend, Wilkinson Easterfield, Thomas Hill 1882 Courtice, George Robert Aulton 1883 Teanby, George William Alvey 1885 Marriner, William Wright 1886 Jennison, Francis Herbert 1899 Goodson, Ethel Eliz Grimshaw, Norman Gough, Alfred 1900 Booth, Meyrick 1902 Armes, Henry Percy Crosland, Percy Fiel Lord, William Erne 1903 Hodsman, Henry Ja	abeth
<ul> <li>1881 Overend, Wilkinson Easterfield, Thomas Hill 1900 Gough, Alfred Booth, Meyrick 1902 Armes, Henry Percy Crosland, Percy Fiel Lord, William Erne 1885 Marriner, William Wright 1903 Hodsman, Henry Ja 1886 Jennison, Francis Herbert 1904 McGill, Ernest Arthorem 1904 McGill, Ernest Arthorem 1905 Armes, Henry Crosland, Percy Fiel Lord, William Erne 1905 Marriner, William Wright 1903 Hodsman, Henry Ja 1906 McGill, Ernest Arthorem 1904 McGill, Ernest Arthorem 1904 McGill, Ernest Arthorem 1904 McGill, Ernest Arthorem 1905 Marriner, Marchardt 1905 McGill, Ernest Arthorem 1905 McGill McGill, Ernest Arthorem 1905 McGill McGill, Ernest Arthorem 1905 McGill McGill</li></ul>	
Easterfield, Thomas Hill 1900 Gough, Alfred 1882 Courtice, George Robert 1901 Booth, Meyrick Aulton 1902 Armes, Henry Percy 1883 Teanby, George William Alvey Crosland, Percy Fiel Lord, William Erne 1885 Marriner, William Wright 1903 Hodsman, Henry Ja 1886 Jennison, Francis Herbert 1904 McGill, Ernest Arth	
<ul> <li>1882 Courtice, George Robert Aulton</li> <li>1883 Teanby, George William Alvey</li> <li>1885 Marriner, William Wright</li> <li>1886 Jennison, Francis Herbert</li> <li>1901 Booth, Meyrick 1902 Armes, Henry Percy Crosland, Percy Fiel Lord, William Erne</li> <li>1903 Hodsman, Henry Ja</li> <li>1904 McGill, Ernest Arth</li> </ul>	
Aulton 1902 Armes, Henry Percy Crosland, Percy Fiel Lord, William Erne 1885 Marriner, William Wright 1886 Jennison, Francis Herbert 1903 McGill, Ernest Arth	
<ul> <li>Teanby, George William Alvey</li> <li>Marriner, William Wright</li> <li>Jennison, Francis Herbert</li> <li>Crosland, Percy Fiel Lord, William Erne</li> <li>Hodsman, Henry Ja</li> <li>McGill, Ernest Arth</li> </ul>	7
Alvey 1885 Marriner, William Wright 1903 Hodsman, Henry Ja 1886 Jennison, Francis Herbert 1904 McGill, Ernest Arth	ld
1885 Marriner, William Wright 1903 Hodsman, Henry Ja 1886 Jennison, Francis Herbert 1904 McGill, Ernest Arth	st
1886 Jennison, Francis Herbert 1904 McGill, Ernest Arth	mes
	ur
1887 Hartley, Thomas 1905 Barker, Christopher	James
1888 Mann, Harold Hart Watson, James Arth	ur
Parkin, Ernest 1906 Wood, George	
1889 Smith, James Cowlishaw 1907 <sup>1</sup> Lee, Elsie	
Cobb, John William 1908 <sup>2</sup> Atkin, William Rear	rden
1500 Crouch, John Peachey 1909 <sup>1</sup> Stocks, Herbert Hol	lroyd
Norman, Frank Meade 1910 Seville, Robert Ockl	leston
Peatfield, Albert Edward 1911 Lunn, Reginald Wil	liam
1891 Dewhirst, Wilfrid Arthur 1912 Chapman, Robert E	dward
Liversidge, Will 1913 Seymour-Jones, Fran	ik Leslie
French, James Wilson 1914 Monkhouse, Allan	Cuth-
Duncan, John bertson	
1892 White, Arthur Lee 1915 Chappell, Norman	
Barber, John Watson Robinson, Ralph Lo	ozelu
Convers, James Reeve 1916 Jordinson, Frank	
1893 Chapman, Harold Percy Stevenson, Francis I	Malcolm
1894 Dalton, John Edwin 1917 Lister, Flora	
1895 Leach, Elsie Rea, Rosamond Mar	y Lloyd
Robinson, Elizabeth Clare 1918 Le Fevre, Helen	
1896 Blackburn, William Rhodes, Oswald Sta	nley
Broughton 1919 Marshall, Clarence I	Bolus
Hinchcliff, Joseph Henry Thorp, Dora	
1807 Forsyth, Christina Brand 1920 Hull, Philip Heber	
Hunt, Francis William 1921 Oakes, Ephraim Par	ker
18c8 Hummel, Alfred Roland	
Ure	
· Penewed for a third war a Revewed for a fourth wear	

### Akroyd

These Scholarships are maintained by funds accruing from the Akroyd Trust, and are intended for the encouragement of the study of Natural Science.

In general there will be offered in each year one or two Scholarships of  $\pounds 60$  a year, each tenable for two years, with power of extension. Applications for extension must be sent to the Clerk to the Senate before the end of the second term.

Women are not eligible for the Akroyd Scholarship.

Akroyd Scholars will be required to pursue such a course of study in the Faculties of Science and Technology, as shall, in the opinion of the Senate, constitute an effective preparation for a degree in Science or for a scientific calling.

Akroyd Scholarships are not tenable by students who propose to enter, or who have already entered, on a course of study in the Faculty of Medicine, unless they are reading for the B.Sc. degree of the University of Leeds.

These Scholarships are awarded on papers set in the Higher School Certificate examination of the Jcint Matriculation Board. Candidates are required to take the Papers in three "full" subjects from Group III and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

877	Bothamley, Charles Herbert 188	4 Fry, Ernest Bickersteth
1878	Briggs, William	Moore, Ira
	Ingle, Herbert	Wheelwright, Edwin
1879	Wilson, Albert Edward	Whitfield
1879	Atkinson, Thomas Francis	Pocklington, Henry Cabourn
1880	Stables, William Herbert	Thompson, George Robert
1881	Taylor, Arthur	Booth, Robert Davis
1882	Wright, Joseph 188	5 Duncan, William
1882	Allen, Harold Newman	Watmough, Benjamin
	Hurtley, William Holdsworth	Dains, Herbert Henry
	Wright, George Ward 188	6 Hunt, Tom Harold
1883	Dibb, John Hustwick	Ives, James Percy
5	Speak, Savannah Johnson	Sykes, Ernest
	Tucker, Clara 188	7 Holmes, Harry Slater
	Hick, Herbert Edward	Booth, Frederick William
	Wilson, Edwin	Horrell, Ernest Charles

### Entrance Scholarships

1888	Miall, Stephen	1907	Rawling, Francis George
	Nicholls, Percy		Varley, Gilbert
	Myers, John Éllis	1908	Pearson, William
	Sowry, George Herbert	-	Staveley, John
1889	Porter, John Fletcher	1909	Rawling, Arthur
	Sunderland, Arthur		Taylor, Ernest
	Acott, Richard Harry	1910	Douglas, Frank
	Midgley, Harry	-	Hartley, John Alfred
1800	Mitchell, Clifford	1911	Gibson, Wilfrid
)-	Archdeacon, William Henry	-	Harrap, Frank Nettleton
1891	Holt, John Lupton	1912	Hanby, Thomas
	Halliwell, Edward		Mountford, Christopher
1892	Turton, Edward		Archibald
>	Brown, James Herbert	1913	Hey, Arthur Marsden
1893	Gough, William		Umanski, Arthur Joseph
1894	Calvert, Harry Thornton		Victor
1895	Groocock, Henry Lloyd	1914	Crowther, Edward Mortimer
)5	Robinson, Harold		Ward, Harry
1896	Shepherd, Arthur Burton	1915	*Hutchinson, Charles
1897	Middlemiss, James Ernest		Rowland
1898	Livesev, Charles Edwin		*Sykes, Leonard Sheard
/-	Leonard		Whattam, Thomas William
1800	White, Herbert Leslie	1916	*Clarkson, William Edward
1000	Scholefield, Fred		Gordon, Morris
- )	Willey, Edward		*Milne, Geoffrey
1901	Radcliffe, Norman Brooke	1917	Pinder, William Leatham
-	Zortman, Israel Hyman		Townend, Donald Whiteley
1902	Brown, John Duncan		Woodall, Herbert
-	Hollins, Cecil	1918	Cockcroft, James Philip
1903	Harris, Marks Solomon		*Crosland, Eric Bentley
	Horsfall, Ronald Smith		Peel, Samuel Longley
1904	Davies, Hamilton	1919	Davies, David John
	Sinson, Israel Lewis		Garner, Walter
1905	Jenkins, Gilbert Ramsden		Rabinovitch, Michel
, ,	Marshall, Francis	1920	Silverman, Sam
	Riley, Frank		Wayne, Edward Johnson
1906	Dudley, Harold Ward	1921	Drake, Reginald Murdin
-	Hurst, Frank		Hyman, Wilfred
	,		

# In the Faculty of Technology CRAVEN

This Scholarship was established in the year 1887, by a number of the Engineers of Leeds, in recognition of the services rendered by the late Joseph Craven, Esg., to the Mechanical Engineering trades of the district.

The Scholarship will be awarded triennially to the Engineering student who, having passed the Matriculation

Renewed for a third year, 2 Renewed for a fourth year.

examination of the Joint Matriculation Board, has done best in the ordinary papers in Mathematics and Mechanics. It is of the annual value of  $\pounds 25$  and is tenable for three years, subject to the conditions as to conduct and attendance laid down in the General Regulations applicable to all Scholarships. Not less than four-fifths of the value of the Scholarship is to be spent in fees. The balance will be paid to the scholar in cash.

Candidates must have been, previous to the day of examination, resident in the City of Leeds for a period or periods amounting together in the aggregate to at least five years, and be so resident at the time they present themselves for examination. Applications from candidates for these Scholarships on the prescribed forms, which are obtainable from the Office of the University, must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1888	Banks, Arthur	1909	No award
1890	Perkin, Herbert	1910	No award
1892	Hammond, Joseph Wetheril	1911	No award
1894	Millard, Frederick Stanley	1912	No award
1900	Sturgeon, Robert Alexander	1913	Woodcock, Victor Joseph
1900	Anderson, Robert	1914	No award
1901	Frazer, Edgar Hamilton	1915	Wray, Arthur Alexander
1903	Maddison, Wilfred Guy	1916	Burn, Ernest Francis
1905	No award	1917	Begley, Lawrence Gordon
1906	No award	1918-2	I No award
1907	Gerard, Inglis Joseph		
1908	No award		

# Corbet Woodall Scholarship in Gas Engineering

This Scholarship was endowed in 1915 by Sir Corbet Woodall, through the Institution of Gas Engineers, and is to be held at the University of Leeds. The annual value of the Scholarship is  $\pounds 60$ , and is tenable for three years, with power of extension for a fourth year on the recommendation of the Senate to the Corbet Woodall Scholarship Committee. The continuation of the Scholarship each year after the first will depend on the work done by the scholar in the previous year being reported to the Committee as satisfactory.

### Entrance Scholarships

The Scholarship is intended to enable a student to take a course of study in Gas Engineering at the University, in preparation for a responsible position as a gas engineer. Candidates for election to the scholarship are required (i) to produce evidence of having reached a standard of scientific or technological education sufficient to enable them to take advantage of the B.Sc. degree, or Diploma course in Gas Engineering, and (ii) to give an undertaking of their intention to follow the profession of gas engineer. On each vacancy the award of the scholarship will ordinarily be made during the month of June, after due advertisement in the technical press. The Scholarship will be awarded by the Senate after consultation with the Corbet Woodall Scholarship Committee.

Each candidate is required to submit (i) a statement of his previous education and of his scientific or technological qualifications, (ii) testimonials (a) from the head of the Institute in which he received his previous education, (b) if he has been already engaged in a gas engineering works, from the engineer of the works. The Senate, in conjunction with the Corbet Woodall Scholarship Committee, will determine what examination, if any, is necessary in order to guide them in the award of the scholarship.

1916 Ingram, Leslie Peel

#### WILLIAM COOKE & COMPANY

This Scholarship was instituted in 1906 by Messrs. William Cooke & Co., of Sheffield.

It is of the annual value of  $\pounds_{21}$ , and is tenable for three years. It is awarded triennially.

Candidates must be either (a) mining students articled to mining engineers, colliery managers, or colliery proprietors; or (b) persons who are actually employed underground at a colliery, or who have been employed underground for a period exceeding three years.

The Scholar will be required to pursue the course of study prescribed for the diploma in Coal Mining, and to present himself, as soon as he is properly qualified, as a candidate for that diploma, and also for the Colliery Manager's First Class Certificate of competency to manage a Mine. He
must attend this course regularly, and must take his examinations in the proper order and at the time laid down by the regulations of the University.

The Scholarship will be awarded on the result of an examination in ( $\iota$ ) English Composition; and (z) Mathematics (Arithmetic; Algebra, including quadratic equations; the Elementary Geometry of triangles, parallelograms, and circles, and of similar rectilinear figures), which two subjects are compulsory on all candidates; and also in one or more of (3) Mechanics; (4) Physics; and (5) Chemistry.

In 1921, the examination will be held about the middle of June. Applications from candidates for this Scholarship must be sent to the Clerk to the Senate not later than May 1st, after which date no application will be received.

## 1917 Berry, Samuel

## CLOTHWORKERS' FREE STUDENTSHIPS (EVENING)

The Worshipful Company of Clothworkers of the City of London offer twelve Free Studentships, each of the value of  $\pounds 2$  ros., to selected students from certain Technical Schools in the West Riding who may desire to attend the advanced Evening Classes in the Department of Textile Industries in the University of Leeds. Each Free Studentship is tenable for one year.

## In the Faculty of Medicine MEDICAL

This Scholarship was instituted by the Leeds School of Medicine in 1888. It consists of free admission to the lectures and practical instruction given in the University for the M.B. course. It does not include Infirmary and Fever Hospital practice and instruction in Vaccination and Intern Maternity which are given outside the University buildings. The Scholarship is awarded on papers set in the Higher School Certificate examination of the Joint Matriculation Board. Candidates are required to take the papers in three "Full" subjects from Group 111 and in one subsidiary subject in accordance with the regulations of the Higher School Certificate Examination. Candidates must have declared their intention, if elected, of entering the University of Leeds as students in the Faculty of Medicine.

The successful candidate will be required to enter at the University of Leeds as a student in the Faculty of Medicine, in the October immediately following the examination, to pursue, at the University of Leeds and at the General Infirmary at Leeds, the curriculum for a medical degree in the University of Leeds; and to proceed to such degree. But should the successful candidate desire to take a degree in Science or a fuller course of scientific work, before entering upon his professional studies, he shall give immediate notice of his wish to the Senate, which may, if it so determine, allow the Scholar, after passing the First M.B. examination, to postpone his attendance in the School of Medicine for one year only, during which time he shall pursue such course of study at the University as the Senate may authorise.

Applications from candidates for these Scholarships on the prescribed forms which are obtainable from the Office of the University must be sent to the Clerk to the Senate not later than April 25th, after which date no application will be received.

1889	Houfton, Ernest Henry	1906	Little, Cuthbert Joseph	
1890	Callum, Harold Sidney Hill		Harwood	
1891	Greenwood, Henry Harold	1907	Kirk, George William Lister	
1892	Towse, Walter	1908	Knowles, Henry Rylands	
1893	Field, Richard Cullingworth	1909	No award	
1894	Turton, Edward	1910	Leake, Charles Edward	
1895	Gough, William	1911	Dudley, Charles William	
1896	Radcliffe, Percy Alexander	1912	Adler, Saul	
	Hurst	1913	Bertwistle, Alfred Pilkington	
1897	Coupland, James Alane	1914	Sheard, Arthur	
1898	Middlemiss, James Ernest	1915	Blackburn, John Taylor	
1899	Boyle, Alan	1916	Levy, Simon	
1900	Edmondson, Watts	1917	Lewis, George Edward	
1901	Gough, Alfred		Andrew	
1902	<sup>1</sup> Booth, Sydney Herbert	1918	Sunley, George Raine	
1902	<sup>1</sup> Rawlings, Harry Richardson	1919	Curtis, Francis Roy	
1903	Hamilton, William Douglas	1920	Masser, Matthew	
1904	No award	1921	Smith, Hubert	
1905	Thoseby, John Norman	-		
	Lonsdale			

1 Scholarship divided.

## III. AWARDED BY PUBLIC BODIES OR TRUSTEES

CITY AND COUNTY COUNCIL SCHOLARSHIPS

Scholarships tenable at the University of Leeds in scientific and technical subjects (including Agriculture), as well as in Arts subjects, are offered by the Leeds City Council and the County Councils of the North, East, and West Ridings of Yorkshire. In the West Riding, Exhibitions are also offered in Coal Mining, and Free Studentships tenable at the University.

In certain cases assistance is offered to students in Evening Classes.

For further information application should be made as follows :----

For Leeds City Council Scholarships: To the Director of Education (Higher Section), Education Department, Leeds.

For West Riding Scholarships and Free Studentships: To the Education Department, County Hall, Wakefield. Applicants should ask for Section X of Part II of the Handbook of the Education Committee.

For North Riding Scholarships : To the Secretary, County Education Offices, County Hall, Northallerton.

For East Riding Scholarships : To the Clerk, East Riding County Council, Beverley.

In all cases where there is a possibility of Scholarships being renewed, application for renewal should be made to the Clerk to the Senate not later than the end of the second term.

BOARD OF EDUCATION ASSISTED STUDENTSHIPS

The Board of Education pay three-fourths of the fees in the following Day classes, and one-half of those in the Evening classes, for a limited number of teachers engaged in science teaching.

Applications for this privilege must be made to the Secretary, Board of Education, Victoria and Albert Museum, Exhibition Road, South Kensington, London, S.W. 7, not later than the beginning of September in each year.

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DAY CLASSES

Physics: Any of the lecture courses, not exceeding two in number; laboratory instruction for not less than half a day per week. Chemistry: Lectures and laboratory as above.

Geology : Lectures and laboratory as above.

*Civil and Mechanical Engineering*: Lectures and laboratory as above. *Electrical Engineering*: Lectures and laboratory as above.

- Zoology: The lecture courses, Intermediate, Final and Honours; laboratory instruction as above; Nature Knowledge (lectures and practical work).
- Botany: The lecture courses, Intermediate and Final; laboratory as above; Nature Knowledge (lectures and practical work).

Mathematics: Any of the lecture courses, not exceeding two in number. Agriculture: Any of the lecture courses, not exceeding two in number.

Agricultural Chemistry: Any of the lecture courses, not exceeding two in number. Laboratory instruction for not less than half a day per week.

#### EVENING CLASSES

*Electrical Engineering*: Any of the lectures and the practical classes. *Civil and Mechanical Engineering*: Any of the lecture classes, laboratory or drawing instruction.

## WILLIAM WALKER EXHIBITIONS

These Exhibitions are intended to enable students to obtain at Leeds University scientific instruction of an advanced character in the Technology of Coal and its Bye-products and in the Technology of Leather. Each Exhibition is of the annual value of from  $f_{70}$  to  $f_{90}$  and (subject to the condition named below) is tenable for three years, with power of extension by the trustees for a fourth year in the case of an Exhibitioner who has shown exceptional promise during his course of training at the University. The continuation of the Exhibition each year after the first will depend on the work done by the Exhibitioner in the previous year being reported to the Trustees as satisfactory. The Trustees may, if they think proper, divide the income of each Exhibition between two candidates, or only award part of it in certain cases, as determined by circumstances.

Candidates for election to the Exhibitions must be natives of, or living in the Poor Law Unions of Whitehaven and Bootle, except the Urban District of Millom, and between the ages of 16 and 22.

Applications for leave to enter for the examination and any inquiries for further information should be addressed to the Secretary, Mr. J. M. Nelson, The Tannery, Whitehaven.

> 1916 Mott, Reginald Arthur Tyson, Gilbert John Gilbanks

## YORKSHIRE UNION OF INSTITUTES (EDWARD BAINES)

This Scholarship is intended for students of either sex who have done satisfactory work at Evening Technical Schools, or Classes ; a suitable amount of workshop or mill experience will also ordinarily be required. Candidates must have been members of, or students at, an Educational Institute in affiliation with the Yorkshire Union of Institutes for at least twelve months prior to the date of application, and must have had two years' practical experience, which, in the opinion of the Council of the Union, is of a character allied to the trade or profession in preparation for which the Scholarship would be utilised. Applicants must not be under 18, or over 30 years of age.

The Scholarship will be of the value of  $\pounds_{40}$  per year. This amount will cover the tuition fees, and leave a margin available for books, travelling expenses, &c. The Scholarship will be awarded in the first instance for one year, renewable for a second and a third year in the event of satisfactory progress.

If the holder of a Scholarship ceases to follow the approved Course of Instruction at the University during the currency of any educational year, the payments made on his or her behalf for such year, or such part of them as the Council of the Union may determine, must be refunded by the holder (or by the parent or guardian) unless the leaving be due to illness or some other cause which may be considered sufficient by the Council of the Union. Each holder (or his or her parent or guardian) must enter into an agreement to carry out this condition.

Applications must be made on Forms which may be obtained from the Secretary, The Yorkshire Union of Institutes, Victoria Chambers, Leeds. These Forms must be filled up in every particular and despatched so as to reach the Office of the Union on, or before, June 30th, in the year when the Scholarship is offered.

Applicants for Scholarships should give full particulars of the whole of their previous work in fundamental or allied

#### Former Scholarships

subjects, and preference will be given to any one who may have followed a Group Course of Instruction on recognised lines. Applicants will be required to give evidence of having studied for at least two winters in a Technical School, and to produce a nomination or recommendation from the Managers of the School, endorsed by their employers.

The selection will be based mainly upon the results obtained by the Candidates at the Examinations of the Board of Education, and the City and Guilds of London Institute, respectively; the Council of the Union reserve the right to hold any further examination, or impose any further requirement, in order to assist them in their selection of candidates.

## FORMER SCHOLARSHIPS, NOW DISCONTINUED

#### Akroyd and Brown Senior Scholarships

Formerly part of the income of the Akroyd and Brown Scholarship funds was applied to the maintenance of Senior Scholarships, awarded after examination to registered students of the University, and tenable in the Faculties of Science and Technology, but the Senate resolved on May 15, 1905, to apply such income to the continuance of Scholarships originally awarded as Entrance Scholarships.

1882	Parkin, Alfred	1894	Wilson, Harold Albert
1883	Taylor, Arthur		Haworth, Frederic
1884	Wright, Joseph	1895	Rigby, William
1885	Speak, Savannah Johnson		King, Herbert
1886	Wilks, Stephen Longmore	1896	Calvert, Harry Thornton
	Butterworth		Jowett, Albert
	Wheelwright, Edwin Whit-		Tansley, George Edward
	field	1897	Storr, Bertram Vincent
	Courtice, George Robert		Cooper, Albert Henry
	Aulton	1898	Groocock, Henry Lloyd
1887	Hastings, Hugh	1898	Shepherd, Arthur Burton
1888	Stoney, William Walter	1899	Hunt, Francis William
1889	Ingle, Harry		Gawler, Robert
1890	Miall, Stephen	1900	Grant, Charles Henry
-	Mann, Harold Hart		Thompson, John Thomas
1891	Cobb, John William	1901	Denton, Ernest
1892	Archdeacon, William Henry		Gray, Arthur Lambert
1893	Wise, Julian Stanton	1902	Raper, Henry Stanley
20	Welpton, William Parker	1903	Zortman, Israel Hyman
	Guthrie, Thomas	1904	Phillipson, Abram

#### Former Scholarships

#### Brown Senior Scholars

1880	Ingle, Herbert	1892	Davis, Frederick William
	Passavant, Laura Maude		Daniel
1881	Wilson, Albert Edward		Marsland, Roland
	Armstrong, Wilhelmina	1893	Dawson, Harry Medforth
	Maria	20	Motley, Parker
1882	Senior, William Otte	1894	Eurich, Hermann Oskar
	Stables, William Herbert	1895	Guthrie, Thomas
1883	Allen, Edgar Johnson	1896	Dalton, John Edwin
	Ahrons, Ernest Leopold	1897	Broadbent, Francis James
1884	Potter, Arthur Edward		Skirrow, Frederick William
	Schmitz, Herman Emil	1898	Findlay, Mary Grace
1885	Dibb, John Hustwick	1899	Whiteley, Charles Edward
	Hurtley, William Holdsworth	1900	Chapman, Fitzroy Tozer
1886	Pocklington, Henry Cabourn		Unwin, Ernest Ewart
	Thompson, George Robert	1901	Hummel, Alfred Roland
1887	Duncan, William		Ure
	Thorp, Walter		Stoddard, Arthur Askwith
1888	Sykes, Ernest	1902	Dell, John Alexander
1889	Watson, Frank Leslie		Goodson, Ethel Elizabeth
1890	Nicholls, Percy	1903	Calam, Harold
	Myers, John Ellis		

#### Leeds City Council Entrance Scholarship.

This Scholarship of the annual value of  $\pounds_{50}$  was founded by the Council of the Yorkshire College, in 1892, out of the sum voted by the Leeds City Council, and up to 1912 was awarded as an Entrance Scholarship tenable for three years in the Faculties of Arts, Science and Technology. In 1912 the Council of the University, on the recommendation of the Senate and with the approval of the City Education Committee, decided that the funds should be utilised instead for the purpose of extending the courses of deserving and necessitous Leeds students in attendance at the University.

1892	Hefford, Charles Nelson	1902 Me	llor, Fred	
1893	Watson, Herbert Wood	1903 Kle	in, Harris	
1894	Cooper, Albert Henry	1904 Cro	wther, William Edmund	1
1895	Findlay, Mary Grace	1905 1Sim	pkiss, Nellie	
1896	Whiteley, Charles Edward	<sup>1</sup> We	bster, Herbert William	l
1897	Chapman, Fitzroy Tozer	1906 Bar	nnister, Albert	
1898	Gray, Arthur Lambert	1907 Bro	die, Morris	
1899	Grant, Frederick Ernest	1908 No	award	
1900	Cunningham, Jean Orme	1909 Wo	odroffe, David	
1901	Phillipson, Abram	1910 Wh	incup, Harry Hynes	
-				

I Scholarship divided,

## SENIOR SCHOLARSHIPS

## In Arts, Science or Technology

#### UNIVERSITY

A limited number of University Scholarships may be offered annually, and will ordinarily be awarded to students who have shown special merit in the Final examinations of the Honours Schools of the University. In the election to Scholarships, preference will ordinarily be given to students who are prepared to undertake advanced study or research. When such advanced study or research is undertaken in the University, or in some other University or learned institution, or under suitable guidance in a manner approved by the Senate, an additional maintenance grant not exceeding  $\pounds_{100}$ may be made; in other cases the Scholarship will be of the value of  $\pounds_{25}$ .

Scholars who receive a grant additional to the  $\pounds 25$  will be required to furnish a report of the work done by them during the tenure of the Scholarship, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Scholarship, in order that it may be laid before the Senate. Scholarships may be renewed for a second year when the scholar is undertaking advanced study or research.

Applications for renewal must be sent to the Clerk to the Senate before the end of the second term.

- 1905 Armes, Henry Percy (Chemistry).
   <sup>1</sup>Gunnell, Doris (Modern Languages).
   <sup>1</sup>Holmes, Carrie (English) Edwards, Maud Mary (Modern Languages) Gregory, Frederick Maurice (Engineering)
- 1906 Hodsman, Henry James (Chemistry) Butterworth, George William (Classics) Holgate, Edward (Engineering)
- 1907 Cross, William Ernest (Chemistry) Davies, Hamilton (Chemistry)
   Fairley, Barker (Modern Languages)
   Shuttleworth, Newton (Electrical Engineering)
   Thorp, Hilda (Modern Languages)
   Walker, Jessie (English)

1 Renewed for a second year.

1908	Blockey, John Reginald (Chemistry)
	Jackson, Colin Gyrth (Chemistry)
	Leslie, May Sybil (Chemistry)
	Riley, Frank (Chemistry)
	1Commun Edward II amoud (Distance)

- <sup>1</sup>Strange, Edward Howard (Philosophy)
- 1909 Dudley, Harold Ward (Chemistry) Peel, Albert (History)
- 1910 Duffin, Joseph Francis (Physics) Powis, Frank (Chemistry)
- 1911 Chapman, Sarah Elizabeth (Geology) Woodman, Herbert Ernest (Chemistry)
- 1912 Dawson, Thomas Rayner (Chemistry) Ogden, Herbert (Physics)
- 1913 Dry, Francis William (Zoology) Dutt, Pavitra Kumar (Chemistry) Smith, Jane Elizabeth (Botany) Sugden, Reginald (Chemistry) Varey, Mary (Modern Languages) Whincup, Harry Hynes (Classics) Woodroffe, David (Chemistry)
- 1914 Dougill, George (Gas Engineering) Gibson, Wilfrid (Chemistry) Irish, Edward (Chemistry of Leather Manufacture) Quarmby, Frederick (Physics) Randall, William (Mining Engineering) Smithells, Colin Iames (Chemistry) Versey, Henry Cherry (Geology)
- 1915 Crann, Thomas William (Chemistry)
   Edmondson, John (Civil Engineering)
   Holliday, Marjorie Tate (Modern Languages)
   Horsley, Ernest (English)
- 1916 Balsaert, Arthur Joseph Alphonse (Textiles) Ives, Frank (English) Mountford, Christopher Archibald (Chemistry) Percival, Edward (Zoology) Sutcliffe, Dorothy (History) Umanski, Arthur Joseph Victor (Mathematics) Whitaker, Elsie Dinah (Geology) Woodcock, Hester Elizabeth (Modern Languages)
- 1917 Dowson, Evelyn Rhoda (Modern Languages) Marsden, Hilda (English) Perry, Francis Charles (English) Tesh, Elsie (History)
- 1918 Berry, Arthur (English) Denison, Ruby Gladys Martha (Modern Languages)

<sup>1</sup> Renewed for a second year.

