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CALENDAR, 1904-5

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ALMANAC, 1904-5.				
OCTOBER, 1904.				
I	s	Victoria University of Manchester, Board Meeting.		
2 3	S M	Admission of students, Faculties of Arts, Science and Technology.		
4	Tu	First Term begins—Admission of students, Faculties of Arts, Science and Technology. Entrance examina- tion for new students in Faculties of Arts, &c., at		
5	W	2 p.m. Evening classes begin : free Opening lectures in Evening Textile and Leather Industries classes		
6 7 8	Th F S	Texine and Learner industries classes.		
9 10	S M	Opening of Winter Session in the Department of Agriculture.		
11 12 13 14 15	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	Meeting of Board of the Faculty of Medicine.		
30 31	S M			

NOVEMBER, 1904.			
123 45	Tu W Th F S	Meeting of Senate. Admission of Yorkshire College to Victoria University, 1887.	
6 7 8 9 10 11 12	S M Tu W Th F S	Meeting of Finance Committee.	
13 14 15 16 17 18 19	S M Tu W Th F S	Meeting of Council.	
20 21 22 23 24 25 26	S M Tu W Th F S	Meeting of Board of the Faculty of Medicine.	
27 28 29 30	S M Tu W		
	DECEMBER, 1904.		
--	-----------------------------------	--	--
1 2 3	Th F S	Victoria University of Manchester Final B.A. and B.Sc. examination about this date.	
4 5 6 7 8 9 10	S M Tu W Th F S	Meeting of Senate.	
11 12 13 14 15 16 17	S M Tu W Th F S	Meeting of Finance Committee. Terminal Examinations in Faculties of Arts, Science and Technology begin.	
18 19 20 21 22 23 24	S M Tu W Th F S	Meeting of Council. First Term in Faculties of Arts, Science and Technology ends. Christmas Recess (School of Medicine) begins.	
25 26 27 28 29 30 31	S M Tu W Th F S	Christmas Day. Library closed till January 3.	

	JANUARY, 1905.		
1 2 3 4 56 7	S M Tu W Th F S	Library re-opened.	
8 9 10 11 12 13 14	S M Tu W Th F S	Classes resume in the School of Medicine. Second Term in Faculties of Arts, Science and Tech- nology begins. Entrance examination, Department of Engineering. Meeting of Finance Committee.	
15 16 17 18 19 20 21	S M Tu W Th F S	Meeting of Council.	
22 23 24 25 26 27 28	S M Tu W Th F S	Meeting of Board of the Faculty of Medicine.	
29 30 31	S M Tu		

	FEBRUARY, 1905.			
1 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 Finance Committee.		
12 13 14 15 16 17 18	S M Tu W Th F S	Meeting of Council.		
19 20 21 22 23 24 25	S M Tu W Th F S	Meeting of Board of the Faculty of Medicine.		
26 27 28	S M Tu	Last Day of Application for the 1851 Exhibition Scholar- ship.		

MARCH, 1905.		
1 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 Finance Committee.
12 13 14 15 16 17 18	S M Tu W Th F S	Meeting of Council.
19 20 21 22 23 24 25	S M Tu W Th F S	Terminal Examinations in Faculties of Arts, Science and Technology begin.
26 27 28 29 30 31	S M Tu W Th F	Second Term in Faculties of Arts, Science and Tech- nology ends. Last day for entering and for payment of fees for M.A. and M.Sc. Examinations.

APRIL, 1905.		
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.
16 17 18 19 20 21 22	S M Tu W Th F S	Meeting of Council. Victoria University Charter granted 1880. GOOD FRIDAY. University closed. University closed.
23 24 25 26	S M Tu W	EASTER DAV. University closed. University closed. Third term in Faculties of Arts, Science, and Technology, and Summer Session of the School of Medicine begin. Evening for the school of Medicine begin.
27 28 29	Th F S	Meeting of Board of Faculty of Medicine. City and Guilds Institute Examination.
30	S	

IO

MAY, 1905.			
1 2 3 4	M Tu W Th	 City and Guilds Institute Examination. Last day for entering and for payment of Fees for the June Degree Examinations. Last day for entering for the May Scholarships Examination. City and Guilds Institute Examination. City and Guilds Institute Examination. Meeting of Senate. City and Guilds Institute Examination. 	
56 70	S S	City and Guilds Institute Examination.	
9 10 11 12 13	Tu W Th F S	Meeting of Finance Committee. Last day for entering for the June Matriculation Exam- ination.	
14 15 16 17 18 19 20	S M Tu W Th F S	Examination for Scholarships begins. Meeting of Council.	
21 22 23 24 25 26 27	S M Tu W Th F S	Meeting of Board of Faculty of Medicine.	
28 29 30 31	S M Tu W		

JUNE, 1905.		
1 2 3	Th F S	
4 56 7 8 9 10	S M Tu W Th F S	Meeting of Senate.
11 12 13 14	S M Tu W	WHIT-SUNDAY. Recess. University closed. Recess. University closed. Meeting of Finance Committee. Matriculation Exam- ination, and Intermediate and Final Examinations for degrees in Arts, Law, Science and Technology about this date.
15 16 17	Th F S	
18 19 20 21 22 23 24	S M Tu W Th F S	Meeting of Council.
25 26	S M	
27 28 29 30	Tu W Th F	Third Term in Faculties of Arts, Science and Tech- nology ends. Meeting of Board of the Faculty of Medicine.

	JULY, 1905.			
I	S			
2 3 4 56 78	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. Opening of the Yorkshire College Buildings by the Prince and Princess of Wales, 1885.		
16 17 18 19 20 21 22	S M Tu W Th F S	Meeting of Council. Summer Session of School of Medicine ends.		
23 24 25 26 27 28 29	S M Tu W Th F S	Miss Palmer, received her Ird lesson since last settlement.		
30 31	S M	Books for Commune. German: aus hatur & Geisterwelt: Chr. Gruber : Deutsches Wistschaftsle L. Pohle : Entwickelung les deutsch Wistschaftslebeus im 19 Ihre		

	AUGUST, 1905.				
I 2 3 4 5	Tu W Th F S				
6 7 8 9 10 11 12	S M Tu W Th F S	BANK HOLIDAY. University closed.			
13 14 15 16 17 18 19	S M Tu W Th F S	Library closed until September 1. Went to Peymouth.			
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, 1905.			
I 2	FS	Library Re-opened. Last day for entering for the Medical Scholarship.		
3 4 56 7 8 9	S M Tu W Th F S	Last day for entering for the September Matriculation Examination about this date. Examination for Leeds City Council Evening Exhibitions.		
10 11 12 13 14 15 16	S M Tu W Th F S	deft B'ham for Leols		
17 18 19 20 21 22 23	S M Tu W Th F S	Wrote for books te received 'Tangenicht' Peter S. received + returned Eugen & Savoyen, borote to D. hut.		
24 25 26 27 28 29 30	S M Tu W Th F S	Examination for Medical Scholarship begins. Miss Palmer .		