- 1919 Barker, Doris Wright (Modern Languages). Speed, Marie Elizabeth (English). Taylor, Emily Augusta (History).
- Bradshaw, Geoffrey Gordon (Colour Chen:istry) Brown, Winifred (Modern Languages)
  Greenwood, Herbert Donald (Gas Engineering) Howarth, Gibert Bartle (Gas Engineering) Lonsdale, Hettie (Modern Languages)
  Maden, James (Geology)
  Moffatt, Henry Robert (Civil Engineering)
  Moore, Charles Herbert (French)
  Petch, Frank (Geology)
  <sup>1</sup>Raisman, John (Classics)
  Russell, Ruth Mary (Modern Languages)

Spencer, George Douglas (Colour Chemistry) Sykes, Norman (History)

1921 Crowther, David (Philosophy) Firth, Nellie Marguerite (Modern Languages) Hopper, Sydney Herbert (History) Robinson, Louis (History) Shearer, William Sinclair Russell (English) Williams, Joseph Russell (English) Woodman, Rowland Marcus (Chemistry)

#### LEIGHTON

These Exhibitions were instituted in 1894 by the Trustees of the late Mrs. Isabel Leighton of Leeds.

Candidates must be registered students of the University of not less than two terms standing. They must have attended a Public Elementary school or schools in the City of Leeds for not less than three years.

Three Exhibitions are ordinarily offered each year, each of the annual value of  $\pounds$ ro, and are tenable for two years, and renewable for two years subject to the reports on the student's work during the first year of tenure being satisfactory.

The Exhibitions will not be awarded on any special examination, but those students who are desirous of becoming candidates are required to send in their names to the Clerk to the Senate not later than May 1st in each year.

In recommending candidates for appointment, the Senate will be guided by the position held by the candidates in

I Renewed for a second year

their terminal examinations, and also by their general work and conduct. The need of the applicants for pecuniary assistance will also be taken into consideration.

The Exhibitions are tenable by day students pursuing any course of study in the Faculties of Arts, Science and Technology, and may, with the consent of the Trustees, be held in conjunction with any other Scholarship.

The election will be made in the third term of the session, provided that there be suitable applicants.

1894	Gough, William	1910
1895	Hampshire, Florence	
0 6	Elizabeth	
1896	Shacksnovis, Reuben	1911
1897	Porritt, Florence Mary	
0.0	Scholes, Thomas Wilfrid	1912
1898	Gawler, Kobert	
1899	Dhillingen Coloure	
1899	Savaga Hilda	1913
1900	Pohincon Ethol Morgarot	
TOOT	Burgess Lillie	
1901	Schofield Fred	1014
1002	Calam, Harold	1914
- 90-	Landman, Samuel	
	Stead, Frank Cawthron	1015
1903	Appleyard, John Ernest	- ) - )
	Robinson, Lilian Dorothea	1916
	Waite, Joseph Henry	-
1904	Carlton, George Westerdale	
	Maddison, Wilfred Guy	1917
	Thorp, George	
1905	Lacy, Arthur	1918
	Vernon, Edgar	
1906	Hogan, Kathleen	1919
1907	Everett, Percy Newton	
	Marsh, Frank Salton	
0	Turner, Frederick William	1920
1908	King, Norman	
	Mann, Clarissa	
	Powis, Frank	1921
	Webster, Herbert William	
	Wood, Louis Albert	
1909	Ellis, Henry Carl Noel	
	Laylor, Arthur	
	Worshop, Edgar	

1910	Goldstone, Cecilia
	Lee, Harry
	Libbish, Barnet
1911	Dawson, Inomas Rayner
	Mailin, Hubert Patrick
1912	Cohen, Sam
	Hutton, Charles William
	Marshall, Herbert
1913	Blair, James
	Chapman, Robert Edward
	Kirkwood, Winifred
	Normington, Nellie
1914	Ellis, Myer
	Parker, Isabel Wilson
	Whitaker, George Robert
1915	Butterheld, Hilda
	Denham, Basil Marmaduke
1916	Mathers, John Stanley
	Sinovitch, Israel
	Stevenson, Hilda
1917	Eastwood, Elsie
1917	Eastwood, Elsie Williams, Margaret
1917 1918	Eastwood, Elsie Williams, Margaret Holdsworth, Marjori <del>e</del>
1917 1918	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda
1917 1918 1919	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip
1917 1918 1919	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas
1917 1918 1919	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy
1917 1918 1919 1920	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey
1917 1918 1919 1920	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey Mathers, Arthur Leslie
1917 1918 1919 1920	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey Mathers, Arthur Leslie Spink, Gerald William
1917 1918 1919 1920 1921	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey Mathers, Arthur Leslie Spink, Gerald William Milton, Harry
1917 1918 1919 1920 1921	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey Mathers, Arthur Leslie Spink, Gerald William Milton, Harry Naylor, William Haydn
1917 1918 1919 1920 1921	Eastwood, Elsie Williams, Margaret Holdsworth, Marjorie Stevenson, Hilda Rosenbloom, Philip Spencer, George Douglas Wainwright, Amy Claxton, Godfrey Mathers, Arthur Leslie Spink, Gerald William Milton, Harry Naylor, William Haydn Pickles, Thomas Heaton

1 Renewed for one year,

## LEEDS CITY COUNCIL

This Scholarship was founded by the Council of the University, in 1892, out of the sum voted by the Leeds City Council, and up to 1912 was awarded as an Entrance Scholarship. In 1912 the Council, on the recommendation of the Senate and with the approval of the City Education Committee, decided to utilise the money in extending the courses of deserving and necessitous Leeds students in attendance at the University. As in the case of the Leighton Scholarships, the need of the applicant for pecuniary assistance will be taken into consideration by the Senate, who will also be guided by the position held by candidates in their Terminal Examinations and by their general work and conduct.

Applications must be sent in to the Clerk to the Senate net later than May 1st in each year.

1913	Whincup, Harry Hynes	1918	Prince, Eleanor Edith
	Wurzal, Joseph		Speed, Marie Elizabeth
1915	Mee, Winifred		Stevenson, Hilda
	Parsons, George		Williams, Margaret
	Rimington, Miriam	1919	Speed, Marie Elizabeth
1916	Kaye, Ruth Armitage		Spencer, George Douglas
1917	Prince, Eleanor Edith		Williams, Margaret
	Speed, Marie Elizabeth	1920	Beaton, Elsie Mabel
	Stevenson, Hilda	1921	Bailey, Mary
	Wilkins, Phyllis Florence		Beaton, Elsie Mabel
			Massey, Arthur
			Milton Harry

## In the Faculty of Arts

Salt

This Scholarship was founded by the late Sir Titus Salt, Bart., in 1875

Candidates must be scholars or registered students of the University in at least their sixth term.

The value of the Scholarship is  $\pounds_{20}$  a year, and it is tenable for two years.

The Scholarship is awarded at the discretion of the Senate, with or without examination.

The Scholar elected will be required to pursue a course of study at the University preparatory for a degree in Arts of the University of Leeds. In the event of graduation at the end of the first year of tenure, the Scholar will be required to pursue a course of postgraduate study satisfactory to the Senate. Applications from candidates for these Scholarships must be sent to the Clerk to the Senate of the University *not later than May 1st* in each year.

1882	Wright, Benjamin	1908	Dean, Arthur Ernest
1885	Barker, Arthur Henry	1910	Phillips, Samuel
1887	Jackson, Thomas Chalice	1912	Pickering, Jessie
1891	Hurst, Thomas Ockerby	1914	Kirkwood Winifred
1893	Cleasby, Mabel	1915	No award
1895	Hornby, George Goodall	1916	<sup>1</sup> Denison, Ruby Gladys
1897	Robinson, Elizabeth Clare	-	Martha
1899	Melville, Ellen Louisa		<sup>1</sup> Rhodes, Evelyn Marion
1001	Stevenson, Ethel Mary	1917	No award
1903	Davis, William Hathaway	1918	Speed, Marie Elizabeth
1904	Landman, Samuel	1920	<sup>1</sup> Grange, Mary Elizabet
rooś.	Gill William Conrad	-	Sinovitch Israel

## JOHN RUTSON

This Scholarship was founded by Mr, Henry Rutson of Northallerton, in memory of his brother Mr. John Rutson. It has been assigned to the Faculty of Arts for the encouragement of research, and the Scholar will be chosen from amongst those who have shown promise of ability to conduct such research.

The Scholarship is of the annual value of about  $\pounds$  70 and is tenable for one year, but may be renewed for one year more.

The successful candidate shall be required to undertake advanced study or research in the University, or in some other University or learned institution, or under suitable guidance in a manner approved by the Senate.

The Scholar shall also be required to furnish a report of the work done by him or her during the term of the Scholarship, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Scholarship, in order that it may be laid before the Senate.

Applications for renewal must be sent in to the Clerk to the Senate before the end of the second term.

1908	<sup>2</sup> Hogan, Kathleen	1915	No award
1910	Peel, Albert	1916	No award
1911	Heaton, Herbert	1917	No award
1912	Jameson, Margaret Ethel	1918	No award
1913	Richardson, William Rowson	1919	No Award
1914	Allott, Wilfrid	1920	<sup>2</sup> Dawson, Daniel

I Scholarship Divided.

<sup>2</sup> Renewed for a second year.

#### GILCHRIST STUDENTSHIP IN MODERN LANGUAGES

This Studentship was instituted in 1905 by the Gilchrist Educational Trust (founded by Dr. Gilchrist, who died in 1841) for "the benefit, advancement and propagation of education and learning in every part of the world, as far as circumstances permit." It is of the value of  $\pounds 80$ , is tenable for one year, and is open to graduates of either sex who have taken Honours in Modern Languages in the Final degree examination of the University, and who are proposing to enter the profession of teaching in secondary schools. The purpose of the Studentship is to enable the holder to pursue a special course of study abroad with a view to qualifying himself (or herself) for teaching modern languages in a secondary school.

The regulations are as follows:

I. The Studentship is awarded annually by the Gilchrist Trustees.

2. Candidates must have obtained Honours in Modern Languages in the Final examination for a degree, and be recommended by the University after consultation with the Professors concerned, and after special inquiry into the suitability of the candidates for the profession of teacher in a secondary school. If possible, two names shall be submitted each year to the Trustees for their consideration. Save in exceptional circumstances, of which the Trustees shall be the sole judges, the examination must be that immediately preceding the date of application.

3. The holder of the Studentship will be required to follow a course of preparation for the profession of Modern Language teacher, and must submit his (or her) proposed course of work for the approval of the Trustees, who will take steps to satisfy themselves that the course of preparation proposed to be undertaken is suitable for the purpose in view.

4. The tenure of the Studentship is for one year beginning on the date of election, and the emoluments will be paid half yearly by the University on production of evidence that the proposed course of preparation is being satisfactorily varried out. 5. The Student will be required, at the expiration of the tenure of the Studentship, to send in to the Clerk to the Senate a report to the University, setting out the course of work and preparation which has been pursued, and this report together with a covering communication from the University shall be forwarded to the Trustees.

1906	Edwards, Maud Mary	1912	Greenwood, Emily Maud
1907	Thorp, Hilda	1913	Stead, Lilian Mary
1908	Murphy, Bertha Mary	1914	Caldwell, Mary Constance
1909	Longbottom, Nellie	1915-18	Studentships suspended
1910	Hobson, Julia	1919	Edelstein, Charles Solomon
1911	Carter, John Wil'rid	1920	Brown, Winifred
		1921	Sinovitch, Israel

#### BODINGTON MEMORIAL FUND

The Bodington Memorial Fund commemorates the work of the late Sir Nathan Bodington as Principal of the Yorkshire College and first Vice-Chancellor of the University of Leeds. It is devoted to the encouragement of advanced study in Greek and Latin (including language, literature, history, philosophy, and archæology) among graduates of the University.

The scheme for the administration of the Fund includes the following provisions :---

An award or awards will be made annually by the University whenever there are competent applicants.

The income will be allowed to accumulate when no awards are made, the accumulations to be treated as current year's income.

The award or awards will take the form of a Fellowship Scholarship. Prize, or Grant, or any combination of these, as may seem from time to time practicable and desirable.

The income annually awarded is approximately  $\pounds_{45}$ .

Since the foundation of the Fund, grants have been made for the purchase of books and for visits to libraries or other centres of research. Awards of money may, however, be made for any other objects cognate to the Trust. It is hoped that when the accumulated funds allow, a Fellowship or Scholarship tenable for one year may be awarded to a graduate who has published or prepared for publication a work of distinction in the field of classical learning.

Applications should be sent in to the Clerk to the Senate not later than June 1st in each year.

Grants in aid have been made to the following :---

1914	Bibby, Edward Ernest Butterworth, George William Walker, Algernon Stanley Whincup, Harry Hynes
IOLE	Butterworth George William
1913	Whincup, Harry Hynes
1918	Bodington Memorial Fellowship:
-	Butterworth, George William
1919	Walker, Algernon Stanley
1920	Bibby, Edward Ernest
	Raisman, John
	Walker, Algernon Stanley

#### LADY ELIZABETH HASTINGS SENIOR SCHOLARSHIP.

The authorities of Queen's College, Oxford, have instituted a Lady Elizabeth Hastings Senior Scholarship, tenable at that College, by graduates from the Leeds and Sheffield Universities, under the following conditions :---

I. This Scholarship shall be called the Lady Elizabeth Hastings Senior Scholarship, to be awarded with a view to a course of higher Humanistic study at the Queen's College in the University of Oxford, and shall be of the annual value of  $\pounds_{125}$ .

2. The Scholar shall be elected by the College, after or without examination, as they shall determine.

3. The Scholarship shall be confined to British-born students, being sons of British-born parents, of the University of Leeds or of Sheffield, who have passed with Honours all the examinations requisite for the degree of Bachelor of Arts in the University to which they belong and also have completed the third and not exceeded the fifth year from their admission to the University.

4. The Scholar shall be elected in the month of July and begin residence in the Michaelmas Term next succeeding, and the scholarship shall be tenable during residence for one year. At the end of which period the College may re-elect him for a further period of one year, provided that they are satisfied with his industry and progress, and at the end of this second period the Scholarship shall determine.

5. The Vice-Chancellor of Leeds or the Vice-Chancellor of Sheffield in his turn may, upon the occasion of a vacancy, recommend in writing to the Provost one or more candidates for election.

6 The College will proceed to the election of a scholar, provided that, in their opinion, a suitably qualified candidate presents himself.

7. The Scholar shall reside within the University during the three academic terms of each year, and within the College for at least his first year.

8. The Scholar must be unmarried and will *ipso facto* vacate the scholarship on marriage, or upon his being elected to a Fellowship or other office of emolument, or if he ceases to be a member of the College.

#### 1920 Sykes, Norman

#### In the Faculties of Science or Technology

## 1851 EXHIBITION SCHOLARSHIP

Since 1891 the Commissioners for the Exhibition of 1851 have placed at the disposal of the University, the nomination to one Scholarship of the annual value of  $\pounds$ 150, tenable ordinarily for two years, and in rare instances for three years. The continuation each year after the first will depend upon the work done in the previous year being satisfactory to the Scientific Committee appointed by the Commissioners.

The Scholarships are intended, not to facilitate attendance on ordinary collegiate studies, but to enable students who have passed through a College curriculum and have given distinct evidence of capacity for original research, to continue the prosecution of science with the view of aiding its advance, or its application to the industries of the country.

Candidates must (a) be British subjects; (b) be *bonâ fide* students of science of three years' standing at least in Universities or Colleges in which special attention is given to scientific study; (c) either have been engaged in study at the University for a full year prior to the 1st of April

following the date of application, or have been students of the University for a full year ending within twelve months prior to the 1st of April following the date of application, and, having since ceased to be students, have been engaged solely in scientific study; (d) indicate high promise of capacity for advancing science or its applications by original research.

A recommendation can only be made in favour of a student who has already given proof of both ability and desire to make original investigations. In the opinion of the Commissioners the most suitable evidence that a candidate possesses these qualifications is a satisfactory account of a research already completed by him, and they will decline to confirm a recommendation unless such an account is furnished, or there is other equally distinct evidence that the qualifications of the candidate are such as are above indicated.

Applications will be received by the Clerk to the Senate of the University up to the last day of February in each year.

1891	Ingle, Harry
1892	Mann, Harold Hart
1893	Myers, John Ellis
1894	Dent, Frankland
1896	Dawson, Harry Medforth
1897	Wilson, Harold Albert
1898	Calvert, Harry Thornton
1899	Skirrow, Frederick William
1900	Varley, William Mansergh
1901	Denison, Robert Beckett
1902	Dakin, Henry Drysdale
1903	Gaunt, Rufus
1904	Raper, Henry Stanley
1905	Zortman, Israel Hyman
1906	Armes, Henry Percy
1907	Hodsman, Henry James
1908	Cross, William Ernest
1909	Leslie, May Sybil
1910	Dudley, Harold Ward
1911	Powis, Frank
1912	Woodman, Herbert Ernest
1913	Ogden, Herbert
1914	Hollings, Harold
5-18	Scholarships suspended
1919	No award
1920	Chapman, Robert Edward
1921	Seymour-Jones, Frank Leslie

## 1851 EXHIBITION INDUSTRIAL BURSARY

The Commissioners for the Exhibition of 1851 have established a scheme of Industrial Bursaries for young men who, after a course of training in a University or approved Technical College, desire to take up Engineering, Chemical or other industrial work. The Bursaries are intended, not to facilitate the continuance of collegiate studies by means of post graduate work, but to enable suitable applicants to tide over the period between their leaving College and obtaining remunerative employment in industry. The value of the Bursary will depend on the circumstances of the candidate, but will as a rule not exceed  $\pounds_1$  100 a year.

A Bursar will be elected in the first instance for one year, but the tenure of his Bursary will ordinarily be prolonged for a second year provided that the Commissioners are satisfied with the work done by the Bursar during his first year. In special circumstances a Bursary may be renewed for a third year. The appointments to the Bursaries will be made by the Commissioners from among candidates recommended by the Authorities of certain selected Universities and Technical Schools.

N.B.—In the consideration of these recommendations great weight will be given to evidence that a candidate has the practical ability likely to lead to his advancement in industrial work; academic success alone is not a sufficient recommendation.

The candidate must be a British subject, under the age of 25, and must have been a *bona fide* student of Science for a term of three years. He must further satisfy the Commissioners :—

- (a) That he has obtained, or can, within one month of election, obtain an industrial post to be approved by them.
- (b) That he is in need of pecuniary assistance to enable him to accept such a post.

A Bursar may, if the Commissioners approve, spend part of the tenure of his Bursary in studying a special industrial process or processes in works either at home or abroad. No Bursar shall enter a firm as a premium pupil without

the special consent of the Commissioners. A Bursar must submit to the Commissioners, on the expiration of each year of his Bursary, a satisfactory report of his work from his employers.

Applications will be received by the Clerk to the Senate not later than June 1st in each year.

- 1911 Stillwell, Samuel Thomas Cryer
- 1912 Rawling, Arthur
- 1913 No Award

1914 Stainsby, William 1915-18 Bursaries suspended

- 1919 No award
- 1920 Butler, Percy
- 1921 Ashbey, James Sydney

#### In the Faculty of Technology

## CLOTHWORKERS' RESEARCH SCHOLARSHIP IN COLOUR CHEMISTRY AND DVEING

This Scholarship, of the value of  $f_{,60}$  a year, tenable in the Department of Colour Chemistry and Dyeing, will be awarded annually upon the results of the Final examination for the B.Sc. degree, preference being given to candidates who graduate with Honours in Applied Chemistry (Colour Chemistry and Dyeing).

The Scholarship will be awarded for one year, but may, at the discretion of the Examiners, be extended to a second year.

The Scholar will be required to devote his whole time to carrying out some special branch of research in Colour Chemistry or Dyeing.

1907	Baddiley, James	1912	Johnson, William
1908	<sup>1</sup> Woodhead, Arthur Edmund	1913	Stocks, Herbert Holroyd
1910	Bearder, Ernest Arthur	1914	Siderfin, Norman Edward
1911	Rowe, Frederick Maurice	1921	Breare, Arnold

## CLOTHWORKERS'

These Scholarships were founded in 1875 by the Worshipful Company of Clothworkers of the City of London, who offer three Scholarships, each of the value of  $f_{,20}$ , to students in the Department of Textile Industries. Two of these Scholarships are awarded to students of the first year on

I Renewed for a second year.

the result of the second term examinations, and one to a student of the second year on the result of the second term examinations.

Each Scholarship is tenable for one year. Students holding these Scholarships will be required to attend for not less than three full days in each week an Advanced Course in Textile Industries, and the Senior Class in Applied Art. These Scholarships are only tenable by students not more than twenty-four and not less than sixteen years of age on the 1st of October following the date of examination.

Students holding Scholarships are expected to present themselves for examination (in the University) by the City and Guilds of London Technical Institute, in one of the following subjects, viz. : Textile Fabrics—Spinning and Weaving of (a) Wool and Worsted,  $(\delta)$  Cotton, (c) Linen, (d) Silk.

The Scholarships will be awarded on the result of the second term examinations, which in the case of the first year students will be in

- (a) Designing and Weaving,
- (b) Textile Colouring,
- (c) Applied Art;

and in the case of second year students in

- (a) Designing and Weaving,
- (b) Textile Colouring,
- (c) Cloth Finishing,
- (d) Applied Art.

Regard also will be had to the general progress candidates have made in their theoretical and experimental studies.

Applications from candidates for these Scholarships must be sent to the Clerk to the Senate *not later than January 31st* in each year.

1901	Grimshaw, Norman	1903	Smith, Lister
	Wilson, Stanley Ewart Ashley		Rayner, Harold Kingsbury
	Brigg, Lawrence Heriot		Hodgson
	O'Flynn, James		Horsham, Wilfred Robert
1902	Mellor, Cecil Smith		Beaumont, Frank
	Duncan, Harold	1904	Whitworth, Abraham
	Gaunt, Frederick William		Hart, Harry Leatham
	Munro, William Thow		Horsham, Wilfred Robert

1904	Holloway, Joseph	1912	Baines, Arthur Richard
1905	Mills, James		Dolphin, Thomas Charles
- 5	Hart, Harry Leatham		Rogers, Simeon
	Bradley, Jim	1913	Blair, James
	Broadbent, Lees	2.0	<sup>1</sup> Healey, James Russell
1906	Broadbent, Lees		<sup>1</sup> Pollock, James Huey Hami
-	Cockcroft, Ernest Edward		Baines, Arthur Richard
	Mills, James	1914	Baker, Brian Bernand
	Sutcliffe, Arthur Livsey	<i></i>	Davison, Emerson
1907	Cockcroft, Ernest Edward		Kay, Charles Bagnall
	Fairburn-Hart, George	1915	Bennett, John
	Stanley	, ,	Chadwick, Arthur Leslie
	Wilson, James Blackburn		Davison, Émerson
1908	Eadie, Thomas Tait	1916	Stewart, Marcus
-	Pfenniger, Paul	-	Wilby, Arthur Hinchliffe
	Wilson, James Blackburn	1917	Barker, James
1000	Bradley, William		Cooper, Roland
, ,	Eadie, Thomas Tait		Grattan, Henry
	Twohig, John Patrick		Mettrick, Donald
1910	Stevenson, William	1918	Hardy, Harry
-	Turnbull, Kenneth	-	Lord, Frederick
	Twohig, John Patrick		Trimnel, Frederic
1911	Bonhomme, Jean Raymond	1010	Lord, Frederick
-	Dircks, Hugh Douglas		,,
	Kyle John William		

## In the Faculty of Medicine

## INFIRMARY SCHOLARSHIP

This Scholarship was founded in 1888 by the Faculty of the Leeds General Infirmary. It is of the value of 40 guineas and consists of a free ticket to the clinical teaching of the Leeds Infirmary. The holder is required to enter as a student for the whole medical curriculum at the University in the session following the date of examination.

This Scholarship is now awarded, after a report from the examiners, on the results of the First M.B. examination of the University of Leeds.

Candidates who claim exemption from any subject or subjects of the First M.B. examination on the ground that they have gained a Higher Certificate which includes such subject or subjects will be examined in the subject-matter of the alternative courses approved for them, *provided that* such courses fall within the departments of Physics, Chemistry, Zoology or Botany.

1 Scholarship divided.

Candidates who take the Intermediate examination for the degree of B.Sc. in Physics, Chemistry, Zoology and Botany in lieu of the First M.B. examination will be assessed on the results of the examination taken.

1888	Seaton, Douglas	1005	No award
1889	Fearnsides, Philip Henry	1906	Fisher, John Barugh
1890	Gross, Phineas	1907	Sinson, Julius Barnet
1891	Greenwood, Henry Harold	1908	Metcalfe, John Clifford
1892	Field, Richard Cullingworth	1909	Sinson, Harry Abram
1893	Dewhirst, Wilfrid Arthur	1910	Shochet, Harry
1894	Andrews, Joseph Dalby	1911	Holt, Herbert Mainwaring
1895	Pegler, William Vernon	1912	Dudley, Charles William
1896	Matthews, Crawford Tait	1913	Parker, Joseph Henry
1897	Middlemiss, James Ernest	1914	Bertwistle, Alfred Pilkington
1898	Heald, Samuel Linley	1915	Currie, Donald Irvine
1899	Smailes, William Herbert	1916	Blackbnrn, John Taylor
1900	Gough, Alfred	1917	Levy, Simon
1901	Rawlings, Harry Richardson	1918	Trewick, John Arthur
1902	Pickles, William Norman	1919	Rosenberg, Gerald
1903	Carlton, George Westerdale	1920	Rabinovich, Michel
1904	No award	1921	Allison, David Rhodes

## THORP SCHOLARSHIP IN FORENSIC MEDICINE AND HYGIENE

The Thorp prizes, instituted by the late Dr. Disney L. Thorp, one of the original founders of the Leeds School of Medicine, are now awarded as one annual Scholarship of about  $f_{25}$  to a student or graduate of the University prepared to carry out some research work in some subjects bearing upon Forensic Medicine or Public Health. For particulars, application should be made to the Dean of the Faculty of Medicine.

#### Prizes in Forensic Medicine

1900	Gough, William	190
1901	Cundall, Edward	190
1902	Boyle, Alan	190
1903	No award	191
1904	Parkinson, Alfred Howard	191
1905	Shacksnovis, Reuben	
1906	Heppenstall, Clement Hoyle	

#### Prizes in Public Health

Radcliffe, Adolphus Harold 1906 No award 1000 Braithwaite, Leonard Ralph 1907 1901

- No award
- 1908
- Tomlin, Herbert Legge, James Huntly
- 1903
- 1904 No award

1902

- 1905 Hamilton, William Douglas
- Brown, John Perrin 1909 Cross, George Harold
- 1910 Walker, John Perry

496

- 58 No award 09 Cross, George Harold

Dunbar, Dean

- 10 Sinson, Julius Barnet 12 Sinson, Harry Abram

## FELLOWSHIPS

#### UNIVERSITY

University Fellowships may be awarded to graduates of the University within three years from the date of graduation. Such Fellowships will be of the value of  $\pounds_{150}$  tenable for one year. The object of the Fellowships is the encouragement of research, and the Fellow will be required to devote the whole of the time during which he continues to hold the Fellowship to the pursuit of such research under conditions approved by the Senate. In special cases an additional grant not exceeding  $\pounds_{20}$  may be made to the Fellow by a special vote of the Senate and Council to assist him in carrying out his researches. No Fellow shall be permitted to hold any paid appointment, or to undertake remunerative work without previous permission from the Senate, which shall have power in such cases to reduce the value of the Fellowship.

Fellowships will not be awarded except to candidates who have given evidence of qualifications for undertaking original work. Fellows are required to send in to the Clerk to the Senate a report of the work done by them during the tenure of the Fellowship before June 1st of the year following the award of the Fellowship, in order that it may be laid before the Senate. The Fellowships may, in exceptional instances, and with the consent of the Senate and Council, be renewed for a second year.

Applications for renewal must be sent in to the Clerk to the Senate before the end of the second term.

- 1905 Marshall, Joseph, B.Sc. (Chemistry) Waterhouse, Osborn, B.A. (English)
- 1911 Charlton, Henry Buckley, B.A. (English)
- 1912 Heaton, Herbert, M.A. (History)
- 1914 Dry, Francis William, M. Sc. (Zoology)
- 1917 Whitaker, Elsie Dinah, M.Sc. (Geology)

#### GAS RESEARCH

The Fellowship, of the value of  $\pounds 200$  per annum, will be awarded by the Senate, on the recommendation of the Board of Science and Technology, to a duly qualified candidate for the prosecution of post-graduate research in gas chemistry. Preference will be given to candidates who

have signified their intention of entering the coal gas industry, or in default of any such candidate, to a person qualifying for some other branch of fuel industry.

The award of the Fellowship will be made annually during the month of June, after due advertisement of it in the technical press and other appropriate journals. Applications for the Fellowship must be made to the Clerk to the Senate of the University on or before May 1st of each year.

It will always be within the power of the Senate, on the recommendation of the Board of Science and Technology, to renew the Fellowship to the holder of the same for a further period of a year, instead of proceeding to a fresh election.

The holder of the Fellowship shall undertake research work in the University under the direction of the Professor of Fuel and Metallurgy on some subject connected with the chemistry of gases and combustion. The selection of the subject, and the method of carrying on the work, will be left to the judgment of the Professor responsible for its direction.

The University will provide, free of charge, all reasonable accommodation and facilities required for the prosecution of the research undertaken by the holder of the Fellowship, including working space and the use of such instruments and appliances installed as part of the equipment of the Fuel and Metallurgical Department. Any *special* expenses, not exceeding  $\pounds_{25}$ , incurred during the prosecution of the research will be defrayed by the Institution of Gas Engineers.

A report of the research work carried out by the holder of the Fellowship shall be submitted to the Council of the Institute of Gas Engineers, as well as to the Senate of the University, on or before May 1st of each year, together with copies of any papers published in connection with the research.

1907 Forshaw, Arthur
1909 Hartley, Harold
1912 Hollings, Harold
1919 Hanby, Thomas
1920 <sup>1</sup>Monkhouse, Allan Cuthbertson

<sup>1</sup> Renewed for a second year.

## Research Fellowship in Colour and Textile Chemistry

A Research Fellowship of the value of  $\pounds$  100 per annum, instituted by the Council on the recommendation of the Textile Industries and Dyeing Committee, will be offered from time to time by the Senate upon the recommendation of the Board of Science and Technology, for the prosecution of scientific investigations in Textile and Colour Chemistry, under the direction of the Professor of Colour Chemistry. Preference will be given to candidates who have graduated in the University of Leeds with Honours in Colour Chemistry.

The Fellow will be required to devote the whole of his time to the pursuit of the research in question, and (unless the results are published in the form of a communication to a scientific or technical journal) to present a report of the work to the Senate, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Fellowship. It will be within the power of the Senate, on the recommendation of the Board of Science and Technology, to renew the Fellowship to the holder of the same for a second year, instead of proceeding to a fresh election.

> 1912 Rowe, Frederick Maurice 1914 Lewcock, William

#### THE "JAMES EDMONDSON ACKROYD" FELLOWSHIP

By a Deed executed in 1918, in memory of the late J. E. Ackroyd, Esq., the relatives of Mr. Ackroyd placed in the hands of the University a sum of  $\pounds 4,000$  to be held in trust for the maintenance of a Scholarship, or Fellowship, for the promotion of research work for the furtherance of the Textile Industry of the West Riding of Yorkshire.

In accordance with the provisions of the Trust Deed, a Fellowship entitled the "James Edmondson Ackroyd Fellowship" of the value of not less than  $\pounds_{150}$  per annum will be awarded by the Senate on the recommendation of the Board of the Faculties of Science and Technology.

The Fellowship shall ordinarily be awarded for a period of three years, which may be extended by a special resolution of the Senate for a further period not exceeding three years.

The Fellow shall be required to devote his whole time to the prosecution of research on some subject or subjects, approved by the Board of Science and Technology, bearing upon the production of wool, silk or other textile materials, or the manufacture of textile fabrics.

A Committee shall be appointed by the Board of Science and Technology to exercise a general supervision over the conduct of the research.

In the award of the Fellowship preference will be given to graduates in Science or Technology, but the essential qualification shall be capacity to pursue the research proposed, and it shall be in the power of the Senate to award the Fellowship to a suitable candidate although he is not a member of the University. Preference will be given (*ceteris paribus*) to candidates born in the City of Bradford or resident there for a period of not less than five years immediately before the date of the appointment.

The award of the Fellowship will be made ordinarily in the month of June. Applications for the Fellowship should be made to the Clerk to the Senate of the University on or before the 1st of May preceeding the date of the award.

Grants out of the surplus moneys of the Fund may be made by the Senate on the recommendation of the Board of the Faculty of Science and Technology to increase the value of the Fellowship in any year, or to provide additional facilities for the prosecution of the research by the Fellow.

Provisional reports of the research work conducted by the Fellow shall be laid by the Supervising Committee before the Senate on or before the completion of each year of tenure of the Fellowship. At the expiration of the full period of tenure a final report shall be submitted to the Senate, together with copies of any papers published in connexion with the research.

1921 Dry, Francis William

#### "SIR SWIRE SMITH" FELLOWSHIP

This Fellowship commemorates the services rendered to national education by the late Sir Swire Smith, Hon. LL.D., Member of the Court of the University of Leeds, M.P. for Keighley, and a member of the Royal Commission on Educational Instruction, 1881-4.

For its endowment, a sum of about  $\pounds_{3,000}$ , collected by public subscription, chiefly through the efforts of Sir John Clough and Mr. Augustus Spencer, was placed in the hands of the University in May, 1920, to be held in trust for the maintenance of a Fellowship.

The Fellowship is awarded to a graduate of any Faculty of the University who has given evidence of qualifications for undertaking advanced work.

The award, as a rule, is biennial. The Fellowship is tenable for two years and the holder is required to undertake and pursue a course of advanced study and research approved by the Senate.

The annual value of the Fellowship is not less than  $\pm$ ,150.

The award of the Fellowship is made ordinarily in the month of June. Applications must reach the Clerk to the Senate of the University on or before the 1st of May preceding the date of the award. Each applicant must state the course of study which he proposes to follow and the University or other Institution for research to which he proposes to attach himself during the tenure of the Fellowship.

The Fellow is required to devote the whole of his time to the pursuit of the research in question, and to present a report of the work done to the Senate, such report to be sent in to the Clerk to the Senate before June 1st of the year following the award of the Fellowship. At the expiration of the full period of tenure a final report shall be submitted to the Senate.

> 1920 Carruthers, James Norman (not taken up) 1921 Scott, John Richard

## PRIZES

#### Gladstone Memorial Prize

The Trustees of the Gladstone Liberal Memorial Fund have established Gladstone Memorial Prizes to be given in books at the Universities and University Colleges in England, Scotland, and Wales for special proficiency in History, Political Science, and Economics. An annual prize of the value of  $\pounds_5$  has been offered to and accepted by the Council of the University, and will be awarded under the following conditions:

- The prize will be awarded in June of each year for an Essay on some subject connected with History or Political Science or Economics, and the subjects of the Essays will be announced in the preceding June.
- 2. It will be open to competition among all students of Day Classes of the University who are in attendance upon University lectures for not less than four hours per week. Dissertations sent in for the degree of B.A. with Honours upon subjects connected with History, or Political Science or Economics will be regarded as competing for the Essay.
- 3. No student who has once obtained the prize may compete a second time.
- 4. No Essay in consideration of which either wholly or in part, a University Fellowship or Scholarship shall have been awarded, shall be admissible for other than honorary recognition.
- 5. The Essay must be sent in to the Clerk to the Senate *not later than May 1st* in each year.

1902	Savage, Hilda	1912
1903	Davis, William Hathaway	-
1904	Gill, William Conrad	1913
1905	Butterworth, George	1914
	William	
1906	Findlay, Sarah Kennedy	191
1907	<sup>1</sup> Simpkiss, Nellie	1916
	<sup>1</sup> Winter, John Edgar	191
1908	Dean, Arthur Ernest	1918
1909	<sup>1</sup> Peel, Albert (£3)	1919
	<sup>1</sup> Phillips, Samuel (£2)	
1910	Pickering, Harry	1920
1911	Firth, John Rupert	192

- <sup>1</sup>Standing, Christine <sup>1</sup>Taylor, Bertha
- 13 Mawson, Constance
- 914 1 Dykes, Janet
  - <sup>1</sup>Wright, Claude Ernest
- 915 Sutcliffe, Dora
- 916 Evans, Alice Mabel
- 917 Tesh, Elsie
- 918 Pickles, Gladys
- 919 1 Lumby, May
  - <sup>1</sup>Preston, Edith May
- 1920 Smith, Marie Kathleen
- 1921 Kiernan, Reginald

Prize Divided.

#### The Ripon English Literature Prize

The Committee formed to obtain for the University, by subscriptions, a portrait of the late Chancellor, the Marquis of Ripon, K.G., presented to the University the surplus funds, amounting to  $\pounds$  180, for investment, with a view to providing an Annual Prize in the subject of English Literature to be called "The Ripon English Literature Prize." A Prize to the value of  $\pounds$ 6 will accordingly be awarded annually, under the following conditions.

- 1. The prize will be awarded in June of each year for an Essay on some subject connected with English Literature, and the subjects of the Essays will be announced in the preceding June.
- 2. It will be open to competition among all students of Day Classes of the University who are in attendance upon University lectures for not less than four hours per week. Dissertations sent in for the degree of B.A. with Honours upon subjects connected with English Literature will be regarded as competing for the Essay.
- 3. No student who has once obtained the prize may compete a second time.
- 4. No Essay, in consideration of which, either wholly or in part, a University Fellowship or Scholarship shall have been awarded, shall be admissible for other than honorary recognition.
- 5. The Essay must be sent in to the Clerk to the Senate not later than May 1st in each year.

1911	Charlton, Henry Buckley
191 <b>2</b>	Cowling, George Herbert
1913	Cox, William
1914	Cohen, Sam
1915	Stuart, Emily
1916	Russell, Ada Minnie
1917	Todd, Helena
1918	West, Hilda
1919	Williams, Margaret
1920	Gartside, Ruth
1921	Williams, Joseph Russell
-	

#### The Lucy Whitmell Prize

The late Mr. Charles T. Whitmell presented to the University the sum of  $\pounds_{100}$  for investment, with a view to establishing a prize in Italian Language and Literature in memory of his late wife. A prize of the value of  $\pounds_5$  will accordingly be awarded annually, under the following conditions:

- 1. The prize will be awarded in June of each year for an Essay on some subject in Italian connected with the life, works, and times of Dante, choice of a subject being left to the individual candidate.
- 2. It will be open to competition among all students of the University, including students in attendance on extramural courses under the supervision of the University.
- 3. No student who has once obtained the prize may compete a second time.
- 4. No Essay, in consideration of which, either wholly or in part, a University Fellowship or Scholarship shall have been awarded, shall be admissible for other than honorary recognition.
- 5. The Essay must be sent in to the Clerk to the Senate *not later than May 1st* in each year.

#### Leblanc Medal

The Leblanc Memorial Committee presented the Victoria University with a portion of the surplus from the fund raised in France for the erection of a statue of the distinguished chemist, Nicholas Leblanc, the amount to be devoted to the encouragement of the study of Chemistry. On the foundation of a separate University in Leeds a share of the fund was vested in the University of Leeds.

Leblanc Medals may be awarded at the Final Examination for the Degree of B.Sc. in the Honours Schools of Colour Chemistry, Leather, and Fuel and Metallurgy to such students as are reported by the Examiners to have shown special distinction, and who are recommended jointly by the Internal Examiners in these subjects.

1891	Ingle, Harry	1910	Bearder, Ernest Arthur
1892	Mann, Harold Hart		Seymour-Jones, Arnold
1898	Skirrow, Frederick William	1911	Rowe, Frederick Maurice
1905	Davies, Arthur Hugh	1912	Johnson, William
1907	Baddiley, James	1914	Hollings, Harold
1908	Rhodes, Norman		Woodroffe, David
	Woodhead, Arthur Edmund	19 <b>20</b>	Palmer, Wilfred Ernest
		1921	Seymour-Jones, Frank
		-	Leslie

#### Hardwick Prize in Clinical Medicine

This prize, of the value of ten pounds, is given annually on a competition which is held early in June. Candidates must have been students in the School of Medicine of the University of Leeds for not less than eight terms; they must be attending the medical practice of the Leeds Infirmary; and they must have held or be then holding the office of Clinical Clerk in that Institution.

1900	Willans, Charles Rudolph	
1901	Saville, Edwin	
1902	Coupland, James Alane	
1903	Matthews, Crawfurd Tait	
1904	Tomlin, Herbert	
1905	Gough, Alfred	
1906	No award	
1907	No award	
1908	Mitchell, Guy Annesley	
	Canton	

909	Thoseby, John Norman
	Lonsdale
910	Hooton, William Henry
911	Sinson, Julius Barnet
914	Wilson, Colin
020	<sup>1</sup> Dyson, Reginald John

<sup>1</sup>Hollings, George William 1921 Chamberlain, Digby

#### ,

#### McGill Prize in Clinical Surgery

This prize, of the value of ten pounds, is given annually on a competition which takes place in the month of May. Candidates must be students in the School of Medicine of the University of Leeds who have not at the time of the examination entered on their sixth year, and who have held at the Leeds Infirmary the following appointments:— In-patient dresser, ophthalmic dresser, in-patient medical clerk, post-mortem clerk, and gynæcological dresser.

1900	Gough, William	1907	No award
1901	Keeling, Hugh Neville	1908	Mitchell, Guy Annesley
1902	Coupland, James Alane		Carter
1903	Braithwaite, Leonard Ralph	1909	Thoseby, John Norman
1904	Brierley, Wilfred Edward		Lonsdale
1905	Gough, Alfred	1910-	1920 No awards
1906	No award	1921	Smithies, Cyril Moulson
-			

I Prize divided.

#### Scattergood Prize in Obstetrics and Gynæcology

This prize, instituted in memory of the first Dean of the Medical Department, Yorkshire College, is awarded annually on a competition in Obstetrics and Gynæcology held in the third term.

The value of the prize, which consists of books or instruments, is five pounds.

1900	Acomb, John	1908	Hooton, William Henry
1901	Coates, Richard	1909	Bernstein, Isaac Barnett
1902	Tomlin, Herbert	1910	No award
1903	Smailes, Herbert William	1911	No award
1904	No award	1912	Angel, Harry
1905	Hamilton, William Douglas	1913	Kitson, Frederick Hubert
1906	Heppenstall, Clement Hoyle	1914	Wilkinson, John
1907	Thoseby, John Norman	1916	Holt, Harry Mainwaring
	Lonsdale	1917	Parker, Joseph Henry
		1921	Smithies, Cyril Moulson

#### Gold Medal

A Gold Medal of the value of ten pounds is awarded on the collated results of the prize examinations in the following subjects :--(1) Surgery; (2) Medicine; (3) Pathology; (4) Obstetrics; (5) Forensic Medicine; (6) Clinical Medicine (Hardwick Prize); (7) Clinical Surgery (McGill Prize); (8) Gynæcology, Clinical Obstetrics and Gynæcology (Scattergood Prize); (9) Public Health; (10) Pharmacology and Therapeutics; (11) Practical Surgery; (12) Ophthalmology; (13) Mental Diseases. To qualify for the Gold Medal the candidate must have attended all his final classes, i.e., must have completed and not have exceeded his fifth year of study, and must present four prizes or their equivalent. Of these prizes one must be either the Surgery or the McGill Prize, and another either the Medicine or the Hardwick Prize. Should a student desire to spend an additional year antecedent to the study of the subjects in Part III in preparing for a Science degree, Honours, or the Primary Fellowship of the Royal College of Surgeons of England, such time need not be counted as one of the five years.

1900	Gough, William	1906	No award	
1901	Saville, Edwin	1907	No award	
1902	Coupland, James Alane	1908	Mitchell, Guy Ann	esley
1903	No award	-	Carter	
1904	No award	1909	Thoseby, John Nor	man
1905	Gough, Alfred		Lonsdale	

#### Sir Berkeley Moynihan Medal

Sir Berkeley Moynihan has presented to the University the sum of  $\neq 200$  for investment, with a view of providing a gold medal for the most distinguished Bachelor of Medicine and Bachelor of Surgery of the year. The conditions of award are under consideration.

#### Silver Medal

The Junior Medal (Silver) is awarded upon the results of the prize examinations in the following subjects:—(1) Junior Anatomy; (2) Senior Anatomy; (3) Physiology; (4) Practical Physiology (including the experimental portion of part ii); (5) Materia Medica; that is to say, upon the subjects of the second year and the first and second terms of the third year in the "Normal Course for the M.B.Ch.B. of the University of Leeds." To qualify, the candidate must obtain two prizes or their equivalent.

1899	Coupland, James Alane	1907	Cross, George Harold
1900	Braithwaite, Leonard Ralph	1908	Hooton, William Henry
1901	Boyle, Alan	1909	Robinsen, William
1902	Gough, Alfred	1910	Mellis, George Pickard
1903	No award	1911	Sinson, Harry
1904	No award	1912	Wilkinson, John
1905	Hamilton, William Douglas	1913	Leake, Charles Edward
1906	Mitchell, Guy Annesley		
	Carter		

#### Class Prizes

Book prizes and Certificates of Honour are given in the various classes in the School of Medicine at the end of each session.

#### GRADUATES OF THE UNIVERSITY OF LEEDS

(The names of deceased graduates are printed in italics)

## Honorary Graduates

#### Doctor of Laws

1904

1909

Lady Frederick Cavendish 1910 The Earl of Crewe, K.G. Archbishop Maclagan The Duke of Devonshire The Earl of Harewood Viscount Cross Lord Herries Lord Allerton Rt. Hon. Arthur Herbert Dyke Acland Sir Francis Sharp Powell, Bart., M.P. Sir John Barran, Bart., 1912 M.P.Sir Charles Hubert Hastings Parry, Bart. Sir Alexander Campbell Mackenzie Sir Charles Villiers Stanford Sir Edward Elgar Sir William Bousfield Henry Walford Davies Rt. Hon. Charles George Milnes.Gaskell Charles Wood Lord Wenlock 1006 Sir Owen Roberts The Archbishop of York

Thomas Walter Harding 1910 The Duke of Devonshire

Rt. Hon. Herbert Henry Asquith, M.P.

The Marquis of Lansdowne, K.G. Rt. Hon. James William Lowther, M.P.

Sir Hugh Bell. Bart. Field Marshall the Rt. Hon. Lord Nicholson, G.C.B.

Sir Alfred Hopkinson Arthur Greenhow Lupton

Arthur Cooper Anna Paulina Eddison Sir William Edward Garforth, LL.D. The Rev. William Hulton Keeling, M.A.

Sir Swire Smith

David Forsyth 1915

- Field-Marshal Viscount 1919 Plumer John Rawlinson Ford Charles Lupton John Mews
- 1920 Field-Marshal Earl Haig The Rev. Canon John Neale Dalton Peter Macintyre Evans John Bickersteth William Henry Barber

#### Doctor of Letters

1904	Sir Albert Kaye Rollit	1910	Francis JohnHaverfield
	Alfred Austin		Arthur Sidgwick
	Andrew Martin Fairbairn	1914	Charles Edwyn Vaughan
	Joseph Wright		Emile Verhaeren
1906	Bishop Boyd Carpenter	1915	The Rev. Charles Hargrov
	(formerly Bishop of		The Rev. Philip Heary
	Ripon)		Wicksteed
	Sir Charles Holroyd	1919	Charles John Holmes
	-		<i>.</i>

1907 The Rev. Robert Collyer

## Graduates

## Doctor of Science

1904	The Earl of Rosse	1906	Paul Pelseneer
	Lord Kelvin	-	Heinrich Rubens
	Lord Airedale		Herbert Hall Turner
	Sir Isaac Lowthian Bell,	1909	Sir James Crichton-
	Bart.		Browne
1904	Sir William Henry		Sir Ronald Ross, K.C.B.
	Boadbent, Bart.	1910	Lord Rayleigh
	Sir Arthur William		Sir Clements Richard
	Rucker		Markham, K.C.B.
	Tempest Anderson		Sir William Osler, Bart.
1904	Sir Jonathan Hutchinson	1912	Charles Carpenter
	John Hughlings Jackson		Adolph Greiner
	Louis Compton Miall		Sir Robert A. Hadfield,
	Arthur William Mayo-		Bart.
	Robson, C.B.		Thomas Newbigging
	Thomas Pridgin Teale		Friedrich Springorum
	Sir Thomas Edward		John Edward Stead
	Thorpe		Sir Corbet Woodall
	Claudius Galen Wheel-	1914	Henry Richardson
	house		Procter
1906	Sir William Henry Perkin	1915	Harold Wager
-	Sir Thomas Clifford	1919	Sir Henry Bradwardine
	Allbutt		Jackson
	Heinrich Caro		Sir Alfred Keogh
	Alfred Grandidier		Sir Almroth Wright
	Albin Haller		Sir William Henry Bragg
	Sir Edwin Ray Lankester		John Gilbert Baker
	Carl Theodor Liebermann		
	Carl Alexander von		

Martius

1915 John William Taylor John Grimshaw Wilkinson Thomas William Woodhead

# Master of Science

- Thomas Scales Carter 1914 Thomas Hudson Nelson 1915
  - William Denison Roebuck Thomas Sheppard
    - Master of Arts
- 1906 Thomas Percy Sykes Herbert Austin Fricker 1917

1919 Francis Vaughan Hall

## Graduates

\* Indicates membership of Convocation.

Faculty of Arts (including Commerce and Law)

Doctor of Letters

1915 \*Peel, Albert

1919 Butterworth, George William
# Master of Arts

1919	Arnold, Jane	1910	*Fairley, Barker
1908	*Ashburner, Frederick	1920	*Fawcett, Ernest
		1912	Fawcitt, Edwin Henry
1912	Bartle, Arthur	1908	Findlay, George Hindson
1920	*Bentley, Owen	1008	*Findlay, Sarah Kennedy
1907	*Bibby, Edward Ernest	1015	Findlay, William
1911	*Birtles, Arthur	- ) - )	Gillanders
1908	*Blackburn, Elizabeth	1013	*Firth, John Rupert
	Maria	1013	*Fisher Frederick
1916	Blakeley, Emily Sylvia	5-5	Broughton
1912	Boden, Cecil Arthur	1914	Fox. Arthur
1915	Breckin, Ivy	1907	*Frank, Sarah (Mrs.
1905	*Briggs, Maude (Mrs.		Bonsall)
	Chapman)		
1917	Broadley, Mary Anne	1919	*Garton, Ida Mary
1912	Brown, Ralph Noel	1911	*Gendall, Philip Parsons
1919	*Butcher, Charles Sydney		Watkins
1915	Byrne, Richard Hugh	1913	Gibson, George William
	Desmond Garritt	1908	*Gill, William Conrad
TOTT	Caldwell Sarah Jane	1919	Gillman, Marguerite
1018	Cawthraw George	1911	Gittleson, John
- 9	Edward	1915	*Green, David
1015	Chadwick, Florence Maud	1913	Greenwood, Emily Maud
1008	Chapman Harry Garfield	1920	*Greenwood, Harold
1914	Charlton, Henry Buckley	1910	*Gunnell, Doris
1000	Cohen, Alexander		
1921	*Cohen, Ben Zion	1913	*Halliday, Wilfrid Joseph
1907	*Convers, Hilda	1907	Hand, William Thomas
1921	*Cook, Alexander Walter	1918	Harrison, Amy Geraldine
1014	Cowling, George Herbert	1907	*Hastings, Margaret
1011	Cox. Herbert	1915	Head, Jane
1921	Cox. William	1912	Heaton, Herbert
1912	*Cridland, Dorothy Walker	1917	*Hinckley, Philip
1021	*Cross, Ernest	1909	*Hirst, John Crosland
- )		1909	Hobson, Elsie Irene
1906	*Davis, William Hathaway	1912	Hobson, Julia
1908	Daykin, John Bertram	1909	Hodges, Raymond John
1913	Dean, Arthur Ernest	1905	*Hodgson, Charles Edward
1915	Dickinson, Frederick	1909	*Hogan, Kathleen
	Walter	1915	Hole, Ellen Mary
1919	*Dobson, Alan	1907	Holmes, Carrie
1921	*Dowson, Evelyn Rhoda	1911	*Howarth, Fred
1912	Dransfield, Henry Ewart	1913	Huffington, Thomas
	Stanley	1916	Hurworth, Arthur
1916	Dykes, Janet	1917	Hutton, Charles William
		1914	*Hyde, Francis Austin
1909	Edwards, Maud Mary		1
1913	*Ellis, Henry Carl Noel	1907	Illingworth, Maria Emma
1918	*Evans, Alice Mabel		(Mrs. Schofield)

1920	*Ingle, James William	1913	*Parnaby, Harry
1920	*Ives, Frank	1919	*Partridge, William
-		1917	Pay, Thomas Wilfrid
1914	Jameson, Margaret Ethel	1913	Peacey, Basil William
	(Mrs. Clarke)	1913	Perfect, Douglas
1920	Jennings, Elsie Emmie	1917	*Perry, Francis Charles
1910	*Johnson, Florence Annie	1012	*Phillips, Samuel
1913	Jordan, George Jefferis	TOTT	Pobiov, Harold Norman
1907	*Jowett, Jessie	- 9	
TOTO	*Kirk Kathleen Urilde	1913	Ramsden, Arthur
1912	*Kitchoner ErnestEdward	1914	Rennard, Thomas Ambler
1907	Kitchen, Ethel	1913	Rhodes, Arthur Wellesley
1910	KItson, Ether	1905	Robinson, Ethel Margaret
1912	*Laird, Marjorie Jean	TOOF	*Sanage Hilda
-	(Mrs. Exley)	1905	*Saulting Violat Vara
τοτο	Lambert, Nellie	1921	Sawkins, violet vela
1007	Landman, Samuel	1900	(Mas A I Manahan)
TOTT	*Lawson, Leah Gardner		(MIS. A. J. Monanan)
1012	Lee. Harry	1905	*Scholes, Inomas whind
1020	Lumb, Sybil Victoria	1913	Scott, Julia Penketh
1021	Lumby Mary	1921	Sewell, Josephine Mary
- )	,	1909	Simpriss, Ivenie
1906	*McKeand, Maggie Wood-	1921	Stater, Doris May
	row	1910	Smith Exerton
1912	Maddock, William	1907	Smith, Egerton
1909	Mallinson, Dorothy	1919	Spencer, Frances Mary
1911	*Martin, Alice Walford	1006	Elvira *Stables William Harbert
1915	Masterman, Dorothy	1900	Stables, William Herbert
1921	*Mathers, John Stanley	1910	Standing, Christine
1908	*Matthews, Felix Hackett	1915	Stapleton, Arthur
1910	*Maud, Ida Marian		Leonard Stard Lilian Manu
1918	Mawson, Constance	1914	Stead, Linan Mary
1906	*Melville, Ellen Louisa	1910	Strange, Edward Howard
1916	Mitchell, Edith Alice Ann	1910	Strong, Robert
1907	*Molland, Theodora Mary	1914	*Strothard, Hubert Lurner
1909	Monahan, Alexander	1920	Sykes, Helen
	James	1921	*Sykes, Norman
1920	*Moore, Charles Herbert	1021	Taylor, Emily Augusta
1908	Moulden, John William	1008	Ten Ryuggenkate George
1010	Murphy, Bertha Mary	1900	Hevhevt
	(Mrs. Maine)	1015	Thomas William Calvert
	(	1021	Thackray Edith
1920	*Naylor, Charley	1921	*Thomston William Coongo
1907	*Naylor, Nellie Noble	1912	Souino
1907	*Neville, Ethel May	TOTO	*Thorn Hildo
1907	*North, Fanny Caroline	1910	Tomlingen John
1921	*Nutter, Hannah Jane	1913	Tanadampa
			Lansdowne
1913	Papworth, Harold Charles	1912	Walker, Algernon Stanley
1912	Parker, Frank	1908	Walker, Jessie
1914	*Parkinson, Harold Shaw		(Mrs. Davkin)

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1908	Wallace, Harry Bruce	1906	*Wilson, Florence
1912	Warren, Albert Edmund	1908	Wilson, Florence Grey
1912	*Waterhouse, Osborn	1905	Wilson, George William
1919	Whitaker, George Robert	1914	Wortz, Frederick Robert
1906	*White, Ethel	1913	Wright, Beatrice Hilda
1907	Whitehead, Mary	1916	Wright, Claude Ernest
1921	*Whiteley, Joseph Travis	1915	Wright, Gladys

# Master of Education

# 1921 Luery, Alfred Edward

# Bachelor of Arts

1908 Abrahams, Solomon	1921 Batchelor, Mabel Shaw
1914 *Abrams, Sam Philip	1921 Bate, Ethel
1909 Allott, Effie Gwen	1920 *Bate, Herbert Roland
1914 Allott, Wilfrid	1919 Bates, Nellie
1916 Alton, Beatrice Mabel	1917 Bayliffe, Jennie
1906 *Anderson, John	1920 Bazley, Mabel Margaret
1918 Anderson, Lucy Margaret	1921 Beal, Hilda Jane
1912 Anderson, Mabel Maud	1911 Bean, William Harold
1909 Anderton, Louisa	1921 Beckett, Kathleen
1912 Anson, Jane Ridsdale	Marjorie
1913 Armitage, Catharine	1919 *Beeforth, Laura
1905 *Armitage, John Henry	1911 Beevers, Sydney
1906 *Armstrong, Lilias Eveline	1921 Bellerby, John Rotherford
1911 Arnold, Edith	1916 Bellerby, Margaret Hope
1913 Aston, Marian Gladys	1918 Benn, Laura Harriet
Stewart	1908 Bentley, Hannah
1905 *Atkinson, Janet	Grimshaw
	1918, *Berry, Arthur
1917 *Bainbridge, Dorothy	1912 *Bevan, Albert Edward
Mary (Mrs. A. E. Wood-	1910 Billam, Bertram
head)	1918 *Billam, Lois Ethel
1920 *Baines, Hampson	1916 Birch, Doris
1918 Bairstow, Dorothy	1916 Birch, Dorothy Ellen
1918 Baker, Ruth Eveline	(Mrs. C. H. Lambert)
1917 *Banks, Evelyn	1917 Birch, Thomas Albany
1912 Banks, John Cook	1905 *Bishop, Sarah Ellen
ley	1916 Blease, Richard Morris
1919 *Barker, Doris Wright	Stanley
1920 Barker, Ida	1906 Boardman, Ernest
1919 Barnes, Walter Egbert	Edmund
1919 Barran, Emma Bottomley	1913 Boden, Reginald Stanley
1905 *Barras, Elsie Clara	1920 Bowker, Benjamin
(Mrs. J. G. Hammond)	1906 *Bradley, Florence Mar-
1920 *Barrett, Ernest	garet (Mrs. Rydall)
1906 Bartle, Ida	1905 *Braithwaite, William
1920 Barton, Mary Dorothea	Dalston
1909 Batchelor, Edith	1915 Bridson, Edmund

- Briggs, Elsie Powell 1916 1916 Briggs, Maud
- Brigham, Fanny Muriel 1905
- 1917 Broadbent, Edith
- Broadbent, Minnie Ann 1915
- Brock, Stella Caborn 1913
- Brown, Constance Mabel 1907 (Mrs. H. Paterson)
- Brown, Cyril Graham 1913
- 1014 \*Brown, Ethel
- Brown, George Frederick 1012
- 1915 \*Brown, Harold Havelock
- 1916 \*Brown, Nellie
- 1920 \*Brown, Winifred
- Broxup, Dorothy 0101
- 1917 Broxup, Eva Annie
- 1010 Bucknall, Charles John
- Buckley, Edith May 1920
- Bucknall, Paul Damien 1013
- 1905 \*Burgess, Lillie (Mrs. Harvey)
- Burley, Leo Le Gay 1905
- Burrow, Hannah Louise 1917
- 1021 Butcher, Doris Maude
- 1920 \*Butcher, William Arthur
- Butler, Gloxinia 1910 (Mrs. A. M. Godfrey)
- 1917 Butterfield, Hilda
- 1918 Butterfield, Janet
- 1018 Caiger, Hugh
- 1914 \*Caldwell, Mary Constance
- Campion, Winifred 1917
- Cardwell, Albert 1921
- Carr, Catherine 1917
- Carr, Cecily Alice May 1917
- Carré, Edward Mervyn 1916
- 1915 Carter, Jessie May
- Carter, John Wilfrid 1911
- 1915 \*Catterall, Albert
- Caukill, Francis 1012
- Cawthron, Edwin 1909
- Chapman, William Dale 1921
- 1905 \*Chard, Edith Annie
- Charlesworth, Alice 1908
- 1917 Childe, Gertrude May
- Claridge, Marjorie Muriel 1910
- Clarke, Charles Dougan 1911
- 1915 Clayton-Booth, Ethel [ane
- Cocking, Ethel Annie Coggill, Wilfrid 1919
- 1914

- Cohen, Adolph Broadfield 1914
- 1914 Cohen, Sam 1915 \*Coley, Norman Clarence Herbert
- 1920 \*Cook, Harold
- Cooper, Maud Louise 1915
- Coppock, Laura 1910
- 1010 Cordingley, Christine
- 1913 Corson, Olive
- 1020 \*Cottam. Annie
- Cowling, Alice Beatrice 1908
- 1918 Crabtree, Margaret