OCTOBER, 1905.		
1 2 3	S M Tu	First Term in Faculties of Arts (including Law), Science and Technology begins about this date. Winter Session of School of Medicine begins.
4 56 7	W Th F S	miss Palmer
8 9 10 11 12 13 14	S M Tu W Th F S	
15 16 17 18 19 20 21	S M Tu W Th F S	
22 23 24 25 26 27 28	S M Tu W Th F S	mis Palmer. b. / Settlement. q Calendar 05/6.
29 30 31	S M Tu	

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 so admitted.

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 prescribe 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 $\pounds_{50,000}$. 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 Court

(a)

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

1. *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. Members mentioned in clause (a) 4 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. 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. One representative of the Council of the County Borough of York.

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- 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.
- 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. 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.

 (δ) 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.

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.

V.

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.

XI.

Regulation and conduct of the Matriculation examination.

The conditions and subjects of the Matriculation examination, which constitutes the entrance to the Degree courses of the University, together with the exemptions and variations from it, shall be regulated by a Joint Board, to be constituted pursuant to Clause III of the Charter.
Statutes

The Conditions and subjects of the Matriculation examination shall be initially those of the Preliminary examination at present in force in the Victoria University, including the conditions for the acceptance of other examinations in lieu of it.

The Joint Board shall consist of fifteen members, five to be annually elected by each of the Universities in Manchester, Liverpool, and Leeds, with power to co-opt persons of educational experience to the number of three.

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 be referred to each of the three Universities who shall each then nominate two additional members on the Board for the purpose. The decision of the Board so constituted shall be final.

The Board shall send annual reports of its proceedings to each University.

The regulations of the Board regarding the Matriculation examination shall not affect the power of each University to admit students to such classes and courses as it may think fit.

The Board shall be convened in the first instance by the Registrar of the Victoria University of Manchester.

XII.

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.

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

Statutes

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.

XIII.

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.



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 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

Preamble

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 Short title. Act. 1904."

2. On the passing of this Act the Yorkshire College Dissolution shall be by virtue of this Act dissolved and cease to exist and College and all property real and personal of every description (including transfer of property to things in action) and all rights and privileges of the York- University of shire College which immediately before that date belonged 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 instruments and all actions and proceedings and causes of action or proceedings which immediately before the passing 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 Manchester the Council of the Owens College Manchester and the Council of the University of Liverpool or any of them may by agreement with the Council of the University of 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.

Saving for agreements deeds actions &c.

Adjustment of property and liabilities &c.

(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 Saving for attached to or associated with the teaching staff of the existing officers of Yorkshire College and all salaried or paid officers and Yorkshire 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 Transfer of Council Senate or other members of that College as such to powers to appoint or nominate a member of the governing body of any members of educational charitable or other institution shall on the passing ing bodies. 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 Power of qualifying examinations in medicine surgery and midwifery Leeds to hold for the purpose of registration under the Medical Acts as if examinations the University had been a University in the United Kingdom vict, c. 48. 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 Power of University of entitled to choose one representative to be a member of the Leeds to choose General Council constituted by the Medical Acts and representative Section 7 of the Medical Act 1886 shall be read and have Medical Council. effect as if the University of Leeds had been expressly included therein.

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

College.

certain govern-

Construction of bequests in favour of Yorkshire College.

As to the Charitable Trusts Acts.

Copy of Act to be registered.

11. Any will deed or other document whether made or executed before or after the passing of this Act which contains any bequest gift or trust in favour of the Yorkshire 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 extend to the University of Leeds or to any college or hall therein.

13. The Council of the University of Leeds shall deliver to the Registrar of Joint Stock Companies a printed copy 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 preparing and obtaining this Act shall be defrayed by the 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.

Costs of Act.

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Refectory Committee, College Road

Professor ARTHUR SMITHELLS, B.Sc., F.R.S., Ben Rhydding, Chairman
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Miss EDITH BEATRICE BARTON, B.Sc., Leeds
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Miss EMMA FOGGITT, Yeadon
W. N. GOODMAN, Leeds
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Professor Roberts Beaumont, M.I. Mech.E	1889
Professor DE BURGH BIRCH, M.D., C.M., F.R.S.E	1884
Professor C. M. CHADWICK, M.A., M.D., F.R.C.P	1898
Professor J. H. CLAPHAM, M.A.	1902
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Professor Charles J. WRIGHT, M.R.C.S.	1888

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Professor R. N. HARTLEY, M.B., B.S.
J. B. HELLIER, M.D., M.R.C.S.
JOHN KAY JAMIESON, M.B., C.M.
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W. BEVAN LEWIS, L.R.C.P., M.R.C.S.
HARRY LITTLEWOOD, F.R.C.S.
B. G. A. MOYNIHAN, M.S., F.R.C.S.
WALTER THOMPSON, F.R.C.S.
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Professor CHARLES J. WRIGHT, M.R.C.S.

Faculty of Technology

Dean of the Faculty

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The CHANCELLOR

The VICE-CHANCELLOR

The PRO-VICE-CHANCELLOR

The MEMBERS OF THE SENATE

The LECTURERS OF THE UNIVERSITY

The REGISTERED GRADUATES OF THE UNIVERSITY

¹ The Register of Convocation is not yet complete.

REPRESENTATIVES OF THE UNIVERSITY ON COMMITTEES AND OTHER INSTITUTIONS

A. Joint Board for regulating the Matriculation Examination The VICE-CHANCELLOR Professor B. M. CONNAL Professor L. C. MIALL Dr. FREDERICK W. MOORMAN

Professor ALBERT W. SCHUDDEKOPF

B. Education Committees

City of Leeds	The Vice-Chancellor
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West Riding -	The PRO-CHANCELLOR
North Riding	The VICE-CHANCELLOR
East Riding	Professor L. C. MIALL
	Professor JAMES WELTON
Yorkshire Council for	
Agricultural Education	The Right Hon. A. H. D. ACLAND
	Mr. I. A. BROOKE
	The PRO-CHANCELLOR
	Mr. EDWIN WOODHOUSE
City of York -	Professor I. H. CLAPHAM
Borough of Doncaster -	Mr. J. A. CLAXTON, Headmaster of the
0	Doncaster Grammar School
,, Harrogate -	Dr. F. W. MOORMAN
-	0.1.1.4
C	. Schools, etc.
	(³ JOHN RAWLINSON FORD, May 16, 1900
Akroyd Foundation	⁸ N. BODINGTON, M.A., Litt.D., Vice-
	Chancellor, April 25, 1900
Almondbury Grammar School	- ³ С. L. Broðk, Dec. 20, 1899
Barnsley Grammar School	- ³ G. Blake Walker, Nov. 18, 1903
Bentham-Collingwood and Bayn	es) 3A. O. ALLEN, B.A., B.Sc., Nov. 18.
Foundation	1903
Beverley Grammar School	³ HAROLD HARTLEY, M.A., Nov. 18, 1903
Bishopside School (Ripon)	² Dr. Francis Collins, Nov. 18, 1903
Bradford Girls'Grammar School	- 2N RODINGTON MA Litt D Vice.
Machord Onis Grammar School	Chancellor, March 16, 1904
Bridlington Grammar School	- ³ C. G. WHEELHOUSE, LL.D., F.R.C.S.,
0	July 16, 1902
Coxwold Charity	- 1T. S. PATTERSON, Ph.D., Nov. 18, 1903
Dewsbury - Endowed School	Is) Professor J. H. CLAPHAM, M.A., Nov.
Foundation	1 19, 1902

1 Elected for 3 years. 2 Elected for 4 years. 3 Elected for 5 years.

Representatives on Committees, etc.

Doncaster Grammar School - ¹ C. B. COOKE-YARBOROUGH, July 16, 1902
Drax Free School ³ JOHN TAYLOR, July 15, 1903
Giggleswick Grammar School - Professor A. J. GRANT, M.A., March 18, 1903
Hipperholme Grammar School - ³ W. H. AYKROYD, Feb. 18, 1903
Ilkley Grammar School - Professor H. R. PROCTER, F.I.C., Nov. 18, 1903
Keighley—Drake and Tonson's 2C. M. GILLESPIE, M.A., July 16, 1902
Knaresborough Grammar School ¹ J. A. EDDISON, November 19, 1902
Leeds Grammar School - ^a N. BODINGTON, M.A., Litt.D., Vice- Chancellor, May 4, 1903
Malton (Old) Grammar School - ¹ HUGH W. PEARSON, June 15, 1904
Normanton Grammar School - ³ Professor A. SMITHELLS, B.Sc., F.I.C., F.R.S., June 18, 1903
Northallerton Grammar School - ¹ WILLIAM BROWN, January 15, 1902
Pickering Grammar School - ¹ Rt. Hon. A. H. DYKE ACLAND, M.A., Sept. 17, 1902
Pontefract Grammar School - ^a Professor A. J. GRANT, M.A., March 19, 1902
Sedbergh Grammar School - ^a N. BODINGTON, M.A., Litt.D., Vice- Chancellor, Nov. 19, 1902
Skipton—Ermysted's Grammar ⁴ Professor W. R. PHILLIPS, LL.M., Nov. School J 18, 1903
Skipton Girls' Middle School - ³ Professor W. R. PHILLIPS, LL.M., June 15, 1904
Slaithwaite Grammar School - ¹ J. A. BROOKE, M.A., June 15, 1904
Sowerby in-Halifax— Bairstow's Endowed School } ¹ J. A. BROOKE, M.A., July 17, 1901
Tadcaster—Oglethorpe's Endowed 3 Professor L. J. ROGERS, M.A., Mus.B., School J Nov. 18, 1903
Thornton-in-Bradford— Endowed Schools } ³ F. W. MOORMAN, B.A., Ph.D., Nov. 18, 1903
Wakefield Grammar School - ³ Professor L. C. MIALL, F.R.S., Sept. 18, 1901
York—St. Peter's School - ³ Rev. J. M. MARSHALL, Feb. 10, 1904
¹ Elected for 3 years. ² Elected for 4 years. ³ Elected for 5 years.

AFFILIATED COLLEGES AND INSTITUTIONS

Ordinance

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 Court 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 College

The College of the RESURRECTION, Mirfield

Terms of Affiliation: By resolution of the Council in accordance with a recommendation of the Senate, the Students of the College of the Resurrection, Mirfield, are exempt from attendance at the University upon the first of the three years of study required for the B.A. Pass or Honours Degree.

PROFESSORS, LECTURERS, Etc.

FACULTY OF ARTS

Dean of the Faculty PROFESSOR GRANT

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1 miles	B. M. CONNAL, M.A., Corpus Christi College, Oxford.
English Language and Literature	Professor : CHARLES E. VAUGHAN, M.A., Balliol College, Oxford.
French I and and	Lecturer: FREDERIC W. MOORMAN, B.A., London, Ph.D., Strassburg.
and Romance Philology	Professor : PAUL BARBIER fils, M.A., London, B-es-L., Paris.
	Assistant Lecturer: RENE LECLERE, L-es-L., Caen.
French Literature	Professors: P. H. M. DU GILLON, Officier d'Academie; PAUL BARBIER fils, M.A., London, B-es-L., Paris.
German Language and Literature	Professor : ALBERT W. SCHÜDDEKOPF, Ph.D., Göttingen.
	Assistant Lecturer : CHARLES E. GOUGH, University of Basle.
History .	Professor : ARTHUR J. GRANT, M.A., King's College, Cambridge.
	Assistant Lecturer: H. W. V. TEMPERLEY, B.A., King's College, Cambridge.
Philosophy .	Lecturer: C. M. GILLESPIE, M.A., Trinity College, Oxford.
Economics	Professor: J. H. CLAPHAM, M.A., late Fellow of King's College, Cambridge.
	Lecturer on Accountancy: W. H. SHAW, A.C.A.