- 1914 Crowther, Daisy Isabel
- 1021 Crowther, David
- 1914 \*Crowther, Florence
- 1914 \*Crowther, Ivy Emma
- Cuckow, Philip Edwin 1914
- Cusworth, Eustace 1915 Fretwell
- 1905 \*Dalton, John Edwin
- 1906 Darycott, Ernest Jenkinson
- 1020
- Dawson, Daniel Dawson, Thomas Henry IQII
- 1920 \*Dean, William Henry
- Deane, Doris 1917
- Dearden, Gladys May 1912
- Dearnley, Charles 1000
- 1905 \*Denby, Maurice
- 1918 Denison, Ruby Gladys Martha
- Dickinson, Kate 1010
- 1910 \*Dixon, Annie
- 1919 \*Dixon, Dorothy Whitley
- 1906 Dixon, Elizabeth
- 1917 \*Dixon, Ella
- 1905 \*Dobson, Constance (Mrs. Wheatley)
- Donaldson, Lawrence 1907 Richard Leverton
- 1010 Doody, Ellie
- Driver, Constance Jennie 1915
- 1920 \*Dunwell, Thomas
  - Middleton
- Dyson, Fred 1913

- Craven, Percy Charles 1914 Croft, Alice Mary 1910
- Crossland, Elsie 1911

1905	*Easterfield, Thomas Hill Edelstein Charles	1905	*Gascoigne, Evelyn May (Mrs. Blackburn)
- ) - )	Solomon	TOTS	*Gawthorpe Wilfrid
1013	Edmond, William	1021	*Geldard Horace Marsden
	Seaward	T020	Gentles, James Ross
1920	*Eeles, William George	TOTO	Gibson Christine
1913	*Effron, George Henry	~ 7 * 9	Madeleine
1921	*Elev. Stanley Albert	1017	Gibson, Gladys Louise
1913	Elliot, Gilbert Bernard	1918	Gladstone, Muriel
1911	Elliott, Ruth	1020	*Glass, Helen Medley
1905	*Elliott, Spencer Hayward	1908	Golding, Mary Muriel
1910	Ellis, Arthur Harold	1021	Gormley, Mary Elizabeth
-	Carteret	1016	Gottwaltz, Florence
1921	Ellis, Mabel Doreen	- )-+	Winifred
1912	Emsley, Edith	1021	*Grange Mary Elizabeth
1915	Emsley, Rosella	IOTO	Grant. Jessie
1921	Evans, John Charles	1017	Grassham, Muriel
1919	*Exley, Cecil Frederick	1905	*Grav. Arabella Hyde
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Janet, Ethel
	*Theinhauthen Treet	1905	*Gray, Catherine Isabella
1905	Fairbrother, Jessie		(Mrs. W. P. Welpton)
1911	Fairley, Duncan	1910	Grav. Isabel
1921	Farrand, Phœbe Augusta	1921	Gray, Olive Rosina
1914	Farrer, Everyn	1913	Green, Benjamin Cecil
1921	Fawcett, Dertha Kylands	1920	Green, Ida Walton
1921	Marion	1907	*Greening, Edward
TOTA	Fonton Kata		Baptist
1914	Firth Nellie Marguerite	1914	Greenwood, Josemee
1921	Fish Nellie		Marguerite
1941	Fitton Lilion Edith	1916	Greenwood, Phyllis
1921	Fleming Lames	1918	*Griffiths, Dorothy
1921	*Eletcher Bernard George	1910	Groves, Winnifred
1910	Flynn Bridie		Halliday
1907	Foggitt Emma (Mrs	1915	*Gurney, Denies St. John
1905	W A Cornaby)		Cecil
TOTT	*Forgitt Ida		
1911	Foreman Jeanie	1916	Haigh, Margery
1913	Christine	1917	Hainsworth, Ivy
TOOF	*Fox Arthur Cunliffe	1910	Hale, Agnes
1903	*Frank Dorothea Ethel	1920	Hammond, Agnes
1900	Fryer Constance Louisa	1921	Hanby, Edna Mary
1921	Fryer, Constance Louisa	1909	Hand, Harry Aram
		1912	Harding, Reginald
1906	Gale, Florence	1915	Hardwick, Arthur
	(Mrs. Reeves)	1921	Hardy, Wilfred
1912	Galpine, Dorothy	1920	Harland, Lois Hope
1917	Garforth, Christina	1918	Hartley, Joan
1921	*Garside, Bernard	1920	*Haworth, Phyllis
1905	*Garside, Bertha		Broughton
-			
1920	Gartside, Ruth	1915	Hayes, Allan

1920	Haygarth, Dorothy	1905	*Hudson, Ma
1918	Haythorne, Arnold		(Mrs. Parn
1914	Head, Edward Keith	1917	Huggins, Em
1917	Heath, Winifred May	1913	Huggins, Joh
1921	*Heaton, Wallace James	1919	*Hughes, Will
1920	Hemsworth, Laura Alice	1920	*Huke, Harry
1905	*Hepworth, Frank	1917	Hunter, Hele
1905	*Hepworth, Minnie	1913	Hunter, Nels
1916	Herbert, Mabel	1905	*Hurst, Thom
1915	*Hewson, Constance Freda	1914	Hutchinson,
1912	Hewson, Frank Richard		
-	Hick	1917	Illingworth, I
1920	*Hewson, Thomas Harold		Winifred
1905	*Hield, Esther Margaret	1921	*Ing, William
1921	*Hill, Harold	1921	Irvine, Annie
1915	Hill, Harold Harrison	1919	*Irvine, Jessie
1015	Hillas, Norman		, ,
1021	Hinchliffe, Gerald	1906	Jackman, Eli
T02T	Hird, Joseph Henry	1006	Jackson, Mal
1020	*Hirst Alice Elizabeth	1012	* Jenkins, Elsie
1012	Hirst Beatrice May	1021	Jenkinson L
1005	*Hirst Miriam	1021	Jennings Ev
1005	Hitcham Charlotte Elsie	1021	Tennings Ivy
1903	Hoar Harold Stapley	1021	* Jesson, Tom
1016	Hobson Mary Elizabeth	TOTT	Johnson Dor
1010	*Hogley Marian	TOTA	* Jole Nora B
1919	Holdsworth Maude	IOTO	Jones Annie
1910	Marion Elizabeth (Mrs	1919	Saville
	Cuckow)	TOTA	Iones Arthu
1005	*Holgate Lane	1018	Jones, Fric G
1905	*Holliday Mariorie Tate	1017	Iones Mario
TOTO	*Hollings Mary	TOTA	Jordan Geor
1005	*Holmes Ethel	- 9-4	Jordan, ocor
1905	(Mrs Chapman)	1018	*Kave Ruth
τοτο	Holroyde Doris Helena	TOTE	*Kerry Herbe
1919	*Honkin Jessie Melville	1910	Kershaw Ma
1910	Hobbing Enic Anthun	1021	Kieman Rec
1910	Hopper Sudney Herbert	1921	Kidd Doorl
1921	*Horno Morry Ogyth	1919	King Jun H
1911	Home, Mary Osyth	1920	*Kirk Loona
1919	Horne, winnred Louise	1912	Kirk, Leonar
1920	Horrell, Ella	1911	Kirtland, Do
1908	Horstall, Jessy Evenne	1915	*Kirkwood, W
1915	Horsley, Ernest	1913	Kitson, Fann
1911	Hosking, John	1912	Kitson, Mary
1908	*Howe, Grace Alice	1920	Knapp, Liliar
1912	Hoyle, Harold	1920	*Knight, Edw
1917	Huddleston, Edith May	1919	Kniveton, Ma
1915	Huddleston, Mabel	1919	Knowles, Do
1910	Hudson, Harry		Williamson
TOT 2	*Hudson, John	TQ2T	Knowles, Ro

1905	*Hudson, Margaret Ellen (Mrs. Parnaby)
TOTA	Hugging Emmo
191/	Huggins, John
1913	*Unches William Iamos
1919	*Unico Horry
1920	Hunter Helen
1917	Hunter Nelson Ashrowd
1913	*Lunct Thomas Ocherbu
1905	Huist, Homas Ockerby
1914	Automnson, Albert
1917	Illingworth, Mabel
	Winifred
1921	*Ing, William
1921	Irvine, Annie McLean
1919	*Irvine, Jessie
1906	Jackman, Elizabeth
1906	Jackson, Mabel
1912	* Jenkins, Elsie Mary
1921	Jenkinson, Louie
1921	Jennings, Evelyn
1921	Jennings, Ivy Evelyn
1921	* Jessop, Tom Edmund
1911	Johnson, Dorothy
1914	*Jole, Nora Bancroft
1919	Jones, Annie Frances
	Saville
1914	Jones, Arthur Owen
1918	Jones, Eric George
1917	Jones, Marjorie Elizabeth
1914	Jordan, George Douglas
1918	*Kaye, Ruth Armitage
1916	*Kerry, Herbert
1914	Kershaw, Maud Harriet
1921	Kiernan, Reginald
1919	Kidd, Pearl
1920	King, Ivy Honor
1912	*Kirk, Leonard Bertram
TOTT	Kirtland Dorothy Mary

- orothy Mary Vinifred by Edith y Ellen n Annie Mary vard Percival arjorie Ann ris Annie
- oland Ernest

1914	Ladell, Arthur Randolph	1911	Martin, Ismae Knox
1918	Lamb, Phyllis Gertrude	1909	Martin, Thomas Haigh
1916	Lambert, Charles Henry	1909	Matthews, Basil Wilfred
1919	*Lang, Dorothy Margaret		Barrow
1907	Langstaff, Bilton, B.Sc.	1917	Maud, Annie
1918	Lawrence, Elsie Irene	1915	*Maude, Edgar Ringrose
1920	*Lawson, Cecil Vaughan	IQII	Mawson, Bertha
1913	Lawson, Tom	1920	Meadows, Gladys Muriel
1907	Lea, George William		Ioan
1921	Leach, Nora	1015	Mee. Winifred Ellen
1000	*Lee. Catherine	1010	Mellis, Victoria Rudolph
1920	Lee, Margaret Ann	1018	Mellor, Doris
TOTA	Leech, Dorothy Edith	TOTO	Mellors Clarissa Florence
τοτό	Legge Marian	1910	Horsley
TOTS	Levy Sissie Emma		(Mrs I I Ilett)
TOTO	Lewis Amy Irene	1020	Middlebrook John Bailer
1012	Libbish Barnet	1920	*Midgley Arnold Spancer
1006	Lidbetter James Stanles	1921	Midgley, Frederick
1900	Lightfoot Edith Margaret	1921	William
191/	Limbert George William	TOTT	Miller Florence Clark
1006	*Linforth Edith Mary	1911	Miller Henry Claudo
1900	Flizabeth (Mrs W T	TOTT	Miller Solomon
	Rowe)	1911	Mitchell Elorence Marry
TOTE	Lister Dorothy Daisy	191/	*Mitchell Gladue Mary
1005	*Lister Martha	1006	*Mitchell Margaret
1008	Lock John	1005	*Mitchell Myra
1000	Longbottom Nellie	1905	Moody Sydney
1013	Longstaff Annie	1018	Moore Ethel
TOTT	*Longstaffe Stella	1017	Moore Ruth
- 9-1	Marguerite	1012	Moorhouse Herbert
1020	Lonsdale Hettie	1913	Movland Loonand Manh
1920	Lowry Louise Margaret	1913	Morroll Fronk
1921	Matilda	1909	*More Helener
1016	Lowley Margaret Isabel	1917	Motheredill Deric Mars
1910	Luccolt Eleropoo	1910	Mountain, Dons May
1920	Luccock, Plorence	1905	Mountain, Enza
1914	Lund, Annie Eleanor	1917	"Munday, Madeleine
1913	Lupton, Margaret Ena		Constance
	March Coult To 101	1909	Murphy, Grace Louisa
1905	Maccoby, Sarah Judith	1914	Myers, Amy
1920	*Mackrell, Florence May	1913	*Myers, Marion
1912	McKay, Annie Armstrong		
1919	*McLeannan, Florence	1908	Naylor, Alice Maude
	Lilian	1913	Neale, Charles Sidney
1911	Major, Irene Carlotta	1915	*Nesbit, John Christopher
1913	Mallin, Hubert Patrick	1917	*Newstead, Fannie
1916	*Mann, Enid	1906	Nicholson, Ethel
1913	Marriott, Edward	1913	*Nixon, Dora
1918	Marsden, Doris	1920	Norman, Leonora
1917	Marsden, Hilda		Marguerite
1913	Marshall, Herbert	1921	Normanton, Emma

- Alice Maude
- Charles Sidney
- John Christopher
- ad, Fannie
- on, Ethel
- Dora
- n, Leonora uerite
- nton, Emma

1915	Normington, Nellie Nowell Elma Virtue	1910	Quarterman, John Richard
1018	*Noxon Marion	TOLI	Race. Ida Cunningham
TOTA	Nuttall Marguerite Mary	1912	Radford, Conrad William
- 9-7	Teresa		Rich
	*Odder Flooner Denicon	1912	Raisman, Abraham
1920	Orden Marry	1920	*Raisman, John
1910	Ogden, Mary	1905	*Raven, Hilda Mary
1920	O'Noill Wilfrid Stophon		(Mrs. P. Davies)
1910	*Orton Harbort Woodford	1915	*Rayner, Ellen
1920	Ostrohop Arthur	1910	Reakes, Gilbert Spofforth
1910	Clement Henry	1911	Redfern, Florence Mary
TOOT	*Outrom Edith May	1910	Rennie, William Heron
1907	*Owen Elorence		Maxwell
1905	owen, Plotence	1912	*Reynolds, Carrie
1913	Padgett, Wilfred Wood	1918	Rhodes, Evelyn Marion
1915	*Padman, May	1913	Richards, Charles
1920	*Parker, Gladys Murielle		Threlfall
1916	*Parker, Isabel Wilson	1920	Richardson, Elsie Mary
1921	Parkin, Ethel Mary	1917	Richardson, Matthew
1913	Parry, Clarise Hilda	1913	Richardson, William
1907	Partridge, Doris Kathleen		Rowson
1919	Patterson, Marjorie	1906	*Rider, Martha Hannah
	Wilson	1905	*Ridge, William Sheldon
1908	Pearson, Eunice	1917	Robertson, Margaret
1908	Perkins, Sarah Elizabeth		Janet
1921	Perry, Martha Alice	1905	Robinson, Lilian
1910	Phillips, Dorothy		Dorothea
1910	Pickering, Harry	1921	Robinson, Louis
1914	Pickering, Jessie	1905	Rogers, Hannah
1911	Pickett, Bertram Arthur	1905	Rogers, Violetta
1919	*Pickford, Margaret	0	(Mrs. Grimsnaw)
1918	Pickles, Gladys	1918	"Ross, Frances Hilda
1910	Dilling Tomas Anthun	1914	Charles
1910	Dellard Mabel		Duchmonth Hildo
1911	Doolo Shirlow	1920	Russell Ada Minnio
1917	*Dopplestone Walter	1910	*Dussell, Aua Minine
1920	Harold Coorgo	1920	"Russen, Ruth Mary
	*Derritt Florence Marry	1010	Sampson Cathoring Ruby
1905	(Mrs. Boppott)	1912	Sampson, Camerine Ruby
TOTT	Dottor Hildo	TOTO	*Saville Clara
1911	Dounday Reminuin	1919	Schofield Beatrice Rachel
1911	William	1941	Schofield Florence
TOOC	Downton Lucy Ellen	1921	Schofield Frank
1907	Dratt Richard	1941	Sclare Mabel
1917	*Precious Julia Honner	1921	Scott Ethel
1905	*Preston Edith Mar	1921	*Scowcroft Elsie
TOTO	Prince Fleenor Edith	1920	*Scruton Harriett Annie
1919	Dullan Francis Norman	1905	*Scruton Kate Ellen
1914	- I undir, Frencis Holman	1900	Soluton, Mate Enen

Graduates in Arts (B.A.)

1916	Seanor, Kathleen Mary	1920	Sugden, Edith Annie
1920	*Sellick, Thomas Oliver	1921	Sutcliffe, Annie Eliza
	Albert	1915	Sutcliffe, Dora
1915	Semper, Constance	1916	Sutcliffe, Dorothy
	Margaret Eleanor	TOTT	*Sutcliffe Helen May
1017	Senior Lilian	1021	*Sutcliffe Walter Hill
191/	Shackleton Arthur	1921	Swales Hilds Morry
1912	Demoiser 1	1919	Swales, Hilda Mary
	Cham Dhall's M	1921	Sykes, Gladys
1917	Sharp, Phyllis May		**** 1 70 (1
1920	Sharpe, Alice	1912	*Taylor, Bertha
1914	Shaw, George	1918	*Taylor, Dora
1910	Shaw, George Lawson	1910	Taylor, William Alexander
1905	Sheard, Dora	1916	*Teale, Alice Dorothea
1914	Sheard, Kathleen	1913	Tempest, Mabel Dorothy
1005	*Sheard, Mary Beatrice	1017	Tesh. Elsie
TQ2T	*Shearer William Sinclair	1021	Thackray George Cyril
- 9	Russell	1020	*Thackray Hen y
TOTT	Sheldon Clare	1920	Thompson Elsis Elizabeth
1911	Sherbard Death	1917	*Thempson, Eiste Enzabeth
1915	Shepherd, Dorothy	1919	Thompson, winneamna
1911	Shout, Leonard West	1917	Inornton, Betsy
1910	Silverman, Herbert Albert		Marguerite
1920	Simper, Emily	1917	*Todd, Helena
1916	Simpson, Helen Mary	1920	*Toes, Ethel
1921	Sinovitch, Israel	1921	*Tolchard, William
1905	*Skinner, Mabel		Charles
1919	Smart, Dorothy	1917	Topham, Ethel
1917	Smith, Helen	1906	Townsend, Florence
1020	*Smith, Marie Kathleen		Emma
TOTS	*Snowden Elizabeth	1018	Townsend Gladys
TOTE	Solloway Mildred Nancy	- 9- 0	Flizabeth Gwendolyn
1910	Langdala	TOOP	Turner Harriet Marie
* • • • •	Languate	1905	Turner, Harnet Marie
1907	Southern, Amed	1912	I witchin, Elizabeth
	Collingwood		Edwards
1918	Sowden, Marie		
1919	*Sparling, Herbert	1913	Varey, Mary
1919	*Speed, Marie Elizabeth	1911	Varley, Annie
1910	Speight, Philip Henry	IQIS	Varley, Bessie
1012	*Speight, Rose Emma	TOTO	Venables Ethel Mary
1021	*Spink Gerald William	- 9 - 9	· ····································
1010	Spruce Gladye	тоат	Wainwright Amy
1910	Steinsbre Coorgo William	1921	Walte Kethleen Herrich
1910	Stallsby, George William	1910	wake, Katilieen Harriet
1910	Stell, Donald	1905	* Walker, Ada
1921	Stephenson, Doris May		(Mrs. Bentley)
1918	*Stevenson, Hilda	1912	Walker, Emily Ethel
1916	*Stewart, John	1918	Walker, Harry
1921	Stokes, Victoria	1921	Walker, Hilda Hallam
1907	Storey-Bates, William	1905	*Walker, Julia Beatrice
5-1	Edward	5-5	(Mrs Thompson)
TOTO	Stradling Ethel Milnes	TOTA	Walker Kathleen Susan
1910	Stuant Emily	1917	Wallton Dobort
1915	Stuart, Emily	1921	warker, Robert

1911	Wallace, Dorothy Kate	1919	Wigham, Wilfred
1921	Warburton, Mary Lilian		Southall
1909	*Ward, Alice Rose	1919	*Wilkins, Phyllis Florence
1920	*Warhurst, Jennie	1921	Williams, Joseph Russell
	Phedora	1919	*Williams, Margaret
1906	Warnes, Sarah Catherine	1915	*Williams, Thomas
1905	Watson, George Alstone	1914	Willis, George Henry
1921	Watson, Thomas	1919	*Wilson, Elizabeth Jane
1907	Weatherell, Thomas	1919	*Wilson, Muriel Ellen
	Bertram		Elizabeth
1914	*Webster, Fred	1910	Wilson, Muriel Margaret
1912	Webster, Herbert		(Mrs. G. H. Cowling)
1915	Webster, Michael Harold	1905	*Wilson, Selina Ethel
1914	Weeks, Norley Cecil	1921	*Wilson, William Wyatt
1911	*West, Evangeline	1921	Wimsey, Ada
1920	West, Florrie	1908	Winter, John Edgar
1918	West, Hilda	1910	Witty, John Robert
1913	Wharton, James Henry	1905	*Wood, Jessie Graham
	Sheilds		(Mrs. A. C. Bruce)
1913	Whincup, Harry Hynes	1917	Wood, Mary Freda
1906	White, Arthur Ernest	1915	Woodall, Ethel Margaret
1916	White, Herbert	1916	Woodcock, Hester
	Marmaduke		Elizabeth
1919	*Whitehead, Dorothy	1921	Woodhead, Edith
1920	Whiting, Dorsey	1918	*Wormwell, Sarah Ethel
1912	Whitley, Arthur	1910	Worsnop, Edgar
1921	Whitworth, Marjorie	1921	Worth, Dorothy
1914	*Whitworth, William	1911	Wright, Bertha Helen
	Wilson	1905	*Wrigley, Isaac
1921	*Whyte, William		
	Hamilton	1919	*Yarrow, John Noel
	Decholow	at Car	
	Dachelor	01 Con	amerce.

1920	*Bellerby,	John	1920	Kholy, Mohammed	Taher
	Rother	ford	1921	Witney, Denis	

# Doctor of Laws.

1914 \*Robson, William Newby, M.A. (Cantab.)

# Master of Laws

1916 \*Turnbull, Donald

# Bachelor of Laws

1915	Bastide, Ernest Percival	1909	Daiches, Salom
1908	Beecroft, Philip Beilby	1909	*Fisher, Arthur Samuel
1907	*Brayshay, Stanley, B.A.	1915	Frankland, Cecil James
1920	*Burrill. Harold Ruthven	1908	Gundill, Edward Norman
1909	*Croft, Thomas Lister	1010	Harrison, William

1911	Ineson, Donald Gordon	1911	*Milner, James
1920	Kay, William Arthur	1913	*Morgan, Owen
1915	*Kaye, Sidney Herbert	1910	*Morgan, Richard Felix
1910	*Knowles, Geoffrey	1906	*Scott, Hubert Edward
1905	Lee, Edmund	1910	*Scriven, Charles
1915	Lieberman, Reuben	1905	Sykes, James
1906	*McConnell, John William	1906	*Wade, James Mervyn
1908	Maude, Arthur Percy	1920	Webster, Fred
	Lees	1913	Wurzal, Joseph

### Faculties of Science and Technology

# Doctor of Science

1910	*Briggs, Samuel Henry	1920	Lloyd, Llewellyn
	Clifford	1905	*Mann, Harold Hart
1915	*Calvert, Harry Thornton	1918	*Marshall, Joseph
1921	*Charlesworth, John Kaye	1920	Raistrick, Harold
1909	Dakin, Henry Drysdale	1910	*Raper, Henry Stanley,
1907	*Dawson, Harry Medforth		M.B., Ch.B.
1907	*Denison, Robert Beckett	1921	Rowe, Frederick Maurice
1905	*Dwerryhouse, Arthur	1920	*Ruston, Arthur Gough
	Richard	1913	*Shorter, Sydney Alfred
1905	*Frankland, John Naylor	1907	*Standing, Herbert Fox
1918	Gilligan, Albert	1917	Stoddard, Arthur Askwith
1905	Ingle, Harry	1905	*Varley, William Mansergh
1913	* Jowett, Albert	1921	Woodman, Herbert
1018	*Leslie, May Sybil		Ernest

# Doctor of Philosophy

# 1921 \*Monkhouse, Allan Cuthbertson

# Master of Science

1919	Abrams, Nathan	190
1905	*Agar, Herbert William	19
1916	Anderson, Leonard	19
1905	*Andrews, William Allen	19
1912	Appleyard, Alfred	19
1911	*Ark, Harry	
1910	*Armin, Edwin Bates	19
8001	Ashby, William Ewart	19
1912	*Atkin, William Rearden	
		19
1918	Bates, Sidney Hartley	
1006	Barker, Aldred Farrer	19
1921	Barratt, Walter Alfred	
1911	Bearder, Ernest Arthur	19
LOOL	*Booumont Roberto	TO

- 1905 \*Beaumont, Roberts 1906 \*Beeley, Arthur
- 1918 \*Bell, Elsie Mary

- 07 \*Bennett, Hugh Garner
- 14 Bennett, William Gordon
- Bewan-Lewis, William
  Bibby, Joseph Richard
  Birkinshaw, John
- Howard
- 09 Blockey, John Reginald
- o6 \*Bothamley, Charles Herbert
- 21 Bradshaw, Geoffrey Gordon
- o6 \*Brayshay, Maurice William
- 12 \*Brier, Albert
- 1912 Bright, Alfred
- 1908 \*Brittain, Charles Edward, M.Sc. Vict.

1920	*Brostoff, Harry	
1911	*Brown, Thomas	1
1905	Brown, Walter Henry	1
1914	*Burton, Donald	1
1920	*Busfield, William	
1916	Butterfield, James Arthur	1
		1
1907	*Calam, Harold	1
1921	*Carruthers, James	
	Norman	1
1921	Chapman, Robert	1
-	Edward	
1913	Chapman, Sarah Elizabeth	1
1906	*Chapman, Thomas	
-	William	
1921	*Chappell, Norman	
TOIA	*Chester Richard	
TOTA	Collinson James Arthur	
1005	*Cooper Albert Henry	
1007	Cooper William Arthur	
1005	*Copley Frederick	
1905	*Coulson Alfred	
1900	Couper George Augustus	
1911	Crapp. Thomas William	
1910	*Crockatt Arthur John	
1915	Croft George Henry	
1913	*Crowther Edward	
1910	Mortimer	
1020	*Cundall Loopard Bertram	
1920	Cusworth Emily Ann	
1915	Cusworth, Ishiny Ann	1
LOLL	Das Birai Mohan	
1911	Davies Arthur Hugh	
1907	*Davies, Intinui Ingin	
1941	Dawson Thomas Rauner	
1913	Danbigh George Lames	1
1919	*Dont Frankland	
1905	Divon Frank Matalfa	1
TOTA	Dixon, Flank Metcane	1
1914	*Doughi, George	
1915	"Douglas, Frank	1
1914	Dry, Francis William	
1910	Dudley, Harold Ward	
1908	Dudley, James	
1912	Dumn, Joseph Francis	
1915	Duthie, Charles Sydney	3
1913	Dutt, Pavitra Kumar	]
	The first state of the state of	]
1905	*Edwards, Ernest John	]
1916	Edmondson, John	]
1918	Ellingworth, Samuel	]
R		

1905	*Findlay, Mary Grace	
1920	*Firth, Maurice	
1920	Forster, John Baker	
1920	Forsyth, John Andrew	r
	Cairns	
1912	Fort, Morris	
1908	*Frank, George Herbert	
1905	*Fry, George Cecil	
1906	*Gardner, Walter Myers	
1907	Gaunt, Rufus	
1910	*Gaut, Robert Charles	
1905	*Gawler, Robert	
1912	Gerard, Inglis Joseph	
1915	Gibson, Wilfrid	
1911	Gilchrist, David	
1912	Glick, Nathan Bernard	
1905	*Goodman, John	
1907	*Goodson, Ethel Eliza-	
	beth (Mrs. Osborne)	
1921	*Goyer, Marie	
1920	Gordon, Morris	
1905	*Grant, Charles Henry	
1920	*Green, Arthur Eatough	
1905	*Green, Arthur George	
1916	Greenwood, Edward	
	Joseph Bernal	
1921	Greenwood, Herbert	
	Donald	
1915	"Grindle, William Georg	e
1911	*Guy, Ernest	
	Itainh John Honor	
1910	Haign, John Henry	

- 1905 \*Hammerton, Jonas 1915 Harrap, Frank Nettleton 1919 Harrison, William
- 1915 Hartley, John Alfred 1913 Hayes, Robert Andrew 1921 \*Heaps, Helen
- 1905 \*Hefford, Charles Nelson
- 1921 Hepworth, Edward 1916 \*Hewlett, Mary
- 921 \*Hey, Arthur Marsden
- 919 Hickman Ella Martin
- 912 Hickson, Bernard
- 911 Hill, James
- 1921 Hillier, Gordon
- 910 Hinckley, Arthur
- 1907 \*Hodsman, Henry James 1913 Hole, Herbert Wray

1914	*Hollings, Harold
1913	Holroyd, Thomas Arthur
1017	Hornby, Clement Denton
1007	Horsfall Ronald Smith
1907	*Houldsworth Hubert
1912	Stanlard Stanlard
	Stanley
1921	*Howarth, Gilbert Bartle
1919	*Hudlikar, Madhav
1905	*Hummel, John James
1921	Hunter, Vera Muriel
1910	*Hurst, Frank
-	
1908	Jackson, Colin Gyrth
1905	* Jackson, Harry Percival
1921	Jackson, Kathleen Marv
TOTS	* Lagger Mary Elizabeth
1915	Marguerita Anne
1000	Toplana Cilbert Damadan
1909	* Johnson John William
1915	- Johnson, John William
	Haigh
1913	* Johnson, William
1907	Jordan, Albert
1921	* Jordinson, Frank
	1
1912	Kench, Henry
1905	*Kendall, Percy Fry
1907	*King, Charles Arthur
1905	King, Herbert
1911	King, William Norman
1905	*Kirby, Frederick Oscar
1 2	
1917	*Lee, Fang Tsung
1920	Levy, Simon
1007	Lister, Mary Florence
- ) - /	Grace (Mrs. Appleton)
TOOF	Littlewood Harry
1905	Lupp Reginald William
1915	Lunn, Reginard winnam
1020	*Maden James
1920	*Maradan Eroph
1920	Marsuell, Flank
1915	McCandlish, Douglas
1917	*McFarlane, Archibald
1908	McGill, Ernest Arthur
1919	Mann, Ernest Edwin
1913	Marsh, Frank Salton
1000	Marshall, Francis
1012	Mellor, Fred
TOTO	Midgley Harry
1919	Middley, Tames
1914	*Mitchell John Arnold
1910	Mitchen, John Arnold
1020	TWOOTE Lawrence

1907	*Morrison, James Alex-
	ander Shepherd
1905	*Motley, Parker
1910	Mountain, Frank
1017	*Mountford Christopher
- 2 - 1	Archibald
	memoard
1905	*Norminton, Harold
1021	North, Edith Emily
	storon, south shirty
8101	*Oates Thomas
	Omar Abdel Mageed
1008	*Outram Nora Aline Iane
1900	Outrain, Rora Anne Jane
TOTO	Paniker Manakath
1910	Allommatath Damama
	*Dolmon Wilfrid Emered
1921	*Paimer, whind Ernest
1905	*Parr, George Dudley
	Aspinall
1911	Parsons, Ernest
1914	Pearson, William
1914	Perry, Robert
1920	*Petch, Frank
1920	*Place, William Illing-
	worth
1911	Powis, Frank
1905	*Procter, Henry Richard-
	son
_	
1916	Ram, Khub
1919	*Randall, William
1911	*Rankin, William Munn
1911	Rawling, Franc s George
1921	Rea, Rosamund Mary
	Lloyd
1913	Redfearn, George Richard
1912	Rhodes, Norman
1017	Richardson, Herbert
1007	Richardson John Stocks
1016	Robinson Fred
1017	Rodwell Robert Ascough
1917	Rosenbaum Joseph
1919	Louis
	Louis
1013	*Scouller Walter Daly
1010	Sen Raiendra Nath
1021	*Sewell William Gawan
1011	Sentan Longs Angold
1911	*Shulman Isaaa
1914	Chuttlewouth Newton
1908	Shuttleworth, Newton
TOTE	Sidertin Norman Edward

# Graduates in Science

1908	Sinson, Israel Lewis	1911	Varley, Gilbert
1905	*Skirrow, Frederick	1915	Versey, Henry Cherry
	William		
1906	*Slater, John Henry	1911	Walker, Emily Farrington
1907	Smailes, Alan	1905	Walker, Henry Secker
1915	Smith, Jane Elizabeth	1920	*Ward, Florence Eleanor
1921	Spencer, George Douglas	1921	*Ward, Harry
1910	Steinthal, Paul Telford	1910	Ward, Herbert
1913	*Stephenson, Cyril		Wainwright
	Richard William	1909	Webster, Herbert William
1914	Stocks, Herbert Holroyd	1910	Westerman, Mabel
1920	Storr, Bertram Vincent	1921	Whattam, Thomas
1914	Sugden, Reginald		William
1908	Sykes, Albert Howarth	1918	Whitaker, Elsie Dinah
		1919	Whitaker, Henry
1912	Taylor, Arthur	1909	Whitaker, Herbert
1914	*Taylor, Ernest	1911	*White, Robert George
1912	Thompson, Frederick	1905	*Whiteley, Charles
	Charles		Edward
1915	Thompson, Harold	1921	Whitham, Harry
	Winsor	1920	Williams, Arthur Trevor
1905	*Thompson, John Thomas	1915	*Wilson, Ernest Percival
1911	*Thornton, Harold	1912	Wilson, John Harry
	Priestley	1917	Wilson, John Joseph
1907	*Thorp, George	1917	Wilson, Maurice Lowell
1914	Tillott, Harry	1920	*Woffenden, Lettice May
1921	Tonks, Laurance Henry	1915	*Wolfe, Harold Maurice
1907	Townsend, Robert	1911	Wood, George
1907	Turner, Florence Mary	1909	Woodhead, Arthur
	Beatrice (Mrs.		Edmund
	Thomson)	1919	Woodmansey, Arnold
	*Ilmonial Author Team	1914	Woodroffe, David
1919	Vistor	1918	Worsnop, Edith
	VICIOE		III TA Chautes I - man

- 1906 \*Unwin, Ernest Ewart
- (Mrs. Hammond) 1905 \*Appleyard, John Henry
- Ross
- 1905 Armes, Henry Percy
- 1911 \*Aldersley, Arthur Howard 1906 \*Armes, Jane Prue
  - 1921 \*Armitage, Bernard
  - 1908 Armitage, Harry
  - 1912 \*Armstrong, William Leslie
- 1920 Allsopp, Mildred
- 1920 Anfield, Annie Elizabeth 1921 Ashbey, James Sydney

(Mrs. Moore) 1915 \*Allen, Spencer

1906 \*Anson, Emily

1909 \*Addison, Herbert

1905 \*Allen, Lilian

1911 Airey, Cecil Philip

- 1909 \*Arnold, Joseph Sykes
- 1921 Atkin, John

- lard, Herbert Wainwright ebster, Herbert William
- lesterman. Mabel
- hattam, Thomas William
- /hitaker, Elsie Dinah
- hitaker, Henry
- /hitaker, Herbert
- Vhite, Robert George
- hiteley, Charles Edward
- hitham, Harry
- Villiams, Arthur Trevor
- Vilson, Ernest Percival
- lison, John Harry
- /ilson, John Joseph
- lilson, Maurice Lowell
- offenden, Lettice May
- olfe, Harold Maurice
- lood, George
- loodhead, Arthur Edmund
- Joodmansey, Arnold
- oodroffe, David
- Jorsnop, Edith
- Wright, Charles James 1905

Bachelor of Science 1915 \*Acklam, William Richard 1909 Appleyard, Ada Evelyn 1905 \*Ackroyd, John Prest 1912 Ackroyd, Louis

Graduates in Science (B.Sc.)

1913	Atkinson, Elsie May	1907	Bowes, George Robert
1920	*Atkinson, Stanley	1905	*Boyd, Simeon
	Jackson	1910	*Boyle, Henry Kirk
1914	Auty, Clifford Marshall	1918	*Bradley, Agnes
		1921	Breare, Arnold
1907	Baddiley, James	1911	Brekke, Lorentz Oliver
1908	Bailey, Annie Rosa	1921	*Briggs, Herbert Bradley
1921	Bailey, Norman	1912	Briggs, Margery Haining
1910	Bainbridge, James Scott	1905	*Briggs, William, M.A.,
1920	*Baker, Beatrice Ida		LL.D. (Camb.)
1921	Bakes, William Edgar	1905	*Broadhead, James Arthur
1909	*Bannister, Albert	1906	*Broadley, William
1908	Barker, Christopher	1916	Bromley, Elsie
-	James	1907	Brook, Annie (Mrs. A.
1921	*Barker, Eric Victor	- /	Temple)
1921	Barker, George	1905	*Brook, Harry
1905	*Barlow, Percival Smith	1914	Brooke, Harold Willium
1913	Barrett, John Douglas	1912	Brooksbank, Ethel
1916	Bartholomew, Gertrude	1917	Brown, Flora Marion
1905	*Barton, Edith Beatrice		Violet
1920	Baruxaki, Leonard Alan	1921	Brown, Sydney Clifford
1921	Battye, Marjorie	1914	Browne, Walter Lord
1910	Bayley, John Henry	1919	Browning, Dorothy May
	Stewart	1905	Bruce, Mary Walbrand
1921	Beck, Clarence Walker		(Mrs. McCrae)
1909	Beckwith, Kathleen Mary	1912	Bull, Walter
	(Mrs. Norman)	1905	*Bulman, John Arthur
1910	Bell, Alfred Glaize	1905	*Burgess, William Ernest
1907	Bell, Herbert Nutter	1908	Burras, Catherine
1921	*Bellerby, Francis George	1920	*Butler, Percy
1909	Bendrey, Hilda	1915	Butterworth, Sarah
1912	Bennett, Percy		Elizabeth
1917	Benson, Marjorie		
	Washington	1910	Callender, George Dougal
1919	*Bentley, Esther Cludera	1920	Calvert, Lily
1912	Best, Thomas Edward	1907	Cameron, James Neild
1919	*Bickerdike, Doris Mary	1906	Carlton, George
1921	*Birch, Arthur Aubrey		Westerdale
1907	Birkenhead, Florence	1909	Carter, Frederick Edward
	Ethel	1914	Cass, Edith Annie
1911	Blackburn, Clarice	1920	Chamley, Edith
	Lawton	1906	Claridge, Margaret Elsie
1916	*Blair, James		(Mrs. W. D. Stedman)
1920	Blakeley, Rose	1921	*Clarkson, William
1917	Blankley, Hannah		Edward
1921	*Blease, Rupert Gordon	1914	Clayton, Charles Flesher
1921	*Bonar, David Doughty	1905	*Cobb, John William
	Mill	1912	Cobbold, Hazen Nevill
1910	Bond, James Ryding		Herbert
1905	Booth, Meyrick	1910	Cockburn, Edward Colin
		_	

1921	Cocking, Harold	1921
1919	*Cohen. Emmanuel	1906
1910	Colbert, Thomas Henry	1910
1911	Coldbeck, Malcolm	1906
	Stanley	1910
1909	Coope, Hilda (Mrs. Rose)	
1906	Cooper, John George	1918
1921	*Cornock, Arthur	1910
	Frederick	1915
1919	Coulson, Ivy	
1912	*Coultas, Harold Wilber-	1921
	force	
1911	Courtice, George Robert	1918
	Aulton	1908
1918	*Cox, Dorothy Emma	1906
1905	*Coxon, Lawrence Adams	1905
1905	Craig, David	1906
1905	*Crawshaw, Annie	1918
1914	Crawshaw, Dorothy	1921
1909	*Crawshaw, Nellie	1905
1909	Crosby, Berkley Cecil	
1905	*Crosfill, John	1921
1915	Crosland, Frank	1911
1906	Crosland, Percy Field	1916
1907	Cross, William Ernest	1905
1912	Crowther, Fred	
1906	*Crowther, Herbert	1910
1908	Crowther, Philip	1906
	Townsend	1910
1907	Crowther, William	1905
	Edmund	1921
1921	*Crummett, Alan	1920
1905	*Cunningham, Jean Orme	1907
1911	Curtis, Horace	1921
	Dalha Jaha	
1921	Dalby, John Dalba Dalba	1905
1921	Dalineyer, John Roger	1908
1910	Dalton, Jennie	1921
1907	Davies, Hamilton	
1908	Davies, Henry	1920
1905	Davies, Ivor Parry	1900
1910	Davison, frene Edith	
1911	Davison, Florence Mary	1921
1920	Daws, Flank	1905
1910	*Dawson, John Barkas	1908
1920	*Day, Murier Mercy	1908
1920	"Dennam, Basil	1912
	*Dialainaan Camil	1908
1905	"Dickinson, Uvrii	1005

1909 Dixon, James Harvey

- \*Dolbey, Norman Louis
- Draper, Alick Darby
- Duchesne, Henry
- Dudley, Nora
- Dugdale, Norris
- Earle, Frances Mariorie
- Earle, Frank Maynard
- \*Earnshaw, Norman Stephenson
- \*Eastham, Leonard Ernest Sydney
- \*Eastwood, Elsie
- Ebbage, Edith Mabel
- Elliott, Bertram Warren
- \*Ellis, James John \*Ellis, John Newman
- \*Emsley, Lena
- Evans, Elizabeth
- \*Everett, James Herbert
- Face, Frank Leslie
- Farnish, John
- \*Fathy, Mohamed Amin
- \*Fearnley, Lewis William Knapton
- Feather, Myra
- Field, Margaret
- Fielden, Harold
- \*Finn, Cornelius Philip
- Finn, Kathleen Constance
- \*Fleet, Doris Gertrude
- Fletcher, Alfred Edgar
- Flockton, Edith Gertrude
- \*Forsyth, Christina Brand
- Fottrell, Edward Joseph
- Fowler, John
- \*Galloway, Jenny
- \*Gaunt, Louis Henry Armistead
- Gayes, Cyril Ernest
- Goddard, Clara Annie
- Goddard, Edith Eleanor
- Goddard, Ethel Mary
- Goldstone, Cecilia
- Goodson, Arthur Godfrey
- \*Gomersall, Ernest

Edward

Graduates in Science (B.Sc.)

1916 \*Gordon, Isaac 1916 Hepworth, William 1921 \*Gott, Herbert 1910 Hewerdine, Harry 1910 Gould, Percy 1012 Hewitt, Percy George 1910 Graham, Hugh Colborne Hey, Minnie IQI2 1905 \*Grant, Frederick Ernest 1905 \*Hield, Mary Elsie 1921 \*Gray, Albert Hilliard 1905 Hilary, Daisy 1919 \*Green, Clara Hill, Donald John 1920 Hill, Jessie Hind, Mildred 1912 \*Green, Thomas Edwyn 1915 1905 \*Greenwood, Arthur 1916 1921 Greenwood, Sybil 1905 \*Hirst, Henry Reginald Gregg, Herbert Atkinson 1905 \*Hobart, John William 1007 Gregory, Frederick 1905 \*Hobley, Robert Arthur 1905 1921 \*Hockney, Harry Linslay Maurice 6115 \*Gregory, George Archibald 1921 \*Hodgson, David Maxwell 1011 \*Gregson, Annie 1906 Holgate, Edward Holgate, James Hollings, Dorice Mary 1909 Groocock, Helena 1913 1905 \*Gunter, John Henry 1913 1918 \*Guy, Hilda Clotilda 1000 Holrovd, Eleanor Mary 1905 \*Haler, Percy James 1911 Hoppenstadt, Isaac 1920 \*Hopton, Maurice Hall, William 1010 1914 \*Hou, Yen-Ping IOII Hamer, Ernest Fenton 1905 \*Hampshire, Florence 1921 Howarth, John Edward Elizabeth 1921 Huddleston, William 1916 \*Hanby, Thomas 1906 Hansell, John Bentley Thomas 1905 \*Hummel, Alfred Roland 1905 Harding, Oswald Jackson Ure 1907 \*Hummel, Ernest Lonsdale Hardisty, Victoria 1910 1905 \*Hunt, Francis William Lavinia 1905 \*Hardy, Joseph 1905 \*Hunter, Herbert 1921 \*Hare, Arthur 1918 \*Hurst, Harold Robert 1907 \*Hargreaves. Edith 1905 \*Hurtley, William (Mrs. Thorp) Holdsworth Hargreaves, James Harold 1905 \*Hutchinson, Florrie 1015 1921 Harris, Edward Geoffrey 1905 Hutton, Wilfred 1905 \*Hartley, Percival 1908 Haworth, Richard 1905 \*Ingle, Herbert 1921 \*Hawthorne, John Eric Ingram, Leslie Pool 1921 1914 Hayes, Harry 1913 Irish, Edward 1921 \*Hazeldon, John Ismail, Mohammed 1910 Nicholson 1913 Hebron, Arthur 1905 \*Hefford, George Winfield 1905 \* Jackson, Arthur 1920 Helps, Gordon 1914 Jackson, Herbert Guy Jackson, Percy Gladstone 1921 \*Henderson, Alexander IQII Jarvis, Violet Helena 1914 Henderson, William 1921 Albert Johnson, Charles Lester 1910 1905 Heptinstall, Richard Jones, Doris Elissa 1921 1921 \*Hepworth, James 1921 \* Jones, Reginald Hugh Alexander 1919 \* Jones, Zillah Verbena

TOTO	Judd Harold Arthur	TOTO	Mann Clarissa
1912	Judaon John Albert	1910	Mann, Clarissa Mann, Lamon William
1921	Vieton	1900	Main, James Winnam
	VICTOF	1915	Mao, Shen Shan
	Verninglei Debasse	1909	Margells, Percy Alexander
1912	Kammski, Kebecca	1905	Marriner, William Wright
1905	*Kay, Douglas John	1921	Marriott, Robert Henry
1905	Kaye, Eaward Percy	1905	*Marsden, Ernest vane
1921	Kendall, Geoffrey Paul	1914	Marsh, William Alfred
1911	Kendall, Percy Fry (Jnr.)	1905	*Marshall, Herbert
1915	Kettlewell, Ethel	1921	*Martin, Reginald Henry
1921	*Kitchen, Ernest David	1910	Mason, George Samuel
1920	Knaggs, Doris	1914	Mathers, Ronald Cyril
1905	*Knowles, George William	1921	Maude, Jessie
	M.A. (Royal Univ. Ire.)	1909	Mawson, John Halliwell
1921	Kubalek, Otto	1917	*Meyer, Ellen Grace
1921	Kuoni, Eileen Alice	1921	Midgley, Edward
		1011	*Midgley, Michael
1921	Laboulle, Gaston Felix	-	Mortimer
-	Lambert	1921	*Milne, Geoffrey
1907	Lacy, Arthur	1913	Milner, David William
1014	Lakeman Robert Meredew	τοτ8	*Milnes, Thomas Wray
1005	*Langstaff, Bilton	1020	Moffatt, Henry Robert
TO2T	*Lanham, George Gilbert	1021	Moore, Mariorie
1007	Law Marion Rosalind	1005	*Morris Florence Annie
TOTO	Lavcock Edith	1005	*Morton Dora
1021	Leake Dorothy	1010	Morton Gordon
1921	Lee Flsie	TOTE	Moses Abram
1021	*Leeming Harold Gordon	1913	Moses Joseph
1941	Levisohn James Frederic	1921	*Mose Charles Edward
1941	Lipman Reuben	1903	Mott Reginald Arthur
1921	Lishman Arthur Vincent	1921	Moulden Mary
1911	*Livesay Charles Edwin	1915	Mountain John William
1905	Leonard	1914	Mukariaa Kehitis
TOOP	*Lodge Harry Livingston	1912	Chandra
1905	Lord William Ernost	1008	Mulcobr Julio
1905	*Lowoon William	1900	*Murphy, Juna
1905	Lowson, winnam	1905	Muserene Elsie Seline
1907	Loyu, Jessie	1921	Musgrave, Elsie Senna
1920	Lupton, Henry Preston	1914	Musgrave, Evelyn
1921	Lyan, Eme	1919	Elizabeth
1914	*McGeorge, Alexander	1906	Myers, Mary Alice
TOI2	McKee, Sarah Mary		, <u>,</u>
1012	McMillan, Mary	1021	Narcross. John Watts
19-2	McWhirter (Mrs. I.	1020	*Navlor, Frank Hyde
	H Wilson)	1005	*Nicholls Percy
1007	Maddison Wilfred Guy	1020	*Nixon Marie Isobel
1907	Makinson Nora Isabel	1008	Normington May (Mrs
1911	*Mallinson Fric	1900	H Hugh-Iones)
1913	*Manasseh Antonius	1020	North Muriel
1905	Tocoph	1920	North Nouillo Marriett
	Joseph	1911	North, Nevine Marriott

Graduates in Science (B.Sc.)

1921 Novakovitch, Dooshan	1005 *Rayner Herbert Emmett
1905 *Novis, Rupert Stanley	1012 Rhodes Alfred Irving
1914 Nuttall, Thomas Henry	v 1921 Rhodes, Edgar
	1921 Rhodes, Oswald Stapley
1905 *Oddy, Annie Maude	1012 Richardson Charles
1912 *Ogden, Herbert	Richard Sugden
1921 Overton, Gladys	TOTO *Richardson James
1905 Owen, Samuel Joseph	Reginald
1917 Parker, Irvin	1910 Richardson, Mark
1913 Parkinson, Ben	Alexander
1915 Parsons, George	1907 Rider, Charles Matthew
1921 *Patterson, William	1908 Riley, Frank
Stewart	1915 Rimmington, Miriam
1921 Pawson, Alfred Claren	ce 1909 Roberts, Augustus
1905 *Peacock, Arthur	Alphonso
1906 Pearce, Cyril Thomas	1921 Roberts, Victor Genaro
1911 Pearson, William	1912 *Robinson, Milton
1918 *Pearson, William	1920 *Robinson, Ralph Lozelu
1913 Peatfield, Albert Edwa	rd 1915 Roff, Evelyn Mary
1919 Peckitt, Elsie Peckitt	1906 Ross, William Oatey
1920 Pedley, Doris	1915 *Rothwell, Percy
1920 Penn, Dorothy Edith	1920 Rushton, Florence Mary
1913 Peniston, Annie	1906 *Rydall, George Herbert
(Mrs. Redman King)	
1916 *Percival, Edward	1914 *Saba, el Saed Mohamed
1920 *Pexton, Stuart	1920 *Salt, Harold
1912 Pickard, Miriam	1919 Scanlon, Caroline Teresa
1905 *Phillipson, Abram	1905 *Scholefield, Fred
1915 Pillai, Mudijil Kerula	1906 *Schmitz, Herman Emil
Govinda	1921 Scott, John Richard
1908 Platts, Matthew George	e 1905 *Scruton, Harold Adams
1905 *Pocklington, Henry	1913 Sen, Jagendranath
Cabourn, B.A. (Cant	ab. 1913 *Senior, Alan
D.Sc., Lond.)	1919 Senior, Elsie
1919 *Poole, Harold Charles	1911 Senior, George
1921 Potter, Edith Mildred	1913 Seville, Robert Ockleston
1915 Powell, Joseph Arthur	1921 *Seymour-Jones, Frank
1910 Priestley, Edmund	Leslie
1912 Priestman, Kenneth	1921 *Shaw, Cecil
Mallorie	1921 Sheard, James Herbert
1906 Procter, Herbert	1914 *Shepherd, Reginald
1913 Purdon, Arthur Oscar	Vernon
Tory Onemphas Enderich	1921 Shepherdson, Arnold
1914 Qualmoy, Flederick	1911 Simpson, Thomas Cooper
1916 Raine, Alfred Holgate	1905 *Skirrow, Benjamin Beck
1907 Raistrick, John William	1908 Smith, Bracewell
1915 Raistrick, Margaret	1905 *Smith, Henry Archbold
Walker	1915 Smith, Norman
1919 Ralph, Harry	1914 *Smithells, Colin James
1912 *Rawling, Arthur	1016 Sowden Willie

1905	*Sowerbutts, Edith Utley	1907	Turner, Frederick William
1001	(MIS. N. Campbell)	1900	Mary (Mrs. Hincklow)
1921	Steinsby William	TOAT	*Typen Gilbert John
1914	Standing Edwin	1921	Gilbanks
1905	Mortimer		GIIDAIIKS
1012	Staveley John	1010	Umpleby, Dorothy
1913	*Stead Frank Cawthorn	- / - /	<b>I J</b>
1016	Stead Freda Elizabeth	1912	Vaughan, John David
1910	(Mrs G A Gregory)	1908	Vernon, Edgar
1021	Stevenson Francis	1908	Vince, Eva Mary
1921	Malcolm	1905	*Wagstaffe, George
TOOF	*Stewart Tom	- ) - )	William
1905	Stillwell Samuel Thomas	1005	*Waite, Joseph Harold
1911	Cryor	1005	*Walbank, Wilfrid
TO2T	*Stockdale Teonard	- 90 3	Stephen
1941	Moore	1013	*Walker Albert George
TOOL	*Stocks Arthur	1012	*Walker Evelyn
1905	*Stott Clarance	TOTO	*Walker James
1919	Storedinovitch John	1005	*Walker Joshua
1921	*Strickland Iomoo	1903	Walker Leonard
1921	*Strickland, James	1900	Ward Margaret Naomi
1921	*Stross, Damet	1900	(Mrs Lacker)
1905	Suchamith Willia	1006	*Warin Phillipson
1921	Suckstitten, withe	1005	*Warmington Edith
1907	Surcine, James	1903	Watson Clara Evelyn
1921	Swame, Annie	1917	Watson James Arthur
TOOT	*Toylor Francis	1900	Watts Frank Maxfield
1905	Taylor, Flancis	1900	West William Ernest
1914	*Totlor, John Robinson	1900	*Whaley James
1910	*Theoly Floid	1905	Whalley, Fred
1920	Thiatlathuraita Uilda	1914	Whalley, Lewis
1915	Themes Welter Morgon	1910	Wharram Charles
1913	Thomas, Waiter Morgan	1912	Ftherington
1920	Thompson, George	TOTO	*Wheatley Arnold
	Caspurne	1913	Herbert Maurice
1905	*Thompson, George Robert	TOTO	*Wheatley Robert
1905	* Inompson, Herbert	1910	*White William Honry
1909	Thornton, Edwin	1905	Whitehood Hugh
1905	*Thorp, Samuel	1921	Debineen
1905	*Thorp, Walter		KODINSON Malitational Dallia
1921	Thorpe, George Sykes	1905	Whitehead, Pollie
1905	*Tiffany, Frank	1911	Whiteley, Ada
1905	*Tiffany, Joseph Edgar		(Mrs. E. O. Jones)
1910	Tingle, Robert Lacey	1905	*Whittaker, Croyden
	Aubrey		Meredith
1907	Tomlinson, John Arthur	1909	*Wilby, Arthur Edwin
1906	Tomlinson, Thomas	1907	Wilkinson, Eltoit Wray
	Fowler	1920	Wilkinson, Mary
1921	*Tomlinson, Thomas	1914	Williams, Thomas
-	Percival		Rhondda

Graduates in Science and Medicine

1905	Wilson, Frances Annie	1921	*Woodman, Rowland
1920	Wilson, Nora Frances		Marcus
	Mary	1910	Woodward, Arthur
1913	Wilson, Otto Bob	1919	*Woodward, Ida
1905	Wise, Julius Stanton	1921	Wormall, Arthur
1921	Wisely, Annie	1912	*Wray, John Lamport
1912	Wood, George	1911	Wright, Charles
1920	Wood, George Oliver	1913	Wright, Ernest Francis
1910	*Wood, Louis Albert	1913	Wright, Fred
1905	*Wood, Margaret	1910	Wrigley, Florence Mary
	(Mrs. Priestman)		(Mrs. Higgins)
1918	*Wood, Sarah Jane		
1910	Woodhead, Gertrude	1908	Zelensky, Lily Aurelia
	Ramsden	1005	*Zortman Israel Hyam

# Faculty of Medicine

# Doctor of Medicine

1906	*Anderson, William	1918 Holt, Henry
	Jenkins Webb	1920 *Lodge, William Oliver
1915	Brown, Thomas	1914 Macvie, George Ernest
1921	Carter, Hartley Sidney	1905 *Parkinson, Arthur
1915	Crawford, James Stirling	Stanley
1919	Fernandez, Zacharias	1918 Reed, Ernest William
	Peter	1920 Robinson, William
1918	Fisher, John Barugh	1920 *Rowling, Samuel
1918	Flint, Horace Lance	Thompson
1918	*Glover, Emily Eliza Violet	1919 *Samuel, Samuel
1910	Gloyne, Stephen	1905 Stoney, William Walter,
	Roodhouse	M.D. (Vict.)
1917	*Greenwood, William	1903 *Turton, Edward
	Osborne	1910 Vallow, Harold

# Master of Surgery

# 1910 Gough, Alfred

Bachelor of Medicine and Bachelor of Surgery

191	Acomb, John	1918 *Bertwistle, Alfred
191	7 Adler, Saul	Pilkington
191	4 Anderton, William	1915 Bhalla, Harman Singh
	Dinsdale	1907 Bibby, James Paley
191:	2 Angel, Harry	1905 *Birtwhistle, Frederick
192	1 *Armitage, George	Percy Hewetson
		1912 *Blackburn, John Holliday
TOO	s Bailey Fred	1921 Bolton, Effie Greig
TOT	8 Bamford Jane	1920 *Botwood, Charles
TOT	Bastable Arthur	Anselm
- 9	Langford	1905 *Boyle, Alan
101	8 Baxter Gerald Richard	1905 *Braithwaite, Leonard
-91		Ralph

1905 *Brierley, Wilfred Edward	1914 Gillies, John Cruickshanks
1905 *Broadley, John	1921 Goodson, Bessie
1011 Brown, Charles Suffield	1918 *Gordon, John
1005 *Brown, Henry	1920 Gordon, Louis
IOLO Brown John Perrin	TOTA Gosney Charles Marsh
1910 Butler Leonard Henry	Lots Goss Francis Hennessev
1915 Dutier, Dechard Henry	1018 *Graham Reginald
1911 Caplan, Harry	1910 Granam, Reginard
1907 *Carter, Godfrey	William Marchall
1017 Charles, Henry Ernest	*Comment Charles
1015 Clarke Digby Arthur	1905 *Greenwood, Charles
Pehody	Henry
TOTA Cohen Sam Nathaniel	1905 *Greenwood, Henry
1914 Crawford Margaret	Harold
(Mrs Pulhan)	
Toto Crockatt Howard	1906 Hackworth, Vivian
Tudbrook	Cuthbert
Luudiook	1907 Hardy, Digby Wrangham
1905 "Culidali, Edward	1910 Hart, Walter Sidney
1006 Daly, Ramsay Lamy	1905 *Hayes, Frederick William
1005 *Darlow Francis	1914 Hebblethwaite, Arthur
1021 Davey John Milton	Stuart
1005 *Deane Arthur Maslen	1000 Hepworth, Sydney
1905 Dibb William Land	Milverton
LOLE Divon Robert Corside	1010 Hessel, William Thomas
1919 Dixon, Robert Gaiside	1014 Hesterlow, Edward
1900 Dobson, Flancis George	1021 Hickman, Ella Martin
Tors Dropor Marian	1021 Hipshop Isaac
Toto Druper, Marton	Tozo Hollings George William
1919 Diuly, Edward Wilson	1017 Holt Harry Mainwaring
1910 Dudley, Charles William	1005 *Honton Balph MD
1912 Dunbar, Lesne	I and
1920 Dyson, Reginard John	1017 Horsfall Herbert Victor
1005 *Eames, Charles William	Took Hummel John James
TOTA Elliott Thomas	M So
1021 Elmer Thomas Horner	MI.SC.
1921 2011101, 1101100 24011101	1917 Huist, George Flederick
1905 Fearnley, Harold	1905 Hustler, George Herbert
1912 Ferguson, John	1916 Hutchinson, Miriam
1921 Fleming, Geoffrey	(Mrs. Langley)
Dewhirst	
1006 Flint Ethelbert Rest	1910 Ingham, Harold Norman
1900 Forsyth John Andrew	1916 Ingham, William Leslie
Coirpe	
TOTA Forton Hartas	1905 *Kellett, Alfred Feather-
roth Franklin Hymon	stone
1910 Franklin, flyman	1906 Kendall, Frank Edward
1900 Frodisner, James Hebble-	1911 Keswick, John Barton
thwaite Martin	Thompson
1017 Gabriel, William Lawson	1014 King Frank
Mabson	TOTA King William Douglas
1020 Gleave Humphrey Hart	Anderson
1920 Oldave, Humphrey Halt	1110015011