Professors, Lecturers, etc.

Education

Professor of Education and Master of Method: JAMES WELTON, M.A., Gonville and Caius College, Cambridge.

Mistress of Method : Miss HANNAH ROBERTSON, B.A., London.

Assistant Lecturer : W. P. WELPTON, B.Sc., London.

Assistant Mistress of Method: Miss E. L. MELVILLE, M.A., Victoria.

Law

Professor : WALTER R. PHILLIPS, LL.M., Trinity Hall, Cambridge.

Lecturer:

Lecturer in Law at Hull: WILLIAM H. OWEN, LL.B., London.

FACULTY OF SCIENCE

Mathematics .	Professor: LEONARD J. ROGERS, M.A., Mus.B., Balliol College, Oxford.
	Assistant Lecturer; FREDERICK B. WATSON; B.A., Cambridge, M.A., M.Sc., Durham.
Physics .	Cavendish Professor: WILLIAM STROUD, M.A., D.Sc., Balliol College, Oxford.
	Assistant Lecturer and Demonstrator: A. O. ALLEN, B.A., P.Sc., London.
-	Assistant Demonstrator: S. A. SHORTER, B.Sc., Victoria.
Chemistry .	Professor: ARTHUR SMITHELLS, B.Sc., London and Victoria, F.R.S.
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	HARRY M. DAWSON, B.Sc., London, Ph.D., Giessen.
1	Demonstrators:
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	C. E. WHITELEY, M.Sc., Victoria.
Organic	-,, , , , , , , , , , , , , , , ,
Chemistry	Professor: HULIUS B COHEN B Se

Victoria, Ph.D., Munich.

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Biology

Professor : L. C. MIALL, F.R.S.

- Assistant Lecturer in Botany: WILLIAM G. SMITH, B.Sc., St. Andrews, Ph.D., Munich.
- Assistant Lecturer and Demonstrator in Zoology: T. H. TAYLOR, M.A., Royal University of Ireland.

Assistant Lecturer and Demonstrator in Bolany: NORMAN WALKER.

Junior Demonstrator in Biology: E. E. UNWIN, B.Sc., Victoria.

Assistant and Keeper of the Insect Collections: MISS SIMPSON.

Professor: de BURGH BIRCH, M.D., C.M., Edinburgh, F.R.S.E.

Geology

Physiology .

Professor ; PERCY F. KENDALL, F.G.S.

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FACULTY OF TECHNOLOGY

Dean of the Faculty Professor GOODMAN

Civil and Mechanical Engineering

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

Lecturer in Civil Eugineering: GEORGE WILSON, D.Sc. Victoria, A.M.Inst.C.E.

Assistant Lecturer and Demonstrator : D. R. MACLACHLAN, B.Sc. Glasgow

Demonstrators : HENRY S. MYERS, M.I. Mech.E.

R. HOWARD DUNCAN, A.R.C.Sc.

Electrical Engineering

Mining .

Lecturer: G. D. A. PARR, M. I. E. E., A. M. I. Mech. E.

Professor: GEORGE R. THOMPSON, B.Sc., London. Assistant: HERBERT PERKIN

Textile Industries .

. Professor: ROBERTS BEAUMONT, M.I Mech.E.

Assistant Lecturer and Demonstrator: THOMAS HOLLIS.

Assistant : ALEXANDER YEWDALL.

Demonstrator in Pattern Analysis and Assistant Designer for Woollens and Worsted Fabrics: GEORGE WHOWELL.

Museum Assistant and Assistant Designer for Figured Fabrics : MISS BENTON.

Assistant in Applied Art: WILFRID FARLEY.

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Assistant Lecturer and Demonstrator: A. B. STEVEN, B.Sc., London.

Museum Curator: MISS MARY MUS-GRAVE.

Leather Industries . Professor: HENRY R. PROCTER, F.1.C. Assistant Lecturer and Demonstrator: FERDINAND KOPECKY,

Demonstrator: HAROLD BRUMWELL.

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

Lecturers in Agriculture : RICHARD W. HAYDON.

CHARLES F. ARCHIBALD.

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Lecturer on Agricultural Chemistry: CHARLES CROWTHER, M.A., Oxford, Ph.D., Leipzig.

Lecturer in Veterinary Science : VETY. LIEUT.-COLONEL CHARLES STEEL, F.R.C.V.S.

Lecturer and Demonstrator on Poultry: FRED PARTON.

Assistant Lecturer in Mathematics and Physics: EDWARD P. KAYE, B.Sc., Victoria.

Agriculture

Professors, Lecturers, etc.

Instructors in Practical Horticulture : THOMAS REDINGTON, F.R.H.S.

ALFRED GAUT, F.R.H.S.

Assistant : FRANK REDINGTON.

Instructress in Dairy Work: MISS ANNIE D. MCKERROW.

Instructor in Farriery: W. JONES ANSTEY.

FACULTY OF MEDICINE

Dean of the Faculty Professor DE B. BIRCH

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. Professor: T. W. GRIFFITH, M.D., Aberdeen, M.R.C.P.

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

Honorary Demonstrators: M. A. TEALE, M.A., Oxford, M.R.C.S., L.R.C.P., J. F. DOBSON, M.B., M.S., London,

F.R.C.S. W. GOUGH, B.Sc., M.B., B.S., London, F.R.C.S.

Physiology and Histology

Professor: de B. BIRCH, M.D., C.M., Edinburgh, F.R.S.E.

Demonstrator: R. VEITCH CLARK, M.A., B.Sc., M.B., C.M., Edinburgh

gy Professor : ALBERT S. GRÜNBAUM, M.A., M.D. & B.C. Cambridge, F.R.C. P., D.P.H.

Demonstrators : S. G. SCOTT, M.A., M.B., Oxford, O. C. GRUNER, M.B., London, M.R.C.S.E., L.R.C.P.

Hon. Demonstrator in Surgical Pathology: R. L. KNAGGS, M.A., M.C., Cambridge, F.R.C.S.

Surgery .

Professor: E. WARD, M.A., M.B., B.C., Cambridge, F.R.C.S.

Lecturer on Practical and Operative Surgery : H. LITTLEWOOD, F.R.C.S.