Graduates in Medicine

1912	Kirk, George William	1920	Phelon, Harry Vernon
	Lister	1917	Pick, Norris
1921	Kirk, Reginald Neville	1912	Pickles, John Jagger
1913	Kitson, Frederick Hubert		
1914	Knowles, Henry Rylands	1906	Radcliffe, Roland Brooke
1916	Knowles, Cyril Reginald	1910	*Raper, Henry Stanley
	*T . 1.11 D 1 . ( C	1905	*Reed, John Arthur
1905	*Ladell, Robert George	1911	Riley, Arthur
	Macdonald	1919	Roberts, Augustus
1914	La louche, John James		Alphonso
	Digges	1914	Robinson, Henry
1915	Leake, Charles Edward	2 1	Whitteron
1921	Lee, Reginald Walter	TOTS	Rose Jack
1905	*Legge, James Huntly	1017	Rowden William Henry
1917	Lever, John Morrison	~ ) - /	acondon, wimani meniy
1905	Lister, Thomas Edmund	1020	Sacks Reuben
1911	Little, Cuthbert Joseph	1020	Science Jack
	Harwood	1920	*Seaton Douglas
1915	Lockwood, Herbert Sinclair	1905	Servilla Charles Hermond
1914	Lonen, William Hubert	1913	Shackleton Herbert Derly
	M-Real Main On	1913	Sharp Clauding Colon
1900	McKane, William Oli-	1910	Vor
	phant	TODO	Shaw William
1905	*Mackenzie, Alexander,	1909	*Shoord Arthur
	M.A. (Camb.)	1920	Sheard, Arthur
1905	Macvean, Herbert James	1920	Shemonital Mania
1905	*Maffin, Harry	1920	Shernovitch, Morris
1905	*Manknell, Arthur	1917	Shillito, Paul
1920	Massey, Arthur	1914	Shockett, Harry Charles
<b>1</b> 905	*Matthews, Crawfurd Tait	1917	Silverton, Isaac
1912	Mellis, George Pickard	1913	Sinson, Harry Abram
1913	Menon, Kesava	1911	Sinson, Julius Barnet
1920	Merrington, Harold	1910	Slocombe, Bernard
	Douglas		Atkinson
1912	Metcalfe, John Clifford	1905	*Smailes, William Herbert
1908	Mitchell, Guy Annesley	1917	Smith, Charles Holden
-	Carter	1905	Smith, Charles Nixon
1012	Mitton, Norman Vernon	1919	Smith, Frederick Hugh
1005	*Moorhouse Charles	1916	Smith, Jessie
-9-5	Herbert	1909	Smith, Reginald Eccles
1005	*Morton Armitage	1921	Smithies, Cyril Moulson
1903	Muschamp Alexander	1021	Sourasky Ahron
1940	Tomoo Twoo	TOOS	Shink Freet William
TOTO	Musson John Parar-	1903	M.D. (Lond)
1910	musson, John Percy	TOOF	*Stansfield Harry
1908	Nichol, George Colin	1020	Stewart Alan Benjamin
	Henderson	1920	Stockdala Coorga
1911	Nunneley, Francis	1910	Vincent
	William	100-	*Stott William Att
TOTA	Parker Joseph Horme	1905	*Stort, William Atkinson
1917	Pate Monton	1905	Suggit, Bertram
1912	reio, Worton	1912	Symons, Hubert Wallace

# Graduates in Medicine

1913	Taylor, Herman Louis	1921	Walsh, Nathan
1920	Thornton, Charles	1917	*Walton, Francis
	Raymond	1919	Watson, Clifford Riley
1909	Thoseby, John Norman	1905	*Wells, George Lee
	Lonsdale	1905	Whalley, Frederick
1905	Todd, Aldred Bertram	1906	Whitehead, Thomas
	Slingsby	1911	Wigglesworth, Frank
1905	*Tomlin, Herbert	1914	-Wilkinson, John
1915	Topham, Richard Stanley	1905	*Wilks, Stephen Long-
1906	*Trumper, Oscar Bagster		more Butterworth,
1910	Twist, Norman Stuart		M.D. (Lond.)
1915	Umanski, Augusta (Mrs. Landman)	1905 1906 1914	*Willans, Charles Rudolph *Williamson, Joshua Wilson, Colin
1906	Walker, Albert Latimer	1921	*Wilson, Kathleen
1911	Walker, John Perry	1912	Wood, Bertram William
1905	Walker, Meville George		Francis
	Leslie	1920	Woodroofe, Edwin
1911	Walker, Thomas Lock-		Royston
	wood	1914	Wright, John
	Bachelor of 1	Dental	Surgery

1916 Baxter, Gerald Richard 1921 \*Sykes, John George

## DIPLOMAS (UNIVERSITY OF LEEDS)

## Education

- 1905 Barton, Edith Beatrice
- 1906 Conyers, Hilda Edwards, Maud Mary Owen, Florence Robinson, Lilian Dorothea
- 1907 Claridge, Margaret Elsie Dunlop, Marian Vaughan Illingworth, Maria Emma Myers, Mary Alice Ourtam, Nora Aline Jane Whitehead, Mary
- 1908 Flynn, Bridie North, Fanny Caroline Thomas Sydney Hardisty Walker, Jessie
- 1909 Bailey, Annie Rosa Frank, Dorothea Ethel Golding, Mary Muriel Hirst, John Crosland Mallinson, Dorothy Normington, May Simpkiss, Nellie Zelensky, Lily Aurelia
- 1910 Bendrey, Hilda Dean, Arthur Ernest Hobson, Elsie Irene Lawson, Leah Gardner Maud, Ida Marian Perham, Ethel Kate Ward, Herbert Wainwright
- 1911 Butler, Gloxinia Caldwell, Sarah Jane Phillips, Dorothy Wilson, Muriel Margaret
- 1912 Broadley, Mary Anne Foggitt, Ida Gregson, Annie Hooper, Dorothy Kirtland, Dorothy Mary Miller, Florence Clark Wright, Bertha Helen

- 1913 Jenkins, Elsie May Reynolds, Carrie Standing, Christine Sykes, Florence Mary Walker, Dorothy
- 1914 Blamires, Florence Mary Boothroyd, Elsie Brooksbank, Ethel Hirst, Beatrice May Levy, Sissie Emma Mawson, Constance Tempest, Mable Dorothy
- 1915 Caldwell, Mary Constance Chadwick, Florence Maud Crawshaw, Dorothy Jöle, Nora Bancroft Needham, Alice Margaret Sheard, Kathleen
- 1916 Carter, Jessie May Ferraby, Margaret Illingworth Holliday, Marjorie Tate Kirkwood, Winifred Kitson, Fanny Edith Musgrave, Evelyn Rimmington, Miriam
- 1917 Birch, Dorothy Ellen Dawes, Marjorie Dawson, Esther Mary Mee, Winifred Ellen Nixon, Hilda Simpson, Helen Mary
- 1918 Bellerby, Margaret Hope Burrow, Hannah Louise Dixon, Ella Dowson, Evelyn Rhoda Moss, Helenor Thompson, Elsie Elizabeth Vincent, Janet Lucy Wood, Mary Freda
- Bairstow, Dorothy Billam, Lois Ethel Eastwood, Elsie Hellier, Agatha Sowerby Kaye, Ruth Armitage Noxon, Marion Richeux, Muriel Victoria May le

- 1920 Barran, Emma Bottomley Hillas, Norman McLeannan, Florence Lilian Preston, Edith May Speed, Marie Elizabeth Stevenson, Hilda Wheatley, Winifred Margaret Wilkins, Phyllis Florence
- 1921 Berry, Florence Ada Bose, Sujata Buckley, Edith May Gurney, Denies St. John Cecil Halloran, Honora Nancy Knapp, Lilian Annie Mary Muhiyuddin, Mohamed Sultan Mukharji, Bhahanata Nixon, Marie Isobel

#### Commerce

- 1904 Whiting, John Roland 1006 Potts, Roland Beeton
- 1910
- Barringer, Ronald Umanski, Esther Ellen 1914
- Wahab, Ahmed Mohamed abdel
- Gupta, Shamirendra Nath 1921

#### Teachers of French

- Crowther, Jane Elizabeth 1907 Woodman, Hilda
- 1908 Hawkes, Geoffrey Holdsworth, Ethel Lavington, Mabel Jessie Lord, Mabel Alice Poustie, Jessie Robinson, Joseph Spink, Gertrude Annie Warren, Frederick
- Abbott, Constance Maude 0001 Best, Winifred Jane Cooke, Sarah Grace Frank, Dorothea Ethel Hollom, Edith Gertrude Ife, Mary Eleanor Lingard, Jonas Hartley Walker, Theodora Minnie Hirst

- 1010 Abbott, Clifford Hewson Copland, Marjorie Sempill Cromie, Eily Kathleen
- Hutchinson, Herbert Stafford Lochore, Beatrice Riley, Sarah Annie Storr-Best, Gertrude Morfydd Ward, Edith Young, Constance Evelyn

1912 Castle, Clara Jane Edwardes, Henry Fred Edgecumbe Irwin, Guendolen Müllett-Ward, Annie North, Kate Victoria Whillier, Agnes Wylde, Jessie Irene Young, Arthur Button

- 1913 Bury, Jane Ellen Dykes, Mary Wall Morrison, Jeannie Sim, Alice Matilda Tomlinson, Alice Marian
- 1914 Padgett, Wilfred Wood Rosewitch, Elfiera Rowe, Annie Jane Walsh, Ethel Mary Ward, Clara Mabel West, Evangeline
- 1920 Anderson, Alice Ramsden Fearnside, Marion Campbell Kreling, Charles Joseph Marie Mather, Ethel Mary Paget, Elsie Deborah Wheatley, Winifred Margaret Wilkins, Phyllis Florence
- 1921 Hewitt, Margaret Eleanor Longton, Doris O'Sullivan, Margaret Rose Quarrie, Edith Margaret Turner, Lilian Binden

#### Teachers of German

1907	Oates, Ethel Marian
1908	Ife, Mary Eleanor
1910	Boardman, Ernest Edmund

- 1911 Edwards, Henry Fred Edgecumbe Lingard, Jonas Hartley Palmer, Margaret Elizabeth
- 1912 Bolton, Ethel Addison Broadley, Mary Anne Jones, Anne Elizabeth Kirtland, Dorothy Mary Taylor, Dora
- 1913 Lochore, Beatrice Werquin, Charles Louis Whittaker, Joseph Young, Arthur Button
- 1914 Crowther, Florence Hinckel, Hans Levy, Sissie Emma Wheatley, Bertha
- 1915 Addison, Muriel Mary Caldwell, Mary Constance Cox, Alice Balkens Downsborough, Ernest Oates, Jessie Mary
- 1921 Holroyd, Henrietta Padgett, Wilfred Wood Pickles, Catherine

### Diploma in Social Organisation and Public Service

- 1913 Dixon, Wilfrid Dodgshun, Gladys Frankland Fairweather, Frances Elizabeth Heppenstall, Florence Parrish, Florence Emily
  \*Steinthal, Dorothea
  \*Sykes, Emily Gertrude
- 1914 Cohen, Mary Collier, Bertram George Curtis
   \*Dodgson, Elsie Mary Ellis, Margaret Winifred Taylor, Gwendolen Margaret Douglas
- 1915 Umanski, Esther Ellen
- 1916 Wager, Alice Mary

With distinction

- 1918 \*Cridland, Dorothy \*Cridland, Ivy Fay, Rosetta Miriam Owen, Annie Ethel Pickering, Doris Evans
- 1919 \*Johnson, Amy Mary Proctor, Luther Pugh, Alice Maud Singleton, Maude Whitaker, Amy Rutherford
- 1920 Averdieck, Mabel \*Burlingham, Winifred May Claybourn, Harry Young Findlay, Ellen Margaret Haslam, Edith Maria
  - \*Laughton, Frances Beatrice Lister, Joan Somerset \*Lupton, Margaret Ella Priestman, Madeline
- 1921 David, John Eric Piercy, Marguerite

#### Mechanical Engineering

- 1905 Wharton, John
- 1909 Tsing, Ming-Poh
- 1911 Farnell, Maurice
- 1913 Clark, Eric Stanley
- 1914 Mosby, Sydney Warrington
- 1915 Wray, Frederick George
- 1919 Harwood, Edmund
- 1920 Pickard, Gordon Dower Seel, Clifford
- 1921 Gilchrist, James Andrew Haigh, Albert Stead, Edward Stephen Swallow, Wilfrid

#### Civil Engineering

- 1908 Bauer, Noah
- 1909 Hsu, Hoon Yu
- 1912 Foad, Mohammed Kerr, Harold

\* With distinction.

- 1913 Clark, Stanislaus Eustace Thorpe, Hugh Stanley
- 1914 Magid, Ahmed Abdel Mao, Shen Shan
- 1916 Liu, Tsou Bing
- 1919 Glass, John Buchan
- 1920 Kirk, William Arthur Wood, John Noel
- 1921 Brooksbank, Arnold Drake, Norman Holmes, Norman Kenneth

#### **Electrical Engineering**

- 1904 Foulds, John Rhodes
- 1905 Chippindale, Isaac Murray Hamilton, James
- 1906 Richardson, Thomas Brook
- 1909 Baldwin, Ewart Vernon Humphreys, Percy Harry Illingworth Peam, Ferdinand Pedley, Francis Leonard Sheard, Percy
- 1913 Milner, Geoffrey
- 1914 Croft, Edward Hugh
- 1921 Bannister, Harold Fry, Eric Rosewarne

#### Mining Engineering

- 1904 Frazer, Edgar Hamilton Paterson, George Stewart Willey, Edward
- 1908 Holden, Athole Frederick
- 1901 Kay, Stanley Burnett Mawson, Frank
- 1912 Gill, Joseph
- 1913 Campbell, Robert Currie
- 1917 Udom, Nai
- 1920 Evers, Norman

### Fuel and Metallurgy

- 1911 Walker, James
- 1915 Kerr, Horace

## Gas Engineering

1911	Armstrong, Percy
1920	Clucas, Alfred Henry
	Stott, Clarence
1921	Pexton, Stuart

#### **Textile Industries**

1909	Cockroft, Ernest Edward
	Chattapadhaya, Nolini Mohan

- 1910 Lo Ting Yu Meirielles, Joas Magalhaes de Azevedo Wong, Ka Luen Kelly, John
- 1912 Bonhomme, Jean Raymond Crowley, Frederick Hugh Dircks, Hugh Douglas Krishna, Raj Saruvanov, Dimitre Turner. Ernest
- 1913 Ackroyd, John Henry Borochin, David Clarke, George Walter Scott Craven, Thomas Ernest Goodall, Herbert Ireland, James Alexander McErvel, William Alfred Siniscalco, Augusto Smith, John Rider Spencer, Hugh
- 1914 Baines, Arthur Richard Blair, James Brodsky, Maurice Healey, James Russell
- 1915 Baker, Brian Bernard Davison, Emerson Kay, Charles Bagnall
- 1916 Balsaert, Arthur Joseph Alphonse
- 1918 Saleh, Ibrahim
- 1919 Baily, Bernard Xavier Clarke Bennett, John Chadwick, Arthur Leslie Hardy, Harry Trimnell, Frederick William

- 1920 Cook, Robert Flashcombe Cooper, Roland Hudson, Ernest Wong, Tan Pung
- 1921 Collins, Arthur Stahley Marcus Hainsworth, Sydney Beetham Hoskins, Horace William Lefeaux, Keith Ovenden Lord, Frederic

### Dyeing

1906 Sen, Gopal Chundra

- 1907 Dawson, Walter Marchant, Ernest Norman
- 1908 King, Percival Edgar
- 1909 Sen, Rajendra Nath
- 1910 Bearder, Ernest Arthur Viccajee, Sohrab Framjee
- 1911 Rowe, Frederick Maurice
- 1912 Fort, Morris Hickson, Bernard Holroyd, Thomas Arthur Johnson, William
- 1913 Shulman, Isaac
- 1916 Jowett, Harold
- 1919 Chang, Ti-Sung Saleh, Ibrahim
- 1920 Breare, Arnold Briggs, Herbert Bradley Dalby, John Face, Frank Leslie Harris, Edward Geoffrey Hockney, Harry Linsley Howarth, John Edward Laboulle, Gaston Felix Lambert Rhodes, Oswald Stanley
- 1921 Ackroyd, Herbert Blakeley, Eric St. John Bradley, David Crossley, James Victor Crummett, Alan

1921 Ellingham, Christopher Frederick Hall, John Hill, George Graham Hoggett, Frank Noel Hoyle, Edmund Jessop Leventhall, Henry Mann, William Saunders, Joseph Sowrey, Jack Chadwick Stevenson, Francis Malcolm Thomson, Alexander Thorpe, George Sykes White, Reginald Lever Wimberley, Sydney Herbert

#### Colour Chemistry

- 1920 Mableson, Godfrey
- 1921 Ellingham, Christopher Frederick Hill, George Graham

#### Leather Manufacture

- 1904 Casaburi, Vittorio Doikawa, Saichiro Prevot, Jules Mathieu
- 1906 Feldheim, Herman Dietrich Ernst Mende, Stephan
- 1907 Blyth, James Rupert Hardie, Alexander Greenhorn Morrison, James Alexander Shepherd
- 1908 Fenner, Joseph Henry
- 1909 Bose, Surendra Nath Ellis, Leonard Eric Kensett Paniker, Manakath Allampatath Ramunni Sen, Atul Chandra Seymour-Jones, Arnold
- 1910 Callendar, George Dougal Coulthard, Ernest Ismail, Mohammed
- 1911 Dobson, Joseph Stanley Rashid, Mohammed Abdur
- 1912 Faizuddin, Syed Friestedt, Sven Hjalmar Hilton, Frank Uddin, Syed Mohammed Amin

1913 Muckenhirn, Fra	ancis Carl
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- 1915 Barber, Charles Frederick Lee Djambezdis, George Alexander Wilson, John Arthur
- 1916 Pickles, John Edward
- 1918 Sjoblom, Magnus Erland
- 1921 Morrison, Robert Henry Mukharjee, Jogesh Chandra Smith, Thomas Alfred

#### Public Health

- 1906 Halliwell, Thomas Oates
- 1907 Scatterty, William Sharpe, Frederick Augustus Mason, Harry
- 1909 Carnes, William Crake, Herbert Milverton
- 1910 Greaves, Frederick William Marshall Ashmore, Patricius Wallace Hitchins, William Mayne Mason, John Harold
- 1911 Smith, Charles Nixon Pickles, Clifford Crawshaw
- 1912 Chambers, Guy Oldham Dick, Alexander Dobson, Donald Frederick Horne, Harold Forster
- 1913 Lyons, William Campbell
- 1920 Hebblethwaite, Arthur Stuart Smith, Jessie Wolfe, Hermon
- 1921 Gordon, John Massey, Arthur Sykes, William Stanley

#### Dental Surgery

- 1909 Salt, Charles Frederick Wilson, Francis Cecil
- 1910 Bentley, Harold Rawbert McKay, George Simpson Howden, Ernest
- 1912 Rushton, Irvine

- 1913 Shoesmith, Harold Percy
- 1914 Gill, John Edgar
- 1915 Fraser, Alexander Lickley Rogerson, Ernest Arthur Waddington, Horace Victor
- 1916 Waring, Laurence
- 1917 Macrae, John Munro
- 1919 Clubb, Douglas Bailley Appleyard, Florence Maude
- 1920 Davey, Norman Henry Hill, Walter Samuel Knowles, Charles Reginald Senior, William Goodwin Tiplady, Herbert Newton Webb, George Herbert
- 1921 Colls, Benjamin Archie Gisburn, Alfred Ernest (Senior) Sutcliffe, John William Vallow, James Percival Owen

#### Psychological Medicine

- 1912 Babington, Alice Elizabeth May Moyes, John Murray Waldron, Ethel Annie
- 1913 Robinson, William
- 1920 McGrath, Mathew Joseph Russell, John Ivison

#### Surveyors' Certificates under the Coal Mines Act 1911

1914 Parker, William Henry

- 1917 Crossland, John Brown, Thomas Brown, Sydney Clifford
- 1918 Hampson, James Brook, John Firth, David
- 1919 Darwent, Herbert Baxendale, Harold
- 1921 Dunkley, William Henry Joyce, John William
### 546 Fellows, Scholars, and Prizemen (Victoria University)

# VICTORIA UNIVERSITY FELLOWS, SCHOLARS, AND PRIZEMEN (YORKSHIRE COLLEGE STUDENTS)

### University Fellowships

1899	Stuart, Wilson	Arts
1900	Stuart, Wilson	Arts
1901	Whiteley, Charles Edward	Science

#### University Scholarships

1898	Stuart, Wilson
1899	Cooper, Albert Henry Dwerryhouse, Arthur Richard Varley, William Mansergh
1900	Braithwaite, Leonard Ralph Denison, Robert Beckettt
1902	Stelfox, Sydney Herbert Stoddard, Arthur Askwith
1903	Raper, Henry Stanley
1904	Waterhouse, Osborn Zortman, Israel Hyman

### Derby Scholarship

1899 Frankland, John Naylor

### John Bright Scholarship

1897	Stuart, Wilson
1899	Hartley, Harold (prizeman)
1906	<sup>1</sup> Waterhouse, Osborn

### Mercer Scholarship

1901 Dakin, Henry Drysdale

### Leblanc Prize

1891 Ingle, Harry
1892 Mann, Harold Hart
1898 Skirrow, Frederick William

1 Victoria University of Manchester.

Philosophy

Physics Geology Physics

Medicine Chemistry

Engineering Engineering

Chemistry

English Physics

# UNIVERSITY OF LEEDS HONOURS SCHOOLS

### Classics

1906	Class I	Bibby, Edward Ernest
	Class 2	Ashburner Frederick
		Matthews, Felix Hackett
		TenBruggenkate, George Herbert
1907	Class 2	Hodges, Raymond John
1908	Class 1	Hirst, John Crosland
	Class 2	Mallinson, Dorothy
1909	Class 2	Dearnley, Charles
1910	Class 2	Croft, Alice Mary
		Findlay, William Gillanders
		Philing, James Arthur Pobiov, Harold Norman
	**	Reakes, Gilbert Spofforth
	Class 3	Brown, Ralph Noel
1911	Class 2	Clarke, Charles Dougan
		Parker, Frank
		Walker, Algernon Stanley
1912	Class I	Raisman, Abraham
	Class 3	Webster, Herbert
1913	Class 1	Effron, George Henry
	Class 3	Elliot. Gilbert Bernard
1014	Class 2	Jones Arthur Owen
1916	Class 2	*Blease, Richard Morris Stanley
-	Class 3	Solloway, Mildred Nancy Langdale
	22	*Carré, Edward Mervyn
1918	Class 2	Billam, Lois Ethel
1919	Class 3	Holroyde, Doris Helena
1920	Class 1	Raisman, John
1921	Class 2	Eley, Stanley Albert
	10	Hardy, Wilfred Midgless Arnold Spansor
	Class 2	Normanton Emma
	01433 3	romanton, Emma
	Englis	h Language and Literature
1905	Class I	Gascoigne, Evelyn May
	,,	Holmes, Carrie
	Class 2	Conyers, Hilda

\*Killed in Action. Assessed by Senate in 1915 ''in the event of their not returning to complete the prescribed course."

1907	Class 1	Walker, Jessie Moulden, John William
	01433 2	Monden, John William
1908	Class 1	Hogan, Kathleen
1910	Class 1	Speight, Philip Henry
	Class 2	Mellors, Clarissa Florence Horsley Pickering, Harry
	Class 3	Coppock, Laura
	**	Strothard, Hubert Turner
1911	Class 1	Charlton, Henry Buckley
		Fairley, Duncan Major, Irene Carlotta
	**	Phillips, Samuel
	Class 2	Bean, William Harold
		Dawson, Thomas Henry
		Foggitt, Ida Wright Bertha Helen
1912	Class 1	Lameson Margaret Ethel
	Class 2	Hoyle Harold
		Huffington, Thomas
	Class 3	Speight, Rose
1913	Class 2	Cox, William
1914	Class 1	Cohen, Sam
1915	Class 1	Horsley, Ernest
		Normington, Nellie
	Classe	Hermon Constance Devil
	Cluss z	Nesbit. John Christopher
1916	Class I	Ives, Frank Perry, Francis Charles
	**	Simpson, Helen Mary
		Stell, Donald
	Class 2	Birch, Dorothy Ellen
		Legge, Marian Russell Ada Minnia
	**	Teale, Alice Dorothea
	Class 3	Parker, Isabel Wilson
1917	Class I	Marsden, Hilda

1917	Class 2	Banks, Evelyn
	,,	Birch, Thomas Albany
	44	Carr, Catherine
		Gibson, Gladys Louise
	**	Partridge, Doris Kathleen
		Todd, Helena
	Class 3	Newstead, Fannie
1918	Class 1	Berry, Arthur West Hilda
	Class	Anderson Twee Menningt
	Class 2	Anderson, Lucy Margaret
	* *	Honkin Lossia Malrilla
	,,	Hopkin, Jessie Mervine
	Class 3	Baker, Ruth Eveline
	,,	Sowden, Marie
		Townsend, Gladys Elizabeth Gwendolyn
1919	Class 1	Speed, Marie Elizabeth
	Class 2	Bates, Nellie
		Broxup, Dorothy
		Gibson, Christine Madeleine
		Knowles, Doris Annie Williamson
		McLeannan, Florence Lilian
		Saville, Clara
		Williams, Margaret
		D. I. D. I. I
1920	Class 2	Bowker, Benjamin
		Gartside, Ruth
		Horrell, Ella
	Class 3	Harland, Lois Hope
1921	Class 1	Shearer, William Sinclair Russell
-		Williams, Joseph Russell
	Class 2	Batchelor Mabel Shaw
	01000 2	Chapman William Dale
		Evans, John Charles
		Fawcett Bertha Rylands
		Grange Mary Elizabeth
		Hill Harold
		Wimsey, Ada
	Class	Eleming Jomes
	Class 3	Lowry Louise Margarat Matilda
		Wainwright Amy
		Walker Robert
		to he of h
	Honours	*Sykes, Glady3

\* Not classified.

## Modern Languages and Literatures

1905	Class I	Edwards, Maud Mary Gunnell, Doris
1906	Class 2 Class 3	Hastings, Margaret Illingworth, Maria Emma Whitehead, Mary
1907	Class I	Fairley, Barker <sup>1</sup> Thorp, Hilda <sup>2</sup>
1908	Class 1	Cohen, Alexander Murphy, Bertha Mary
1909	Class 1 Class 2 Class 3	Longbottom, Nellie Cridland, Dorothy Batchelor, Ethel
1910	Class 1 ,, Class 2	Hobson, Julia <sup>2</sup> Kirk, Kathleen Hylda Stradling, Ethel Milnes Butler, Gloxinia
	**	Claridge, Marjorie Muriel Phillips, Dorothy Ramsden, Arthur Spruce, Gladys Wilson, Muriel Margaret
	Class 3	Worsnop, Edgar Groves, Winnifred Halliday Laird, Marjorie Jane
1911	Class 1 Class 2	Carter, John Wilfrid Elliott, Ruth Kirtland, Dorothy Mary
1912	Class 1	Greenwood, Emily Maud Reynolds, Carrie
	Class 2	Jenkins, Elsie Mary Libbish, Barnet
1913	Class 1	Stead, Lilian Mary Varey, Mary
	Class 3	Lawson, Tom Levy, Sissie Emma
1914	Class 1	Allott, Wilfrid Caldwell, Mary Constance
	Class 2	Pickering, Jessie Whitworth, William Wilson
	Class 3	Crowther, Ivy Emma Greenwood, Josemee Marguerite

<sup>1</sup> Distinguished in French and German. <sup>2</sup> Distinguished in German.

1915	Class 1	Holliday, Marjorie Tate Snowden, Elizabeth
	Class 2	Catterall, Albert
		Hayes, Allan
	,,	Kirkwood, Winifred
		Williams, Thomas
	Class 3	Carter, Jessie May Maa Winifrad Ellen
	**	Rayner, Ellen
1916	Class I	Woodcock, Hester Elizabeth
	Class 2	Brown, Nellie
	Class 3	Loxley, Margaret Isabel
1917	Class I	Dowson, Evelyn Rhoda
	Class 2	Hunter, Helen
		Munday, Madeleine Constance
1918	Class I	Denison, Ruby Gladys Martha
-	,,	Stevenson, Hilda
		Whiteley, Joseph Travis
	Class 2	Bairstow, Dorothy
	**	Rhodes Evelyn Marion
	Class 2	Taylor Dora
	Honours	*Haythorne, Arnold
1919	Class 1	Barker, Doris Wright
	Class 2	Edelstein, Charles Solomon
	**	Jones, Annie Frances Saville
	22	Wilkins Phyllis Florence
	,,	
1920	Class 1	Brown, Winifred (French and German)
	> >	Russell Ruth Mary (Findlish and French)
	Class 2	Buckley Edith May (English and Evench)
	01033 2	Glass, Helen Medley (English and French)
		Luccock, Florence (English and French)
	**	Parker, Gladys Murielle (English and French)
	**	Rushworth, Hilda (English and French)
1921	Class I	Firth, Nellie Marguerite (English and
		French)
		Sinovitch Israel (French and German)
		Sinovicon, istaci (i renen and serman)

\* Not classified.

Honours Schools

Class 2	Bate, Ethel (English and French) Jennings Evelyn (English and French)
,,	Johnings, Brergh (Brensh and Trenen)
**	Jennings, Ivy Evelyn (English and French)
	Schofield, Beatrice Rachel (French and
,,	( and and )
10	German)
	Warburton Mary Lilian (French and
	German)
Class 3	Fearnside, Winifred Marion (English and
	French)
,,	Spink, Gerald William (French and
	German
	Class 2 ,, ,, ,, Class 3 ,, ,,

## History

1906	Class 2	Wilson, Florence Grey
1907	Class 1	Findlay, Sarah Kennedy
	Class 2	Gill, William Conrad
1908	Class 1	Simpkiss, Nellie
	Class 3	Hobson, Elsie Irene
1909	Class 1	Dean, Arthur Ernest
	,,	Peel, Albert Wortz, Frederick Robert
	Class	Courthorn Edwin
	C1435 2	Gendall Philip Parsons Watkins
		Morrell, Frank
	Class 3	Hand, Harry Aram
1910	Class 1	Birtles, Arthur
	,,	Caldwell, Sarah Jane
	Class 2	Cox, Herbert
	,,	Ellis, Arthur Harold Carteret
	**	rayior, william Alexander
1910	Class 3	Hopkins, Eric Arthur
		O'Neill, Wilfrid Stephen
		Stanisby, George William
1911	Class 1	Firth, John Rupert
	> 7	Garton, Ida Mary
	~	Heaton, Herbert
	Class 2	Hinckley, Philip Moody, Sydney
	"	Tomlinson John Lansdowne
	,,	Wallace, Dorothy Kate
	,,	Warren, Albert Édmund
	Class 3	Miller, Florence Clark

1912	Class 2	Anderson, Mabel Maud
	**	Harding, Reginald
	**	Sampson, Catherine Ruby
	**	Tanding, Unristine
	**	Thomas, William Calvert
	Class 3	Dearden Gladys May
		Jordon, George Jefferis
1913	Class 1	Richardson, William Rowson
	Class 2	Hudson, John
		Lupton, Margaret Ella
		Mawson, Constance
	Class 3	Pay, Thomas Wilfrid
1914	Class 2	Dobson, Alan
		Dykes, Janet
		Wright, Claude Ernest
	Class 3	Byrne, Richard Hugh Desmond Garritt
		Hutton, Charles William
		Ladell, Arthur Randolph
		Leech, Dorothy Edith
1915	Class 1	Hillas, Norman
		Sutcliffe, Dora
		Woodall, Ethel Margaret
	Class 2	Clayton-Booth, Ethel Jane
		Coley, Norman Clarence Herbert
	**	Jonnings Elsis Emmis
	"	Shepherd Dorothy
	Class	Curney Denice St. John Cooil
	Class 3	Guiney, Demes St. John Cech
1910	Class I	Evans, Alice Madel Sutcliffe Dorothy
	Class 2	Bellerhy Margaret Hone
	00000 2	Gillman Marguerite
	,,	Haigh, Margery
		Herbert, Mabel
	,,	Mann, Énid
H	lonours	*Hill, Harold Harrison, B.A.
1917	Class 1	Tesh, Elsie
	Class 2	Broxup, Eva Annie
		Burrow, Hannah Louise
		Butterfield, Hilda
		Childe, Gertrude May
	i)	Mitchell, Florence Mary
		Pratt, Richard
	12	wood, Mary Freda

.