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Pathology and Bacteriology

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L	10	10000101	LICCCCVI CI Dg	

Medicine .

Obstetrics

F.R.C.P. Professor: C. J. WRIGHT, M.R.C.S.

Gynæcology

Materia Medica

Lecturer : J. B. HELLIER, M.D., London, M.R.C.S.

Professor : A. G. BARRS, M.D., Edinburgh,

Hon. Demonstrator: E. O. CROFT, M.D. Durham, M.R.C.S., L.R.C.P.

and Therapeutics Professor: C. M. CHADWICK, M.A., M.D., Oxford, F.R.C.P.

Demonstrator of Practical Pharmacy: J. H. GOÚGH

Public Health . Professor: R. N. HARTLEY, M.B., B.S., London

Forensic Medicine . Lecturer : H. J. CAMPBELL, M. D., London, F.R.C.P. Demonstrator of Practical Toxicology:

F. W. EURICH, M.D., C.M., Edinburgh

Lecturer : H. SECKER WALKER, F. R.C.S. Lecturer: W. BEVAN LEWIS, L.R.C.P., M.R.C.S.

Ophthalmology and Otology Mental Diseases

THE

UNIVERSITY OF LEEDS

1904 1905

UNIVERSITY TERMS

The University Session, or academic year, is divided into three terms. The First Term begins Tuesday, October 4, and ends Thursday, December 22, 1904; the Second Term begins Tuesday, January 10, 1905, and ends Friday, March 31, 1905; the Third Term begins Wednesday, April 26, and ends Friday, June 30, 1905.

The academic year of the School of Medicine of the University begins Monday, October 3, 1904, and ends Saturday, July 22, 1905. See p. 255.

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.

The Vice-Chancellor will admit students on Monday, October 3, from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m., and on Tuesday, October 4, from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m. 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 Mistress of Method as to their studies before presenting themselves to the Vice-Chancellor. The Registrar will be in attendance to receive the fees and register students whose courses of study have been approved by the Vice-Chancellor.

All students¹ (excepting those entering the Department of Agriculture² or the Coal Mining two years' course³ only) are expected to register their names on one of these days.

¹ For the arrangements as to admission of students in the School of Medicine, see

page ² The winter course in Agriculture begins Monday, October 10. ³ This course begins Monday, October 10 for first year students, and Tuesday, October 11 for second year students,
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.

No day students will be admitted under the age of sixteen years. Applicants for admission who are under seventeen will be required to pass an Entrance examination¹ in the following subjects: (a) Arithmetic, including decimals and proportion; Algebra, to simple equations; Geometry, First Book of Euclid or the equivalent. (b) English Composition and Dictation. This examination will be dispensed with in the cases of applicants for admission who (a) have gained a scholarship or exhibition by open competition; or (b) have passed any public examination approved by the Vice-Chancellor; or (c) are presenting themselves for one or two lecture courses only, their entrance upon which without examination is approved by the Vice-Chancellor.

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.

All candidates for admission to the Engineering Department are required to pass an Entrance examination. (see p. 195.)

REGULATIONS TO BE OBSERVED BY STUDENTS

General

1. Every student is required, at the time of admission, to sign a declaration of obedience to the statutes, ordinances, and regulations of the University for the time being.

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.

¹ The Entrance examination will be held on Tuesday, October 4, at 2 p.m. No candidate can be examined whose name has not been notified to the Registrar by the morning of Monday, October 3.

Regulations for Students

3. Students are required to keep the Vice-Chancellor and Registrar informed of their addresses, and any alteration of address must be communicated without delay.

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

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

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

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

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.

Lectures

1. 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 Registrar his Class Ticket, which must be presented to the Heads of the Departments in which he enters before his course of study is begun.

2. Students may be required to repeat courses of study which they have not diligently pursued. In such cases the full fees will have to be paid for the repeated course.

3. When a student is absent from 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 in which the student is attending. Students desiring leave of absence must obtain it from the Vice-Chancellor.

Vacations

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. The scale of fees chargeable can be obtained at the Registrar's office.

In many cases the vacation time of students in technical departments can be most profitably employed in obtaining practical experience in works, and 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.

FEES

All Fees are payable to the Registrar. Cheques may be made payable to "The University of Leeds."

1. Entrance Fee

In addition to class fees, each student attending any regular day class for which a fee of \pounds_{1} is. or upwards is charged, will be required to pay on entering the University, a registration and library fee of \pounds_{1} is. Day students attending one or two courses of lectures only, may, if they prefer it, pay in lieu of the registration and library fee, a sessional fee of 7s. for each class attended.

2. University Union Fee

The subscription (108. 6d. per year) to the University Union is obligatory (with certain exceptions) on students attending the University for more than six hours per week, and is payable to the Registrar at the beginning of the session. This subscription entitles students to the use of the common rooms (which are supplied with the daily papers, current periodicals, &c.), to free instruction in the University gymnasium, and to the use of the athletic ground and tennis courts.

3. Lecture and Laboratory Fees

(a) General Regulations

The fees for lecture and laboratory courses are payable in advance. The Registrar will supply a Class Ticket entitling the student to attend the courses for which fees have been paid: this Class Ticket must be presented by the student to the Professor or Lecturer whose courses he attends, before entering on the course. The fee for each course will be found appended to the syllabus of the course.

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

Students who attend all the classes constituting the complete course required for a Degree examination, or for a Diploma of the University, or for the Associateship of the Institute of Chemistry, may compound for the lecture fees at a reduction of one tenth.

(b) Lecture Fees

The fee for each course of lectures is appended to the syllabus of the course.