\*Not classified.

s

1918	Class 1	Lumb, Sybil Victoria
	Class 2	Griffiths, Dorothy
		Moore, Ethel
		Noxon, Marion
		Pickles, Gladys
		Ross, Frances Hilda
	Class 3	Butterfield, Janet
		Walker, Harry
1919	Class I	Taylor, Emily Augusta
	Class 2	Hogley, Marian
		Irvine, Jessie
	2.8	Lumby, Mary
1919	Class 2	Preston, Edith May
	**	Swales, Hilda Mary
	Class 3	Horne, Winifred Louise
		Lewis, Amy Irene
1920	Class 1	Dawson, Daniel
		Sykes, Norman
	Class 2	Barker, Ida
		Cottam, Annie
		Hammond Agnes
	**	Haugarth Dorothy
	**	Knapp Lilian Annie Mary
	**	Lee. Margaret Ann
		Richardson, Elsie Mary
		Smith, Marie Kathleen
	**	Toes, Ethel
		Whiting, Dorsey
	Class 3	Norman, Leonora Marguerite
		Sharpe, Alice
1921	Class I	Robinson Louis
	Classo	Cardwell Albert
	000033 2	Garside Bernard
		Kiernan Reginald
		Leach, Nora
		Midgley, Frederick William
		Nowell, Elma Virtue
		Parkin, Ethel Mary
	**	Schofield, Florence
		Schofield, Frank
		Scott, Ethel
		Sutcliffe, Annie Eliza
		Sutcliffe, Walter Hill
		Inackray, George Cyril
		Woodbood Edith
	**	woounead, Edith

1921	Class 3	Knowles, Roland Ernest Whitworth, Marjorie
		Philosophy
1908	Class I	Strange, Edward Howard
1911	Class 2 ,,	Papworth, Harold Charles Peacey, Basil William
1913	Class 2	Marriott, Edward
1914	Class 2 ,,	Jordon, George Douglas Whincup, Harry Hynes
1916	Honours	*Stewart, John
1920	Class 3	Barrett, Ernest
1921	Class 1 Class 2	Crowther, David Jessop, Tom Edmund

### Economic and Political Science

1916	Class 2	Silverman, Herbert Albert
1919	Class 1	Dean, William Henry
1921	Class I	Bellerby, John Rotherford Whyte William Hamilton
	Class 2	Sclare, Mabel

## Mathematics

1905	Class 2	Phillipson, Abram
1907	Class 2	Smailes, Alan
	Class 3	Ashby, William Ewart
1909	Class I	Marshall, Francis
1912	Class 2	Hayes, Robert Andrew
1916	Class 1	Umanski, Arthur Joseph Victor
	Class 2	Richardson, Herbert

## Physics

1905	Class I	Mellor, Fred
1907	Class 1	Sykes, Albert Howarth Townsend, Robert
1908	Class 1 Class 2	Watson, James Arthur Jenkins, Gilbert Ramsden
1909	Class 3	Ward, Herbert Wainwright Wood, George

\*Not classified

1910	Class 1	Duffin, Joseph Francis
	Class 3	Dixon, Frank Metcalfe
1911	Class 1	Houldsworth, Hubert Stanley
1912	Class I	Ogden, Herbert
	Class 2	Bright, Alfred
	Class 3	Pearson, William
	**	Stephenson, Cyril Richard Willian
1913	Class 2	Firth, Maurice
	,,	Perry, Robert
1914	Class 1	McGeorge, Alexander
	,,	Quarmby, Frederick
1915	Class 2	Ram, Khub
1916	Class 2	Wilson, John Joseph
1921	Class 1	Sucksmith, Willie

## Chemistry

1905	Class 1	Armes, Henry Percy
	,,	Bennett, Hugh Garner
	"	Davies, Arthur Hugh
	Class 2	Crosland, Percy Field
	Class 3	Booth, Meyrick
		McCandlish, Douglas
		Morrison, James Alexander Shephet-
1906	Class I	Hodsman, Henry James
	Class 2	Horsfall, Ronald Smith
	,,	King, Charles Arthur
	~	-
1907	Class I	Cross, William Ernest
	"	Davies, Hamilton
	Class 2	Jackson, Colin Gyrth
1008	Class T	Blockey John Roginald
1900	01433 1	Leslie May Subil
	,,	Riley Frank
	Class a	Sincon Jarool Lowia
	011133 2	Sinson, Israel Lewis
1909	Class I	Dudley, Harold Ward
	,,,	Webster, Herbert William
	Class 2	Carter, Frederick Edward
	Class 3	Hurst, Frank
		Thornton, Edwin
	,,	Whitaker, Herbert

1910	Class 1	Bainbridge, James Scott Hill, James
		Johnson, Charles Lester
	Class 2	Applevard Alfred
		Thornton, Harold
	**	Wheatley, Robert
		Wood, Louis Albert
	Class 3	Fielden, Harold
1911	Class I	Atkin, William Rearden
		Glick, Nathan Bernard
	Class o	Rowling Francis Coorga
	Class 2	Ralos Sidney Hartley
	<i>ciuss</i> 3 <i>n</i>	Thompson, Frederick Charles
1912	Class I	Dawson, Thomas Rayner
		Raistrick, Harold
		Taylor, Arthur
	Class 2	Ackroyd, Louis
	Class 3	Wilson, Ernest Percival
1913	Class 1	Stocks, Herbert Holroyd
	,,	Sugden, Reginald
	Class a	Ronnott William Cordon
	Class z	Irish. Edward
		Wright, Fred
	Class 3	Barrett, John Douglas
		Douglas, Frank
	"	Laylor, Ernest
1914	Class 1	Burton, Donald, B.Sc.
		Gibson, Wilfrid
	"	Haves Harry
	,,	Smithells, Colin James
	Class 2	Marsh, William Alfred
	,,	Taylor, John Robinson
	Class 3	Harrap, Frank Nettleton
		Lunn, Reginald William
	"	Mugley, James, B.Sc.
1915	Class 1	Crann, Thomas William
		Robinson, Fred
	Class 3	Abrams, Nathan
	44	moses, Abram

.

1916	Class 1 ,, Class 3	Ellingworth, Samuel Hanby, Thomas Mountford, Christopher Archibald Hornby, Clement Denton McFarlane, Archibald
1917	Class 2	Crowther, Edward Mortimer
1920	Class 2	Birkinshaw, John Howard Ward, Harry
1921	Class 1 Class 2 ,, Class 3 ,,	Clarkson, William Edward Milne, Geoffrey Scott, John Richard Woodman, Rowland Marcus Stockdale, Leonard Moore Whitehead, Hugh Robinson Wormall, Arthur Beck, Clarence Walker Gott, Herbert Shaw Cecil
	,,	5110, 50011

## Zoology

1914	Class 1	Dry, Francis William, B.Sc.
1915	Class 2	Thompson, Harold Winsor
1921	Class 2	Eastham, Leonard Ernest Sydney

## Botany

1905	Class 2	Turner, Florence Mary Beatrice
1909	Class 2	Westerman, Mabel
1910	Class 2	Walker, Emily Farrington
1913	Class I	Peniston, Annie Smith, Jane Elizabet <b>h</b>
1920	Class 1	Chapman, Robert Edward
	Class 2	Woffenden, Lettice May, B.Sc.
1921	Class 1	Rea Rosamund Mary Lloyd
	Class 2	Heaps, Helen
	**	Hunter, Vera Muriel

## Physiology

1905	Class I	Lord, William Ernest
1907	Class 1	Crowther, William Edmund
1918	Class 2	Hickman, Ella Martin

1919	Class 1	Cohen, Emmanuel Levy, Simon
	Class 2	Brostoff, Harry Gordon, Morris
1921	Class 2	Lipman, Reuben Stross, Barnet

## Geology

1906	Class I	Jordan, Albert
1909	Class 2	Parsons, Ernest
	Class 3	Haigh, John Henry
1910	Class 3	Guy, Ernest King, William Norman
1911	Class 1	Chapman, Sarah Elizabeth
1914	Class I	Versey, Henry Cherry
1916	Class 2	Marsden, Frank
1917	Class 1	Whitaker, Elsie Dinah, B.Sc.
	Class 2	Bell, Elsie Mary
1920	Class 1	Carruthers, James Norman Maden, James, B.Sc. Petch, Frank, B.Sc.
	Class 2	Ward, Florence Eleanor, B.Sc.
1921	Class 2	Hepworth, Edward
		Tonks Laurance Henry

## Engineering

1905	Class 1	Gregory, Frederick Maurice
	Class 3	Owen, Samuel Joseph
1906	Class I	Holgate, Edward
		Richardson, John Stocks
1907	Class I	McGill, Ernest Arthur
1908	Class I	Barker, Christopher James
1909	Class 1	Addison, Herbert
		Mawson, John Halliwell
	**	Omar, Abdel Mageed
1910	Class 1	Varley, Gilbert
	Class 2	Couper, Geroge Augustus
	Class 3	Boule, Henry Kirk
1911	Class 1	Stillwell, Samuel Thomas Cryen
	Class 3	Gerard, Inglis Joseph

1912	Class 1	Coultas, Harold Wilberforce
	Class 3	Richardson, Charles Richard Sugden
1913	Class 2	Green, Arthur Eatough Seville, Robert Ockelston
1914	Class 1	Nuttall, Thomas Henry
	Class 2	Jackson, Herbert Guy Stainsby, William
	Class 3	Clayton, Charles Flesher
1915	Class 1	Edmondson, John
1916	Class 2	Fathy, Mohamed Amin
1919	Class I	Moffatt, Henry Robert Umanski, Arthur Joseph Victor, M.Sc.
	Class 2	Barratt, Walter Alfred
1921	Class I	Kubalek, Otto
	,, Class o	Novakovitch, Dooshan Bollorby, Francis Coorde
	Class 2	Cornock. Arthur Frederick
	,,	Gayes, Cyril Ernest
	Class 3	Birch, Arthur Aubrey
	E	lectrical Engineering
1907	Class 1	Shuttleworth, Newton
	Class 2	Wilkinson, Eltoft Wray
1909	Class I	Bannister, Albert
	Class 2	Greenwood, Edward Joseph Bernal
1912	Class I	Rawling, Arthur
1913	Class 2	Midgley, Harry
	**	Sen, Jagendranath
1921	Class 1 ,,	Jones, Reginald Hugh Midgley, Edward
	Class 2	Fowler, John
	,, Class o	Gray, Albert Hilliard
	Class 3	Spence, Samuer
		Mining Engineering
1909	Class 2	Gilchrist, David
1914	Class 1	Randall, William
		Gas Engineering

1914 Class I Dougill, George, B.Sc. ,, Hollings, Harold, B.Sc.

1920	Class I	Howarth, Gilbert Bartle
1921	Class I	Greenwood, Herbert Donald
	Class 2	Ingram, Leslie Pool

## Fuel and Metallurgy

1915 Class 2	Wolfe,	Harold	Maurice
--------------	--------	--------	---------

# Colour Chemistry and Dyeing

1907	Class 1	Baddiley, James
	Class 2	Frank, George Herbert
1908	Class 1	Rhodes, Norman Woodhead, Arthur Edmund
1910	Class 1	Bearder, Ernest Arthur
1911	Class 1	Hickson, Bernard Rowe, Frederick Maurice
1912	Class 1	Holroyd, Thomas Arthur Johnson, William
1913	Class 3	Shulman, Isaac
1914	Class 2	Crockatt, Arthur John Siderfin, Norman Edward
1915	Class 3	Rosenbaum, Joseph Louis Wilson, Maurice Lowell
1920	Class 1	Bradshaw, Geoffrey Gordon
	,,,	Chappell, Norman
	**	Sewell, William Gawan
	**	Whattam Thomas William
	**	Whitham Harry
	**	Wood George Oliver
	Class 2	Iordinson Frank
	Class 3	Davis, Charles
1921	Class I	Breare, Arnold
-	,,	Dalby, John
	,,	Harris, Edward Geoffrey
	Class 2	Briggs, Herbert Bradley
	,,	Crummett, Alan
	,,	Howarth, John Edward
	,,	Laboulle, Gaston Felix Lambert
	**	Stevenson, Francis Malcolm
	,,,	Thorpe, George Sykes
	Class 3	Face, Frank Leslie
	,,	Hockney, Harry Linslay
		Rhodes, Oswald Stanley

### Chemistry of Leather Manufacture

1910	Class I	Seymour-Jones, Arnold
1912	Class I	Atkin, William Rearden
1913	Class 2	Thompson, Frederick Charles
1914	Class I	Irish, Edward, B.Sc. Woodroffe, David, B.Sc.
1915	Class I	Harrap, Frank Nettleton Hayes, Harry
1916	Class 2	Gordon, Isaac
1920	Class 1 Class 2 ,,	Palmer, Wilfred Ernest Hey, Arthur Marsden Salt, Harold
1921	Class 1 ,, Class 2 ,,	Atkin, John Seymour-Jones, Frank Leslie Marriott, Robert Henry Tyson, Gilbert John Gilbanks
		M.B. and Ch.B.

1908	Class I	Mitchell, Guy Annesley Carter
1909	Class 1	Thoseby, John Norman Lonsdale
	Class 2	Flint, Horace Lance
		Smith, Reginald Eccles
1910	Class I	Raper, Henry Stanley
	Class 2	Musson, John Percy
	**	Slocombe, Bernard Atkinson
	**	Stockdale, Geroge Vincent
1911	Class 1	Fisher, John Barugh
	Class 2	Caplan, Harry
		Robinson William

- ,, Robinson, William ,, Sinson, Julius Barnet ,, Walker, John Perry
- 1912 Class I Mellis, George Pickard ,, Metcalfe, John Clifford Class 2 Angel, Harry ,, Blackburn, John Holliday
  - " Dunbar, Leslie
  - " Ferguson, John
  - " Kirk, George William Lister
- 1913 Class 2 Sinson, Harry

,,

Taylor, Herman Louis

1914	Class 2	Hebblethwaite, Arthur Stuart Shockett, Harry Charles Wilkinson, John Wilson, Colin
1915	Class 2	Leake, Charles Edward Topham, Richard Stanley
1916	Class 2	Dudley, Charles William Lodge, William Oliver
1917	Class 1 Class 2	Carter, Hartley Sidney Charles, Henry Ernest Gabriel, William Lowson Mabson Parker, Joseph Henry
1918	Class 2	Baxter, Gerald Richard Bertwistle, Alfred Pilkington
1920	Class 1 Class 2 ,,, ,,, ,,, ,,,	Gleave, Humphrey Hart Botwood, Charles Anselm Dyson, Reginald John Hollings, George William Massey, Arthur Phelon, Harry Vernon Sheard, Arthur Thornton, Charles Raymond
1921	Class 1 Class 2	Armitage, George Fleming, Geoffrey Dewhirst Smithies, Cyril Moulson Walsh, Nathan

### VICTORIA UNIVERSITY HONOURS SCHOOLS (YORKSHIRE COLLEGE STUDENTS)

### History

1891	Class 2	Stables, William Herbert
	Class 3	Taylor Frank Edward
1900	Class 2	Scholes, Thomas Wilfrid
19041	Class 2	Davis, William Hathaway

### English Language and Literature

19041	Class I	Waterhouse, Osborn
	Class 2	Denby, Maurice
	,,	Elliott, Spencer Hayward
	,,	Hepworth, Frank

### Modern Languages and Literatures

1902	Class 2	Robinson, Ethel Margaret
	,,	Stevenson, Ethel Mary
1903	Class 2	Mann, William Edward Wormald
19041	Class 1	Airey, Millicent
	Class 2	Dodgson, Sarah Alice
	Class 3	Raven, Hilda Mary

## Philosophy

1898 Class 1 Stuart, Wilson

### Mathematics

1899	Class 1	Frankland, John Naylor
1900	Class 2	Findlay, Mary Grace

## Physics

1897	Class 2	Hammerton, Jonas
1899	Class I	Cooper, Albert Henry Varley, William Mansergh
1900	Class 1	Shorter, Sydney Alfred
1901	Class 1 Class 2 Class 3	Grant, Charles Henry Copley, Frederick Andrews, William Allen
1902	Class 2 Class 3	Denton, Ernest Oates, James Holroyd Goodson, Ethel Elizabeth
1903	Class 2	Thorp, Samuel
<b>1</b> 904 <sup>1</sup>	Class 1	Phillipson, Abram

<sup>1</sup>Victoria University of Manchester.

## Chemistry

1891	Class 1	Ingle, Harry
1892	Class 1	Mann, Harold Hart
1893	Class I Class 3	Dent, Frankland Archdeacon, William Henry
1895	Class 2 Class 3	Fry, George Cecil Guthrie, Thomas Hirst, Henry Reginald King, Herbert
1896	Class 1 Class 2 Class 3	Sugden, John Henry Brittain, Charles Edward Kin, Arthur Watson, Herbert Wood
1897	Class 1 Class 2	Wilson, Harold Albert Harrison, William Hudson
1898	Class 1 Class 2 ,,	Skirrow, Frederick William Calvert, Harry Thornton Storr, Bertram Vincent
1899	Class 2	Dobson, William Henry Noël
1900	Class 1 Class 2	Dennison, Robert Beckett Shepherd, Arthur Burton
1901	Class 1 Class 2	Dakin, Henry Drysdale Whiteley, Charles Edward Gawler, Robert
1902	Class 1	Briggs, Samuel Henry Clifford Grant, Frederick Ernest Taylor, Francis
1902	Class 2  Class 3	Gaunt, Rufus Norminton, Harold Redfern, Herbert Stanley Thompson, John Thomas Coxon, Lawrence Adams
1903	Class 1 Class 2 Class 3	Raper, Henry Stanley Scholefield, Fred Ellis, James John Rhodes, Edwin
19041	Class 1 ,, ,,	Gatecliff, John Hartley, Percival Marshall, Joseph Zortman, Israel Hyman

I Victoria University of Manchester.

1004 Class 2 Calam, Harold Chadwick, Percival Wager Radcliffe, Norman Brooke Class 3 Barton, Edith Beatrice

### Geology

1898	Class	1	Jowett, Albert	t	
1899	Class	I	Dwerryhouse,	Arthur	Richard

### Zoology

1901	Class 1	Standing, Herbert Fox
1903	Class 2	Dell, John Alexander

## Physiology

£897	Class 2	Forsyth, John Andrew Cairns
1901	Class 3	Hummel, John James

### Engineering

1891	Class 1	Nicholls, Percy
1893	Class 2	Davis, Frederick William Daniel
1896	Class 2	Hefford, Charles Nelson
1897	Class 2	Oddy, James Tansley, George Edward
1898	Class 2 Class 3	Corrie, William Edward Priestman, Harold
1899	Class 1 Class 2 Class 3	Linskill, William Arthur Groocock, Henry Lloyd Hutton, William Austin
1900	Class _	Mann, Ernest Edward
1901	Class 2	Ballardie, George de Caynoth Pearson, Robert John Addison
1902	Class 1	Stelfox, Sydney Herbert Stoddard, Arthur Askwith Wetherall, Arthur
1902	Class 2 Class 3	Cryer, Edward Kirby, Frederick Oscar
1903	Class 3	Brayshay, Maurice William Slater, John Henry Tennant, Norman Scholefield

## M.B. and Ch.B.

1894	Class 2	Seaton, Douglas Trumper, Oscar Bagster	
1895	Class 1 Class 2 ,,	Ligertwood, Charles Edward Shaw, John Vincent Trotter, Robert Hale	
1896	Class 2	Rowling, Samuel Thompson	
1897	Class 2 ,,	Moorhouse, Charles Herbert Taylor, Frank Edward	
1898	Class 1 Class 2 ,,	Trotter, Edward Spong, Ambrose Turton, Edward	
1899	Class 2	Hime, Henry Charles Rupert Illingworth, William Arthur Morton, Armitage	
1901	Class 2	Saville, Edwin	
1903	Class 1 Class 2	Braithwaite, Leonard Ralph Steele, Percy Kingsley	
1904 <sup>1</sup>	Class 2	Boyle, Alan Tomlin, Herbert	

## LL.B.

1902	Class I	Sykes, James
1903	Class 1	Jessop, Frederick Hubert

1 Victoria University of Manchester,

## THE UNIVERSITY OF LEEDS

EXAMINATION LISTS (September, 1920–June, 1921)

## Faculty of Arts (including Commerce and Law)

Litt. D. Examination June, 1921.

Heaton, H.

### M.A. Examination

June, 1921.

Greek and	Latin		Cook, A. W.
Latin and	Modern	History	Sewell, Josephine M. Sawkins, Violet V.
English		1.1	Cox, W. Nutter, Hannah J.
French		* *	Dowson, Evelyn R. Slater, Doris M. Whiteley, J. T.
History			Cohen, B. Z. Lumby, Mary Mathers, J. S. Sykes, N. Taylor, Emily A.
Economics			Thackray, Edith Cross, E.

### M.Ed. Examination

June, 1921. Luery, A. E.

### Examination for B.A. Degree with Honours

		June, 192	I.
Classics		- Class 2.	Eley, S. A.
			Hardy, W. Midgley, A. S.
		Class 3.	Normanton, Emma
English	Language and Literature	- Class 1.	Shearer, W. S. R. Williams, J. R.

English Language and		
Literature -	- Class 2.	Batchelor, Mabel S.
		Chapman, W. D.
	4	Evans. I. C.
		Fawcett Bertha R
		Grange Mary F
		Uill H
		Tilli, Th.
	~	winisey, Ada
	Class 3.	Fleming, J.
		Lowry, Louise M. M.
		Wainwright, Amy
		Walker, R.
	Unclassed	*Sykes. Gladys
Modern Language and		5 , 5
Literature	- Class T	Firth Nellie M.
	0,100 11	Ing W
		Sinovitab T
	Class	Date Ethol
	Class 2.	Bate, Ether
		Jennings, Evelyn
		Jennings, Ivy E.
		Schofield, Beatrice R.
		Warburton, Mary L.
	Class 3.	Fearnside, Winifred M.
		Spink, G. W.
History	- Class T	Hopper S H
	01000 1.	Robinson L
	Class o	Cardwell A
	01033 2.	Carcido B
		Kiomon P
		Kieman, K.
		Leach, Nora
		Midgley, F. W.
		Nowell, Elma V.
		Parkin, Ethel M.
		Schofield, Florence
		Schofield, F.
		Scott, Ethel
		Sutcliffe, Annie E.
		Sutcliffe, W. H.
		Thackray G. C.
		Walker Hilda H
		Woodbead Edith
	Class	Knowles R F
	Ciuss 3.	Whitmonth Monieria
Dhilosophu	Class	wintworth, marjorie
rnuosopny	- Class I.	Crowther, D.
	Class 2.	Jessop, T. E.
Political and Economic		
Science	- Class I.	Bellerby, J. R.
		Whyte, W. H.
	Class 2.	Sclare, Mabel

\* Awarded Honours without Class.

#### B.A. Final Examination

September, 1920. Popplestone, W. H. G.

June, 1921.

Beal, Hilda J. Beckett, Kathleen M. Butcher, Doris M. Ellis, Mabel D. Farrand, Phœbe A. Fish, Nellie Fitton, Lilian E. Fryer, Constance L. Geldard, H. M. Gormley, Mary E. Gray, Olive R. Hanby, Edna M. Heaton, W. J. Hinchliffe, G. Hird, J. H. Irvine, Annie M. Jenkinson, Louie Limbert, G. W. Perry, Martha A. Rouse, R. P. Y. Stephenson, Doris M. Stokes, Victoria Tolchard, W. C. Watson, T. Wilson, W. W. Worth, Dorothy.

#### **B.A.** Intermediate Examination

September, 1920.

Attenborough, H. K. Barker, S. Clark, Elsie Currie, Lillian J. Greenan, Angela M. Hirst, Florence V. Illingworth, W. N. Milne, Dora W. Potter, Emmie R. Robinson, H. H. Skues, E. Townend, W. Watson, Grace M.

June, 1921.

Ball, Florence E. Birch, Frances B. Booth, Hilda Clark, Frances L. Dixon, Mary H. Fenn, F. C. Haigh, H. Heptonstall, Margaret E. Holyday, Vera M. Kenna, V. E. G. Millington, Florence A. Newman, W. H. Parkinson, H. Thompson, Marjorie E. Waterland, R. West, J. H. Wilkinson, S.

#### B.A. Intermediate Examination (English Honours)

Scupham, Marjorie

Ayton, Margaret Bailey, Mary Cooper, Kathleen L. Jackson, Ellen G.

Kirkby, Ethel

September, 1920. Tuck, Gladys H. E.

June, 1921.

Northgrave, Mabel A. Ross, E. H. W. Smith, Dorothy M. Stuart, Doris I.

### B.A. Intermediate Examination (French Honours)

June, 1921.

Binias, Alice M. Fawcett, Agnes M. Martin, H. Moss, F. W. Mulholland, Marie Pennymore, Lucy M. Roughton, Edith V. Smith, Kathleen G. M.

### B.A. Intermediate Examination (History Honours)

September, 1920.

Barker, Hilda Cray, F. M. Taylor, E. G.

Olszewska, Mary C.

June, 1921. Raw, Christine E.

#### B.A. Intermediate Examination (Philosophy Honours)

June, 1921. Hall, L. G. R.

B.Com. Final Examination.

Witney, D.

#### B.Com. Intermediate Examination

September, 1920

Boddington, W. H. Cusworth, E. A.

Harris, Elsie Hunter, V.

Dawe, C. V. Harris, H. F. P. June, 1921.

Wilman, J.

Holdsworth, F. R. Mitchell, M. W.

LL.B. Intermediate Examination

September, 1920.

Fergusson, G. E. Hirst, A. J. C.

June, 1921.

Bailey, C. G. Heptonstall, R. A. Nutt, R. E. Reddihough, C. S.

#### **Diploma** in Education

Berry, Florence A. Bose, Sujata Buckley, Edith M. Gurney, D. St. J. C. Halloran, Honora N.

Knapp, Lilian A. M. Muhiyuddin, M. S. Mukharji, B. Nixon, Marie I.

Diploma for Teachers of French First Examination.

Brunner, Marie T. C. O'Sullivan, Margaret R. Quarrie, Edith M. Simms, Ellen Wilson, Elizabeth H.

Second Examination.

Hewitt, Margaret E. Longton, Doris O'Sullivan, Margaret R. Quarrie, Edith M. Turner, Lilian B.

#### Diploma for Teachers of German

First Examination.

March, 1921.

Holroyd, Henrietta

Pickles, Catherine

Second Examination.

June, 1921. Pickles, Catherine.

Holroyd, Henrietta Padgett, W. W.

#### **Diploma** in Commerce

Second Examination. Gupta, S. N.

Diploma in Social Organisation and Public Service David, J. E. Piercy, Marguerite

Continuation School Course Examination

Burlington, Winifred M. Hill, F. H. Gundry, W. R. Lupton, Margaret E.

## Faculties of Science and Technology

D.Sc. Examination

Charlesworth, J. K. Rowe, F. M. Woodman, H. E.

#### Ph.D. Examination

Fuel - - - - Monkhouse, A. C.

#### M.Sc. Examination

Physics	-	-	-	-	Goyer, Marie
-					Hillier, G.
Zoology	-	- 1	-	-	Jackson, Kathleen M.
Botany	-	*	-		North, Edith E.
Agriculture	-	-	-	-	Bond, J. R.

1	1 xan	nınat	1011	tor	B.Sc.	De	egree with Honours
Physics	-	-	-		Class	Ι.	Sucksmith, W.
Chemistry	-0	1	•	-	Class	Ι.	Clarkson, W. E. Milne, G. Scott, J. R.
					Class	2.	Stockdale, L. M. Whitehead, H. R.
					Class	3.	Beck, C. W. Gott, H. Shaw, C.
Zoology	-	-	-	-	Class	2.	Eastham, L. E. S.
Botany	-	-	-	-	Class	Ι.	Rea, Rosamund M. L.
					Class	2.	Heaps, Helen Hunter, Vera M.
Physiology	/ -	-	-	-	Class	2.	Lipman, R. Stross, B.
Geology	-	-	-	-	Class	2.	Hepworth, E. Tonks, L. H.
Civil Engi	ineer	ing	-	-	Class	I.	Novakovitch, D.
		-			Class	2.	Gayes, C. E.
					Class	3.	Birch, A. A.
Mechanica	l En	nginee	ering	r -	Class	I.	Kubalek, O.
					Class	2.	Bellerby, F. G. Cornock, A. F.
Electrical Engineering			-	Class	Ι.	Jones, R. H. Midgley, E.	
					Class	2.	Fowler, J. Gray, A. H.
					Class	3.	Spence, S.
Gas Engin	eerir	ıg	-	-	Class	Ι.	Greenwood, H. D.
					Class	2.	Ingram, L. P.
Colour Chemistry -			-	Class	Ι.	Breare, A. Dalby, J.	
					Class		Harris, E. G.
					Crass	2.	Crummett, A.
						Howarth, J. E.	
							Laboulle, G. F. L. Stevenson F M
							Thorpe, G. S.
					Class	3.	Face, F. L.
						~	Hockney, H. L.
							Rhodes, O. S.

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Chemistry of Leather Manufacture - Class 1.

- Class I. Atkin, J. Seymour-Jones, F. L. Class 2. Marriott, R. H. Tyson, G. J. G.

#### Ordinary B.Sc. Final Examination

Armitage, B. Ashbey, J. S. Bailey, N. Barker, E. V. Barker, G. Battye, Marjorie Blease, R. G. Bonar, D. D. M. Brown, S. C. Cocking, H. Dallmeyer, J. R. Dolbey, N. L. Evans, Elizabeth Finn, Kathleen C. Flockton, Edith G. Greenwood, Sybil Hare, A. Hawthorne, J. E. Hazeldon, J. N. Henderson, A. Hepworth, J. A. Hodgson, D. M. Huddleston, W. T. Jarvis, Violet H. Jones, Doris E. Judson, J. A. V. Kendall, G. P.