Where a student for special reasons pays for only one or two terms, the following fees will as a rule be charged :

Where the Fee for the Session is	The Fee for Two Tern will be	The Fee for One Term will be			
£ s. d.	£ s. d		£ s.	d,	
т п б	 1 5 0	D	0 15	0	
2 2 0	 I 15 0	D	II	0	
2 12 6	 2 2 0	D	I 5	0	
3 3 0	 2 12 (5	III	6	
3 13 6	 2 17 6	5	I I 5	0	
4 4 0	 3 3 0	D	2 2	0	
5 5 0	 4 4 0)	2 12	6	

Where a class meets for two terms only, the Fees will be as follows :

Where the Fee for		Tļ	The Fee for One				
£ s. d.			£ s.	d,			
IIO			0 15	0			
I II 6			ΙI	0			
2 2 0			I 5	0			
2 12 0			III	6			
3 3 0			2 2	0			
3 13 6	1181		2 5	0			
4 4 0			2 12	0			
5 5 0	1.1.10	- + 0	3 3	0			

(c) Laboratory Fees

Fees

The following are the Fees payable for Laboratory and other Practical Work in each of the following departments, viz. : Physics, Chemistry, Biology, Geology, Engineering, Mining, Textile, Dyeing, and Leather. Six hours are counted as one day:

Days	F	'ee f	for		I	ee f	or		Feel	for
per Week.	the	Ses	sion.		Tw	o Te	rms.	Or	ne T	erm.
	£	s.	d.		£	s.	d.	£	s.	d.
2	 3	3	0	1.00	2	I 2	6	 I	ΙI	6
I	 5	5	0	1.1.4	4	4	0	 2	I 2	6
I 1/2	 7	7	0		5	15	6	 3	3	0
2	 9	9	0		6	16	6	 3	13	6
21/2	 11	ΙI	0		7	17	6	 4	4	0
3	 13	13	0		9	9	0	 5	5	0
31	 15	15	0	100	II	0	6	 5	15	6
4	 16	16	0		12	I	6	 6	6	0
41	 17	17	0		I 2	I 2	0	 6	16	6
5	 18	18	0		13	13	0	 7	7	0
51/2	 19	19	0		14	3	6	 7	17	6
6	 21	0	0		15	4	6	 8	8	0

(d) Fees for Research Students

Persons desirous of pursuing original Research can be admitted, subject to certain regulations, to any of the University laboratories on reduced terms, which may be obtained on application to the Registrar. Applications for admission must be made to the head of the department concerned, and the admission is subject to the approval of the Council.

(e) Fees for Complete Courses

The fees for complete courses of lectures and laboratory work qualifying for degrees and diplomas, vary according to the subjects taken. The following estimates are in most cases only approximate.

- Matriculation. The cost to a student taking in the University the full course of lectures for the examination is about \pounds 19, inclusive of the Entrance and Union fees.
- Degree of B.A. The fees for complete courses qualifying for the Intermediate, Final (Ordinary), and Honours examinations, amount to about $\pounds 16$ in each year, exclusive of the Entrance and Union fees.

Degree of LL.B. A composition fee of £8 8s. in each year; composition fee covering the lectures for the degree and for the Solicitors' examination £10 10s. in each year. The Entrance and Union fees are not included.

Diploma in Commerce. About £18 first or second year.

- *Teachers' Diploma.* Composition fee of £14 14s., exclusive of Union fee.
- Degree of B.Sc. The fees for complete courses qualifying for the Intermediate, Final (Ordinary), and Honours examinations, amount to about £25 in each year, exclusive of the Entrance and Union Fees. If the courses taken include much laboratory work, the fees are somewhat higher.
- Engineering, Electrical Engineering, Mining Departments. The fees for a full year's course amount to about £30.
- Departments of Textile Industries, Dyeing, Leavher Industries. The fee for a full year's course amount to about $\pounds 25$.
- Agriculture. Composition fees, for Winter Course \pounds IO, for Summer Course \pounds 5, inclusive of Entrance and Union fees.
- School of Medicine. Composition fee for First examination in Medicine £26, exclusive of Entrance and Union fees. For composition fees for subsequent examinations see page 257.

4. Fees to be paid for Examinations

No fee will entitle to admittance to more than *one* examination.

The fees are as follows :

- For the Matriculation examination, \pounds_2 , and for each subsequent examination, \pounds_1 .
- For the Intermediate examination for the degrees of B.A., B.Sc., LL B., \pounds_1 ; and for each subsequent examination, \pounds_1 .
- For the Final examination for the Ordinary degree of B.A., or B.Sc., or LL.B., $\pounds \tau$; and for each subsequent examination, $\pounds \tau$.
- For the Final examination for the degree of B.A. or B.Sc., with Honours, \pounds_{2}^{2} .
- For the examination for the degree of M.A. or M.Sc., \pounds_{1} .
- For the First examination for the degrees of M.B. and Ch.B., $\pounds 5$; and for each subsequent examination, $\pounds, 2$.
- For the Second examination for the degrees of M.B. and Ch.B., \pounds_{5} ; and for each subsequent examination, \pounds_{2} .

University Library

For the Final examination for the degrees of M.B. and Ch.B., \pounds_5 ; and for each subsequent examination, \pounds_{2}^{2} .

For the examination for the degree of Ch.M., \pounds_{5} .

- For the examination for the diploma in Public Health, \pounds_5 5s. for each part, and for each subsequent examination in the same part, \pounds_3 3s.
- For the examination for the Teachers' Diploma, \pounds_2 , and for each subsequent examination, \pounds_2 .

5. Fees to be paid for admission to Degrees

The fees¹ for conferring degrees are as follows :

On conferring the degree of B.A., or B.Sc., or LL.B.,

On conferring the degree of M.A. or M.Sc., $\pounds 5$.

On conferring the degree of Ch.M., $\pounds 5$.

On conferring the degree of Doctor, \pounds_{10} .

UNIVERSITY LIBRARY

Hon. Librarian: Professor Schuddekopf Librarian: Miss FANNY J. PASSAVANT Assistant: Miss FLORENCE M. EKINS

Students are entitled to use the Library under the conditions laid down in the following rules

I. All registered students, *i.e.*, students who have paid the registration and library fee, or the sessional fee, Assisted Teachers on payment of the sessional fee of 7s., Occasional and Evening Students, and students attending Saturday Training Classes, on payment of a fee of 2s. 6d. per session, are entitled to the use of the Library, so long as they are in attendance upon classes in the University. At the beginning of each session students are required to show their class tickets to the Librarian before making any use of the Library.

2. Former students may apply to the Hon. Librarian for leave to use the Library. A fee of 2s. 6d. per session will be charged.

3. Associates of the Yorkshire College and former students who have become members of the University by donation are entitled to the use of the Library, subject to strict observance of rule 5.

4. The Library is open (a) daily during Term and the months of July and September from 9 a.m. to 5.30 p.m. (on Saturday from 9 a.m. to 12.45 p.m.); (b) during the Christmas and Easter vacations for three

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¹ These do not apply to Honorary degrees.

hours daily. The Library will be closed during the second half of August, one week at Christmas, Good Friday, and the following Saturday, Monday, and Tuesday, and Whit-Monday and Tuesday:

5. No book shall be removed from the Library until an entry of issue has been made by the Librarian, and signed by the borrower.

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

7. 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 has been received in the meantime. The book must be brought to the Librarian for renewal unless an application has been made and granted on the day before the return of the book is due. After a book has been renewed for four weeks, it must remain in the Library one day before re-issue to the same person. At the end of each term all books must be returned to the Library.

8. A list of books of reference and others shall be drawn up by the Professors and Lecturers; and books, the names of which are entered on this list, either permanently or temporarily, may not be removed (except under rule 9) from the Library until after 5 p.m., and then only on condition that they be returned before 10 o'clock on the following morning.

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

10. Any person borrowing a book under rule 8 or rule 9, and failing to return it by the time therein specified, shall be fined 2d. a day, and any person who does not comply with rule 7, shall be fined 1d. 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 the one on which the return of the book was due, informing him that a fine is being incurred.

11. 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 above regulations, or if any fine which he has incurred has not been paid.

12. No mark of any kind may be made in the Library books or periodicals. If a book has been in any way injured while in the possession of the person returning it, the Librarian will report the same to the Library Committee, who shall impose upon the said person a fine not exceeding the sum which will be required to make the damage good.

13. Library books and periodicals may not be used in the laboratories.

14. The Hon. Librarian has power to suspend the library privileges of any person who breaks the rules of the Library.

Students desiring to take out books for use in the vacations are required to procure a recommendation from a Professor or Lecturer. Printed forms for this purpose may be obtained from the Librarian.

Refectory

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.

Similar facilities are provided at the Refectory in the School of Medicine.

Term Tickets may be had on application to the Registrar, entitling students to dine at the Refectory, College Road, daily (except Saturdays) during the Session on prepayment of \pounds_7 per session or \pounds_2 ros. per term. Places will be reserved for those who pay for their dinners by the term.

GYMNASIUM

Under the management of the University Union

Free to all members of the University Union.

The Gymnasium 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 BOOKS

The use of a locker may be secured by the deposit of 2s. 6d. with the Hall Porter. A charge of 1s. per session will be made, the balance of the deposit money being repaid at the end of the session when the key is returned. A student will be charged for repairing any damage to the locker while in his possession, or for loss of keys, &c. Lockers are also provided for members of the Tennis Club, and may be used on the same terms as those for books, &c.

LODGING AND BOARDING HOUSES

A List of Lodging and Boarding Houses, which have been inspected on behalf of the University, will be supplied by the Registrar on application.

HALL OF RESIDENCE

Visitors :

N. BODINGTON, M.A., Litt.D. Vice-Chancellor

Professor DE BURGH BIRCH, M.D., F.R.S.E., Dean of the Faculty of Medicine

THE REV. E. C. S. GIBSON, D.D. Vicar of Leeds THOMAS PRIDGIN TEALE, M.A., F.R.S.

Resident Warden :

HERBERT ROWE, Senior Hon. Surgeon, the Public Dispensary, Leeds.

Sub-Warden:

J. KAY JAMIESON, M.B., Demonstrator, Department of Anatomy

The object of the Institution is to supply students with the advantages of a common collegiate life, by providing a Hall of Residence similar to those which have been established in connection with the Victoria University of Manchester, with the Edinburgh University, and with some of the London Medical Schools.

The Hall of Residence has been erected upon a suitable site within five minutes' walk from the University, and is furnished with every attention to the health and comfort of the students. The accommodation consists of Dining Hall, Recreation Room, and other rooms for common use, and a separate room furnished as a private study and bedroom for each student. The charge is Twenty Guineas a Term for students in the Faculty of Arts, Science, and Technology, who keep a session of about 33 weeks; and Twenty-three Guineas a Term for students in the School of Medicine, whose session lasts about 38 weeks.

Applications for admission should be sent to the Warden, Lyddon Hall, Virginia Road, Leeds, who may be seen at the Hall on any day between one and two o'clock.

ASSISTED STUDENTSHIPS FOR TEACHERS.

The Lords of the Committee of Council on 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, South Kensington, not later than August τ in each year.

I. Day Classes

Chemistry: Any of the lecture courses, not exceeding two in number; laboratory instruction for not less than half a day per week.

Physics : Lectures and laboratory as above.

Electrical Engineering: Lectures and Laboratory as above.

Zoology: The lecture courses, Elementary (including practical work), Saturday class (including practical work) and Advanced.

Botany: The lecture classes, Elementary (including practical work), Saturday class (including practical work), Advanced, and Agricultural (including practical work).

Biology: Laboratory, not less than one day per week ; course in Nature Knowledge.

Mathematics : Any of the lecture courses, not exceeding two in number. *Agriculture* : The lecture courses, first year (including practical work),

and second year (including practical work).

Agricultural Chemistry: Any of the lecture courses, not exceeding two in number. Laboratory instruction for not less than half a day per week.

II. Evening Classes

Physics : Practical class.

Electrical Engineering: Any of the lecture classes, not exceeding two in number. Practical class.

Mathematics : Any of the lecture classes, not exceeding two in number.

For fees and other particulars of above classes see page 174, and following pages.

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. Each candidate is required, when entering his name for the examination with the Local Secretary, to pay to the City and Guilds Institute a fee of 1s. for each subject in which he desires to be examined. In some few subjects a higher fee is charged. 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

Technological Examinations

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 Honours grade and also, in general, an examination in one 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 subject. Candidates will also be qualified for the Full Technological Certificate who pass the Preliminary examination as well as the Ordinary and Honours examinations (written and practical) in any Technological subject for which such a full course is provided by the Institute. For further particulars see the Programme of the Institute (price, post free, 1s.).

Entries for the next examination must be made not later than March 13, 1905.

MATRICULATION EXAMINATION

The Matriculation examination is conducted by a Joint Board representing the Victoria University of Manchester, the University of Liverpool, and the University of Leeds. All communications relating to this examination should be addressed to "The Secretary, Joint Matriculation Board, Owens College, Manchester."