Kitchen, E. D. Kuoni, A. Eileen Lanham, G. G. Leake, Dorothy Leeming, H. G. Levisohn, J. F. Lyall, Effie Martin, R. H. Maude, Jessie Moore, Marjorie Moses, J. Mott, R. A. Musgrave, Elsie S. Narcross, J. W. Overton, Gladys Patterson, W. S. Pawson, A. C. Potter, Edith M. Rhodes, E. Roberts, V. G. Sheard, J. H. Stoyadinovitch, J. Strickland, J. Swaine, Annie Tomlinson, T. P. Wisely, Annie

### B.Sc. Intermediate Examination September, 1920.

Barrow, W. Brogden, I. Brown, G. M. Brown, H. S. Cass-Smith, W. P. Challen, C. Cranswick, H. Croft, C. M. Davis, J. W. Fouracre, L. Goldthorpe, A. R. Hanson, T. H. Harding, T. R. Harrison, Louie Hastie, Mena Hilland, L.

Kenworthy, V. Lightowlers, A. L. Martindale, Edith M. Oldroyd, G. H. M. Peel, A. Pratt, A. S. R. Robinson, H. L. Sanderson, D. H. S. Schippers, F. A. Sykes, N. Thorp, G. Wake, A. Weightman, G. W. V. Wells, Doris M. Wray, A. A.

Honours External Candidates.

Jennings, C. D. Sheard, G. Storey, R. C. Wigglesworth, M. H.

#### June, 1921.

Alexander, Mary B. Allright, Eliza D. Anderson, F. Anderson, O. Andrew, B. B. Atkin, Ethel Atkinson, C. P. Ballance, S. Bannister, C. B. Banwell, W. J. Beaumont, F. A. Bedford, Winifred Begley, L. J. Belt, E. M. Berry, Margaret Best, S. E. J. Biddle, V. Blakeley, J. H. Calderbank, Mona C. Carr, G. H. Carter, Ruth E. Caruth, Florence E. Cashon, G. Cheetham, R. L. Cheveley, S. W. Chopping, Gertrude Collinson, G. A. Cooper, F. M. Cooper, W. F. Corner, E. A. Crabtree, C. Crow, H. F. Dalley, R. A. Dawson, E. R. Dean, G. S. Dibb, R. H. Dixon, F. Drury, E. G. Earnshaw, H. Elliot, N. G. Ellison, T. Emmott, Sarah Ford, Evelyn Foster, Florence E.

Fraser, I. H. S. Gardner, G. H. Gilyead, J. S. O. Glover, T. B. Gordon, M. Grassby, W. R. Gunning, R. C. Hanby, Alice M. Hardacre, R. W. Harris, R. W. Hartfall, S. J. Hendin, H. T. R. Herklots, G. A. C. Hinchliffe, R. E. Hirst, H. F. Hodges, M. B. Hopton, W. Hoskins, C. R. Jackson, D. P. James, R. Jay, A. Johnson, E. N. Johnston, J. G. Jones, D. W. Key, R. P. Killick, Esther M. Knight, N. F. Lawson, W. E. L. Lee, E. A. Lipman, I. Lord, W. J. Lunn, J. McMillan, D. Manners, G. Mayfield, N. Milne, J. V. V. Naylor, W. H. Neumann, R. Owen, A. A. G. Panter, S. H. Parkin, Laura Parratt, H. S. Pickles, T. H. Platt, B. S.

Potter, Louisa Read, H. G. T. Robinson, H. Ryder, L. Scott, J. A. Sellers, W. Senior, L. Shadwick, C. Silversides, J. E. Sivil, C. S. Sleight, W. Smith, E. W. Spencer, W. G. Sugden, J. A. Swarbrick, T. Swift, F. L. Taylor, A. S. Taylor, Annie Tempest, Hannah

Thomas, R. J. Timms, G. Tiplady, G. Tyrrell, Doris M. Walsh, G. Ward, H. T. Watson, Grace Watson, S. G. Wheatcroft, S. W. F. Whiteman, J. F. White, F. Winter, P. K. Wood, J. F. L. Woodall, H. Woolfenden, E. A. W. Wormald, L. P. Wright, S. L. Yates, D. P.

#### Honours External Candidates.

Best, H. J. Cowlishaw, G. E. Falkinder, R. Grassham, W. L. Johnson, K. C. Oakes, E. T. Wilson, A. V. Wineroope, S.

### Diplomas in Technology

Civil Engineering -	-	Brooksbank, A. Drake, N. Holmes, N. K.
Mechanical Engineering	-	Gilchrist, J. A. Haigh, A. Stead, E. S. Swallow, W.
Electrical Engineering	•	Bannister, H. Fry, E. R.
Gas Engineering -	-	Pexton, S.
Colour Chemistry -	-	Ellingham, C. F. Hill, G. G.
Dyeing	-	Ackroyd, H. Blakeley, E. St. J. Bradley, D. Crossley, J. V. Crummett, A. Ellingham, C. F.

Dyeing - - -

Hall, J. Hill, G. G. Hoggett, F. N. Hoyle, E. J. Leventhall, H. Mann, W. Saunders, J. Sowrey, J. C. Stevenson, F. M. Thomson, A. Thorpe, G. S. White, R. L. Wimberley, S. H.

Collins, A. S. M. Hainsworth, S. B. Hoskins, H. W. Lefeaux, K. O. Lord, F.

Leather Manufacture -

Textile Industries

Morrison, R. H. Mukharjee, J. C. Smith, T. A.

### Faculty of Medicine (including Dentistry)

#### M.D. Examination

December, 1920. Robinson, W.

June, 1921. Carter, H. S.

### Final M.B. and Ch.B. Examination with Honours

December, 1920.

Class I. Gleave, H. H.

Class 2. Botwood, C. A. Phelon, H. V. Sheard, A. Thornton, C. R.

June, 1921.

Class I. Armitage, G.

Class 2. Fleming, G. D. Smithies, C. M. Walsh, N.

#### Final M.B. and Ch.B. Examination

December, 1920. Part I.

Baron, E. Brostoff, H. Cohen, E. Davy, T. S. Erdheim, S. Fowler, H. P. Goodman, A. Gordon, M. Hare, Christine M. B. Hellier, Mary

Gordon, M. Hare, Christine M. Hellier, Mary Blackburn, J. T.

Chamberlain, D. Currie, D. I. Hipshon, I. Knowles, Marion Muschamp, A. G. I.

Gordon, L. Shernovitch, M.

Bernstein, J. Ghosh, Edith Linfoot, E.

Bolton, Effie G. Brostoff, H. Cohen, E. Davy, T. S. Duck, H. Goodson, Bessie Gordon, M. Harrop, A. L. C. Hickman, Ella M. Hodgson, R. Holdsworth, E. E. Lawson, W. A. D. Leake, W. H. McNeice, Elsie E. Peacock, Kathleen M. Holdsworth, E. E. Jowett, R. E. Kitson, Margarita Langley, Doris M. Lapidus, H. E. Levy, S. Sheard, Jessie Sugare, H. I. Trewick, J. A. Wilson, Kathleen

#### Part II.

Redman-King, Violet M. Science, J. Shernovitch, M. Sienblum, H. Wesley-Smith, J. L.

Part III.

Stewart, A. B.

June, 1921.

Part I.

Sourasky, M. Woodroofe, P. E.

#### Part II.

Petch, H. C. Phillips, Osra M. Platt, Phyllis M. Robertson, D. Smithies, C. M. Sourasky, A. Sugare, H. Thistlethwaite, Hilda Walsh, N. Ward, Margarite Wheatley, Bertha Wilson, C. H. Wilson, Harriette A. Wilson, Kathleen Woodroofe, P. E.

#### Part III.

Bolton, Effie G. Davey, J. M. Elmer, T. H. Goodson, Bessie Hickman, Ella M. Hipshon, I. Kirk, R. N. Lee, R. W. Sourasky, A. Wilson, Kathleen

#### Second M.B. and Ch.B. Examination

December, 1920.

Part I.

Abell, W. C. Atkinson, J. Baxter, Marjorie Bean, W. H. Bedford, T. H. B. Bruce, H. Claye, Aileen N. Claye, A. M. Cohen, M. Crockatt, R. E. Fallows, H. Foster, F. N. Hellewell, H. A. Holmes, E. Jackson, Marjorie M. Knowles, Marjorie E. Lodge, R. H. Masser, A. A. Outhwaite, J. E.

Ackroyd, C. H. Atkinson, Elsie M. Backwell, N. Baker, W. Blomfield, E. E. Boddy, Kathleen Cainer, I. Cannon, A. Cardis, J. Chambers, G. Chester, R. Cohen, J. Cohen, L. Cristol, I. S. Curtis, F. R. Dyson, W. D. Edelstein, H.

Pickard, J. W. Prince, Gwendolen F. Pyrah, L. N. Rosenberg, G. Rosenbloom, P. Sellers, G. H. Sheard, H. Sunley, G. R. Taylor, A. L. Taylor, H. Thistlethwaite, W. Thompson, S. Wadsworth, G. M. Walbank, A. Walker, G. F. Wardle, Gretta M. Wilson, J. Wood, R. Yates, D.

#### Part II.

Edgecombe, Dorothy M. Ewing, J. Gilston, A. B. Gross, Desiree M. B. Hartley, H. Hemingway, A. Hirst, Fannie Hutchinson, M. Lamont, J. C. McLean, A. V. Milner, E. H. Morley, A. H. Pawson, L. B. Platt, W. G. Pyrah, R. S. Rabinovitch, M. Raisman, J.

Ross, H. Rymer, N. A. Scadding, N. A. Simpson, J. E. A. Sledge, S. K. Sourasky, M. Sugden, Ann Thompson, B. C.

Atkinson, Elsie M. Braham, D. Cainer, I. Cardis, J. Chester, R. Cristol, I. S. Franklin, A.

Broadhead, L. V. Crockatt, R. E. Gaunt, Maria L. Lodge, R. H. Vincent, E. W. Walker, J. Ward, J. G. Ward, R. W. L. Williams, C. R. Wilson, A. Zimmerman, D.

June, 1921. Part I.

> Gordon, G. D. Gorstige, G. Jones, E. L. H. Kovolman, I. Marinkovitch, R. Petty, H. M. Winder, N. F.

#### Part II.

Rai, G. D. Wadsworth, G. M. Whitaker, J. V. Yates, D.

#### First M.B. and Ch.B. Examination

September, 1920.

Part I.

Fitton, G. K. Hill, W. R. Murphy, W. Sugden, Ann

Backwell, M. Flowers, W. S. Gaunt, Maria L. Hill, W. R. Jones, E. L. H. Lamont, J. C.

Allison, D. R. Barker, Sarah N. S. Barratt, A. Berenblum, I. Broadbent, H. Taylor, T. H. Ward, R. W. L. Williams, E. G.

#### Part II.

Morley, A. H. Ruston, E. T. Rutherford, R. P. J. Spenser, Ruth L. Vincent, C. T. M. Vincent, E. W.

June, 1921.

Part I.

Broomhead, R. Cohen, R. Dalby, A. Dinsdale, J. S. Duncan, J.

Eames, J. W. Greenwood, J. R. S. Hardwick, P. V. Hartley, J. C. Heap, D. Hick, W. D. Hornby, W. O. S. Iredale, J. L. G. Leviten, S.

Allison, D. R. Barker, Sarah N. S. Barratt, A. Berenblum, I. Broomhead, R. Cohen, R. Dinsdale, J. S. Duncan, J. Hardwick, P. V. Hartley, J. C. Heap, D. Hick, V. D. Hornby, W. O. S. Iredale, J. L. G. Masser, M. Moorhouse, J. L. O'Donnell, J. H. Shufleder, A. Silverman, S. Stabler, A. W. E. Taylor, G. W. Teale, J. E.

Part II. Leviten, S. Lewis, G. E. A. Masser, M. Moorhouse, J. L. O'Donnell, J. H. Shufteder, A. Silverman, S. Stabler, A. W. E. Taylor, G. W. Teale, J. E. Thompson, G. Welch, A. C. Whitney, Edith A.

### Diploma in Public Health (D.P.H.) December, 1920.

Smith, Jessie

Gordon, J. Massey, A. Wolfe, H. June, 1921. Sykes, W. S.

#### Final B.Ch.D. Examination

June, 1921. Sykes, J. G.

#### Second B.Ch.D. Examination

December, 1920. Sugarman, D.

June, 1921. Ross, R. N.

#### Diploma in Dental Surgery (L.D.S.)

Final Examination. December, 1920. Part I. Tomlinson, F. L. Woods, M.

King, N. L. Temple, L.
Hill, W. S. Knowles, C. R.

Brown, G. B.

Hamer, J. H.

Craig, W. J. J. Finlayson, R. M. Part II. Tiplady, H. N.

June, 1921. Part I. Murgatroyd, H. Smith, T. E. Syder, A.

Colls, B. A. Gisburn, A. E. (senr.) Part II. Sutcliffe, J. W. Vallow, J. P. O.

First Professional Examination.

December, 1920.

Channon, G. C. Crossley, J. C. Finlayson, R. M. Hamer, J. H.

Brewer, A. Burn, S. Clubb, A. D. Dinsdale, R. B. T. Gisburn, A. E. (junr.) Gordon, J. Jowett, S. H. Lumb, W. H. Ratcliffe, S. Reid, G. B. Syder, A. June, 1921. Murgatroyd, H. Ramsden, T. H.

Page, A. D.

Ramsden, T. H. Rayner, D. S. Shaw, H. Slater, O. Storey, A. W. Sunderland, W. Taylor, A. L.

Preliminary Examination in Science

Burn, S. Channon, G. C. Clubb A. D. Dinsdale, R. B. T. September, 1920. Reid, G. B. Shaw, H. Sunderland, W.

Brewer, A. Cook, E. Cristol, J. Dunleavy, J. Eilis, V. P. Griffiths, R. L. Houston, Caroline S. Knowles, Eleanor M.

McGrath, M. J.

June, 1921. Lake, F. MacLean, W. S. Moxon, A. G. Sclare, Rachel Slater, O. Stapleton, H. Sutcliffe, N. C. Wells, J.

#### Diploma in Psychological Medicine

December, 1920. Russell, J. I.

#### Number of Students

The following table shows the number of Students of different classes who attended the University of Leeds during the last two Sessions :---

Day Students :	1919-20.	1920-21
In Faculty of Medicine (including students who were also in attendance in the Faculty of		
Science)	274	333
In Faculties of Arts (including Commerce and Law), Science and Technology (including students also in attendance in the Faculty		
of Medicine)	1,604	1,764
	1,878	2,097
Less deducted for students who attended in both		
the Faculties of Medicine and Science	43	57
Total number of Day students	1,835	2,040
Evening Students:		
In Faculties of Arts, Science, and Technology (excluding those who only attended short		
courses of lectures)	256	277
	2,091	2,317
	-	-

#### DEGREE EXAMINATIONS

A limited number of Examination papers set at Degree and Diploma Examinations are kept in stock, and may be obtained from the Clerk to the Senate on application, at the price of one penny (by post  $1\frac{1}{2}d$ .) each paper, or at the rate of 6d. (by post 7d.) per dozen.

#### UNIVERSITY SOCIETIES, 1921-22

No Society is recognised as a University Society unless its current rules and regulations have received the sanction of the Senate.

The University Union. The University Union comprises the Cricket, Football (Rugby and Association), Hockey, Tennis, Lacrosse, Swimming, Fives, Harriers, Athletic and Boat Clubs, and undertakes the management of the Gymnasium, the Fives Court, the Chess Club, and the Debating Society. The Union has also the management of the University Athletic Ground, and undertakes the arrangement of the Athletic Sports, the Conversazione, the Dance, and other entertainments.

The governing body of the Union consist of an Honorary President, Honorary Vice-Presidents, a Staff representative, an Honorary Treasurer, a President, a Vice-President, and an Honorary Secretary, and a Committee elected annually by the students.

The subscription to the Union is two pounds each session. It is payable to the Accountant of the University at the beginning of the session, with the class fees, and is compulsory on each registered student attending for more than six hours per week, with certain exceptions.

Membership of the Union carries with it membership of the various athletic clubs under its control, except the Boat Club, for which there is an additional subscription of one guinea per session, membership of the Debating Society and Chess Club, and the right of using the Common Rooms and the Gymnasium.

Handbooks, containing all information concerning the Union, its Rules, Officers, Athletic Clubs, and also the various Societies, are issued *gratis* to all members of the Union. They may be had on application to the Hon. Secretary or the Hall Porter.

"The Gryphon" is the magazine of the University, published under the auspices of the Union Committee. Its aim is to be representative of the entire University, and it thus forms a valuable and interesting record of the manifold activities of our collegiate life. All who are in any way interested in Leeds University should subscribe to "The Gryphon." Annual subscription, 4/- (postage 1/- extra); single copies, 8d. (postage 2d).

Further information may be obtained from the Hon. Secretary of the Union.

Hon. President—Ilis Grace the Duke of Devonshire, K.G., K.C.M.G., G.C.V.O., I.L.D. Hon. Vice-Presidents—The Pro-Chancellor; The Vice-Chancellor; The Pro-Vice-Chancellor; Professor J. K. Jamieson, Dean of the Faculty of Medicine. President and Chairman of Committee—Mr. H. L. Robinson. Vice-President—Mr. G. L. Sharpe. Hon. Secretary—Mr. H. Marsden. Hon. Treasurer—Mr. W. R. Grist. Staff Representative—Professor C. M. Gillespie. Administrative Staff Representative—Mr. A. E. Wheeler. Committee—Misses V. Hirst, V. Jarvis, E. Beaton, M. Simpson, F. Caruth, B. Lee; Messrs. J. S. Heuthwaite, R. Sayce, G. H. Gardner, M. H. Thirlway, J. V. Crossley, A. L. G. Leonard, S. J. Partridge, D. Wiiney, R. A. Mott, C. K. F. Hague, G. M. Miller, A. H. M. Field; Medicals: O. Bastable, A. Cannon, B. C. Thompson, G. E. A. Lewis, W. H. Bean, J. A. Trewick and Miss A. Claye.

The Women's Representative Committee. This Committee is annually elected by the Women Students. It has control of the Women's Common Rooms and appoints representatives on the University Union Committee and sub-committees.

President-Miss B. Lee. Hon. Secretary-Miss V. Hirst. Union . Representatives-Misses B. Lee, V. Hirst, V. Jarvis, E. Beaton, M. Simpson, F. Caruth. Committee-The above, with Misses M. Wadson, M. Hinchcliffe.

The Debating Society. This Society meets at 5.15 p.m. on alternate Mondays in the first and second terms.

Every student who has paid the Union Fee is *ipso facto* a member of the society, no other subscription for election being necessary.

President—The President of the Union. Vice-Presidents—The President of the W. R. C., Mrs. Garstang, Mr. R. H. Soltau. Chairman —Mr. T. E. Jessop. Secretaries—Miss Beaton, Mr. F. G. Thomas. Committee—Messrs. Miller, Flowers and Soulsby.

The Literary and Historical Society. This Society meets at 5 p.m. on alternate Mondays during the first and second terms for the reading of papers and discussions on literary and historical subjects. The annual subscription is 3s. 6d.

President--Mr. J. R. R. Tolkien. Vice-Presidents-Miss E. V. Nowell, Mr. G. M. Miller. Treasurer-Miss Robertson. Staff Representative-Professor Connal. Hon. Secretaries-Miss E. Clarke, Mr. J. G. Stobbart. Committee--The above and Misses E. Allcock, Firth, A. E. Sutcliffe; Messrs. H. V. Loseby, H. S. Pickles.

The Social Study Society consists of members of the University who are desirous of investigating, by study and practical experience, the economic conditions under which men and women live and work to-day, with a view to gaining a thorough understanding of the facts. Annual subscriptions:-3/-, with tea; 1/6, without tea.

President—Professor J. H. Jones. Vice-Presidents—Miss M. C. Heslop and Mr. P. P. Murphy. Secretary and Treasurer—Miss C. M. Beaton and Mr. H. Stott. Committee—The above, with Misses Hinchcliffe, Jarvis and Olszewska; Messrs. Healey, Lyles and Shimmin.

The Cavendish Society. The object of this Society is to promote the study of Chemistry, Pure and Applied, and Physics. The meetings are held during the first and second terms. Members take teat together at 5 p.m., after which papers are read and discussions take place. Any present or past student of the University is eligible for membership. Other persons, not eligible for Ordinary membership, may become Associate members subject to the discretion of the Committee. The subscription for Ordinary and Associate members is 4s.; for Life members,  $\leq 1$  Is. During the session excursions are made to neighbouring chemical works, dyehouses, &c.

President—Professor H. M. Dawson. Staff Vice-President—Mr. P. K. Dutt. Student Vice-President—Mr. C. O. Ellison. Hon. Secretary —Mr. G. W. Douglas. Hon. Treasurer — Mr. G. H. Tatner. Committee—The above, and Misses M. Moore, L. Sutton, Messrs. J. II. Hindle, A. Webster.

**Natural History Society.**—The Society is open to all past and present members of the University. During the session eight meetings are held, at which papers on subjects connected with Botany, Geology, or Zoology are read, and objects of interest are exhibited. The meetings are held in the Botanical or Geological departments on Thursdays, and are preceded by tea at 5.15 p.m. The social side of the Society is not the least important. A concert and supper follow the first lecture after Christmas, and excursions are arranged in the summer term. The subscription is 3/- including tea.

President-Miss B. Lee. Secretaries-Miss J. Maude, Mr. E. H. Hawthorne. Hon. Treasurer-Mr. H. C. Versey, M.Sc. Committee-To be appointed.

The Education Society. This Society holds two meetings in each of the first and second terms. At each of these meetings there is a lecture followed by discussion on some topic of interest to those who are, or who are likely to be, engaged in educational work. The annual subscription is 3/-. There is also an excursion in the summer term to some place of general interest.

Hon. President—Professor J. Strong. President—Mr. H. V. Loseby. Vice-Presidents—Misses H. Robertson, G. Dickinson, Mr. E. H. Hawthorne. Hon. Secretaries—Miss C. Pickles, Mr. W. B. Pickles. Committee—Misses F. Radcliffe and E. Opie; Messus. Brown and Ely. The Engineering Society. This Society has for its object the discussion of subjects bearing upon Engineering and Applied Sciences, the visiting of works and other places of engineering interest, and the promotion of a friendly intercourse amongst its members. Any student of the University is eligible for membership, the annual subscription being 2/6. The meetings are generally held fortnightly at the University, the chair being taken at 4.30 p.m.

*President*—Professor J. Goodman. *Hon. Secretaries*—Messrs. H. Richardson and C. K. F. Hague.

Textile Students' Association. The objects of the Association are to promote intercourse between its Members, and to advance the interests of the Textile Industries. (a) To promote and maintain communication between Members occupied in the various centres of the Textile Industry of the world; (b) to keep an up-to-date record of careers of Members, such as the Sessions when they attended the University and any appointments they may have obtained; (c) to facilitate mutual help to Members in their industrial and commercial life; (d) to place manufacturers, and others, having vacant appointments, in communication with Members qualified by their training and experience to discharge the duties of such appointments; (e) to promote scientific and technical developments relating to the Textile Industry; (f) to foster and encourage Textile Invention; (g) to establish a library of works on, or relating to, any phase of the Textile Industry; (4) to issue at suitable periods a Journal for the purposes above set forth; (i) to found, when desirable, a Club having a library and other offices.

The Membership consists of :—(a) Members, (b) Associate Members, (c) Life Members, (d) Honorary Members. Former Day Students of the Day Classes of the Textile Department of the University are eligible for election as Members, and Day Students for the time being as Associate Members, and for a period not exceeding four years after their course of study has terminated, when they are eligible for Membership on application. Any Member of the Association can qualify for a Life Membership on the payment of Ten Guineas.

The subscription for Vice-Presidents and Members of Council is One Guinea; Members Half-a-Guinea; Associate Members, Five Shillings per annum.

The Agricultural Society. This Society exists for the purpose of lostering the social spirit among students of the Agricultural Department. Meetings are held at 6.30 p.m. on alternate Mondays during the winter terms, when papers are read or debates take place on agricultural topics. All present or past Students of the Department of Agriculture are eligible for membership on payment of an annual subscription of 2s. Other persons interested in the science or economics of agriculture may be elected, the minimum annual subscription for such being 2/6.

#### University Societies

President—Professor R. S. Seton, Vice-Presidents—Messrs C. G. A. Robertson, M.A., B.Sc., J. E. Robinson, Hon. Treasurer—Mr. W. Godden. Hon. Secretary—Mr. O. Anderson.

**Economic Society.** This Society has been formed for the discussion of economic questions, and is open to all members of the University. As it is essentially a general and not a departmental society it is hoped that its meetings will be looked upon as regular features of the corporate life of the University. *Hom. Sec.*—Mr. W. H. Smith.

The League of Nations Union (Leeds University Branch). This Society has as its object the support of the League of Nations, the discussion of its details, and of other international questions of world-wide importance. It is open to all members of the University on payment of the annual subscription of I/-. *Hon. Sec.*—Mr. H. Barraclough.

The Leeds University "B.P." Scout Club. This Society aims at encouraging a voluntary interest in boy welfare work among students of the University, on the lines laid down in the Boy Scout movement. Membership of the club is open to students of the University and to warranted Scoutmasters and Assistant Scoutmasters in Leeds. A voluntary annual subscription of minimum of 2/6 is payable by members. *Hon. Sec.*—Mr. D. R. Jobson.

The Leeds University Historical Association. The object of this Association is the promotion of social and intellectual intercourse, jointly and severally, among the staff and students of the Department of History. Membership is open: (a) to all members, permanent or temporary, of the staff of the History Department; (b) to all students reading for an Honours degree in History; (c) to others on the recommendation of Committee, ratified at a General Meeting.

Officers for 1921-22:—President—Mr. A. M. Woodward. Committee —Miss Downs, Mr. W. J. Earnshaw (Secretary), and two students to be elected in October, 1921.

**Geographical Society.** Affiliated to the Geographical Association. Members of the staff and all students of the University are eligible for membership. Annual subscription 1/-. Lectures and discussions are held upon topics relating to Geography and rambles to places of interest are arranged. *Hon. Sec.*—Mr. K. J. Yeomans.

Mining Society. The Society has for its objects the discussion of subjects bearing upon Mining and the allied sciences, the visiting of works and other places of interest, and the promotion of friendly intercourse amongst its members.

Leeds University Motor Club. This Club has for its objects the social intercourse of its members and the furtherance of motoring generally. *Hon. Sec.*—Mr. C. P. Porritt.

Leeds Dental Students' Society. The Society has for its objects the consideration of matters generally and specially pertaining to Dental Science, the advancement and welfare of its members, and the facilitating of social intercourse among them. Membership is open to past and present students of the Leeds Dental School. Entrance fee, 2/6; annual subscription, 5/-. Hon. Sec.—Mr. G. B. Reid.

The Christian Union. Affiliated to the Student Christian Movement of Great Britain and Ireland. *President*—Mr. T. E. Jessop, *Co-President*—Miss M. Caruth. *Hon. Secs.*—Miss I. P. Banham and Mr. H. M. Milton. *Treasurer*—Mr. E. Skues. *Committee*—Misses E. Dewhirst, E. Opie, M. Simpson, S. Graham; Messrs. J. Dalby, A. Raistrick, G. M. Miller, C. Challen, W. S. Flowers.

The Leeds University Working Men's Club. The object of the club is to provide evening recreation for working lads who have left school. The club-rooms in Berking Avenue, York Road, are open every evening except Sundays, from 8 to 10. The rooms are under the supervision of a committee of the club, controlled by a committee of members of the University. In addition to various games, some intellectual occupation is usually afforded. The Secretary (Professor Cohen) will be glad to furnish a copy of the annual report, and to supply additional information.

#### Societies in School of Medicine

The Students' Representative Council.<sup>1</sup> Elected annually by the students of the Department of Medicine from amongst their own number.

It concerns itself with the affairs of the Medical Students, and appoints representatives to serve on the Committee of the University Union, a proportion of whose funds it has at its disposal.

The Secretary of the Council is *ex-officio* the Medical Secretary of the Union Committee.

The Council further appoints a sub-committee to manage the Students' Medical Society, and two of its number serve upon the Refectory Committee.

The Medical Society is managed by a Sub-Committee of the Students' Representative Council. Meetings are held on alternate Fridays during the winter session, when papers dealing with subjects of medical interest are read and discussed. The session usually commences with an address, and there is an annual prize debate.

Royal Army Medical Corps Territorial Force (West Riding Division). Medical Students are invited to join this Corps. The active part of the drill season is from the beginning of May to the of July. Camp is held usually during the first week in August. Instruction is given in First Aid to the wounded, nursing duties, cooking for the personnel and sick, and water and sanitary duties with troops.

<sup>1</sup> The Officers for 1921-22 are not elected in time for insertion in the Calendar.

For further information apply to the Officer Commanding, R.A.M.C. (T.F.), Harewood Barracks, Woodhouse Lane, Leeds.

The following units are stationed in Leeds :--

1st West Riding Field Ambulance.

2nd ,, ,, ,, ,, ,, No. 2 Northern General Hospital Nucleus. West Riding Divisional Cas. Clearing Station. A contingent of men for water duties.

A Territorial School of Instruction, for the R.A.M.C. (T.) of the West Riding Division Territorial Force, has its headquarters in Leeds.

#### Societies of Old Students

The Leeds Day Training College Club. The objects of the Club are (I) to provide for a re-union in a social manner of the past students of the Training College, all of whom may become members of the Club; (2) to supply the members with a means of communicating with each other privately, by the annual issue of a list of members and their addresses; (3) to establish a fund which may be used at the discretion of the President for the relief of any past or present student of the Training College who may be in financial distress. Subscription—life membership Ios.; annual, I/6.

**The Old Students' Association (Women).** The aims of the Association are (1) to hold re-unions three times each session; (2) to provide opportunities of communication between former students by means of interest from former students, to be sent to all members every two or three years; (3) to provide a loan fund (a) to enable any present student who is in need of pecuniary help to continue her course at College; (b) to aid members of the Association who through illness are temporarily incapacitated from work. Subscriptions: life membership, 15s.; annual, 2s.

President—Miss Robertson. Vice-President—Miss Nussey. Secretary and Treasurer—Miss E. M. Blackburn. Assistant Secretary— Miss C. Caldwell. Editor of Handbook—Miss Gwyer. Committee— Misses Cunningham, Cuthbertson, Jole, Musgrave, Pickles, Porteous, Skinner, Worth, J. Wilson. Secretary of London Branch—Mrs. Chapman. Secretary of Manchester Branch—Miss S. Longstaff.

Affiliated with this Society is the University Hall Old Students' Association. Joint subscription—Life membership,  $\pounds_1$  5s. od.; annual, 4/-.

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