Candidates for degrees in all the Faculties of the Universities are required to have passed the Matriculation examination.1

The following regulation will come into operation not later than October 1st, 1906, and will apply to students in each of the Universities :

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

The Matriculation examination is held twice in each calendar year; in the session 1904-5 it will be held in June and September. It is also held in July at schools which enter forms or classes for the examination.2

- 1. Graduation in this or some other University of the United Kingdom, provided that Latin has formed part of one of the Degree examinations.
- 2. London Matriculation.
- 3. Higher Certificate of the Oxford and Cambridge Schools Examination Beard. (Certificates must show that the candidate has satisfied the Examiners in Latin, Elementary and Additional Mathematics, English or History, and in either Greek, French, or German. The Mechanical Division of Natural Philosophy will satisfy the requirements in Mechanics.)
- 4. Senior Oxford Locals (Honours). (Certificates must show that the candidate has satisfied the Examiners in Latin, Pure Mathematics, English Essay, English History and in either Greek, French, German, or Spanish. Applied Mathematics (Section D) or Mechanics and Hydrostatics (Section E) will satisfy the requirements in Mechanics.)
- 5. Senior Cambridge Locals (Honours). Certificates must show that the candidate has satisfied the Examiners in Latin, Euclid and Algebra, English candidate has satisfied the Examiners in Latin, Euclid and Algebra, English
 Composition, and English History, and in either Greek, French, German, or
 Spanish. Applied Mathematics (Section H) or Statics, Dynamics and
 Hydrostatics (Section K) will satisfy the requirements in Mechanics.
 Provided that the subjects included in each of the above examinations shall
 include all the subjects required by the General Medical Council.
 If Mechanics has not been included among the subjects of examination, an
 approved examination in that subject must be passed before the candidate

- passes the First M.B. Examination.
- The Joint Matriculation Board has discretionary power to accept other examinations of at least equal standard from candidates for the Faculty of Medicine.

² Further information on this matter may be obtained from the Secretary of the Joint Board.

¹ For the faculty of Medicine the following examinations are recognised in lieu of the Matriculation examination :

Matriculation Examination

The names of candidates who have passed the Matriculation examination are published in two divisions, the names in each division being arranged in alphabetical order.

Arrangements will be made enabling candidates to take the examination at Manchester, Liverpool, or Leeds.

Candidates for the examination must apply to the Secretary of the Joint Board for a form of entry, which must be forwarded to the Secretary on or before May 14th or September 7th respectively, accompanied by the proper fee.

The fee for the examination is $\pounds z$; for each subsequent Matriculation examination, $\pounds I$.

Subjects of Examination

Candidates presenting themselves for the Matriculation examination are required to satisfy the Examiners in¹:—

1. English Language or Literature, and English History.

2. Mathematics.

3. Three of the following, one of which must be a language:

i. Greek.

ii. Latin.

iii. French.

iv. German.

v. Some other Modern Language approved by the Board.²

vi. Elementary Mechanics.

vii. Chemistry.

viii. Geography or Natural History.

¹ Candidates for a degree in the Faculty of Medicine must satisfy the examiners in (1) English Language or Literature and English History; (2) Mathematics; (3) Latin; (4) Elementary Mechanics; (5) One of the following: (a) Greek; (b) French; (c) German; (d) some other modern language approved by the Joint Board.

² Application for permission to present this must be made to the Secretary, Joint Marriculation Board, Owens College, Manchester, and the fee must be paid on or before March 1st of the year in question.

Details of Subjects

ENGLISH LANGUAGE, LITERATURE, AND HISTORY :

An English essay. *Either* (a) Elements of English Grammar, including outlines of the general history of the English language; $\sigma r(\delta)$ a set book or books in English literature. Outlines of English history.

MATHEMATICS :

Arithmetic. The elementary geometry of triangles, parallelograms, and circles, and of similar rectilinear figures.¹ Algebra to quadratic equations (inclusive), with the arithmetical and geometrical progressions and an elementary treatment of irrationa quantities and of proportion.

GREEK :2

Either one prose and one verse book *or* passages from unprepared books, with grammar questions in each case. Grammar. Translation at sight of easy Greek passages into English.

LATIN :2

Either one prose and one verse book *or* passages from unprepared books, with grammar questions in each case. Grammar. Translation at sight of easy Latin passages into English. Translation of easy sentences from English into Latin.

FRENCH :2

Grammar (the questions in grammar will not involve more than accidence and elementary syntax). Translation from two prescribed French books or passages from unprepared books, with grammar questions in each case. Translation at sight of French prose into English. Translation of English passages into French.

GERMAN ;2

Grammar (the questions in grammar will not involve more than accidence and elementary syntax). Translation from two prescribed German books *or* passages from unprepared books, with grammar questions in each case. Translation at sight of easy German prose into English. Translation of English sentences into German.

OTHER MODERN LANGUAGES3: details as for French and German.

¹ These subjects are covered by Euclid i, ii, iii, and vi. (1-19 and 33.)

² Candidates, in order to pass, must satisfy the Examiners in translation at sight and grammar.

Application for permission to present this must be made to the Secretary, Joint Matriculation Board, Owens College, Manchester, and the fee must be paid on or before March rst of the year in question.

ELEMENTARY MECHANICS :

The elementary portions of statics, kinetics, and of the properties of liquids and gases, including: Laws of motion. Uniform acceleration. Composition and resolution of forces in one plane. Moments of forces. Work and energy. Centre of gravity. Uniform circular motion. Simple pendulum. Direct impact. Fluid pressure. Specific gravity. Boyle's Law.

ELEMENTARY CHEMISTRY :

General properties of matter. Chemical combination and decomposition. Preparation, classification, and chemical behaviour of the chief elements and their compounds, especially of the nonmetals. The outlines of chemical theory.

GEOGRAPHY:

- *Physical Geography*: The agents at work on and beneath the surface of the earth. Phenomena resulting from earth-heat. Distribution of land and water.
- *Political and Commercial Geography*: Political and economic effects of natural features and conditions. Outlines of geography of the British Empire (including historical geography). Political and commercial geography of the United Kingdom.

NATURAL HISTORY:

A.-Botany: 1. The structure and mode of life of plants.

- (a) The elementary facts of the nutrition of green plants as shewn by simple experiments.
- (b) The form and function of roots, stems, and leaves.
- (c) The modifications of the vegetative organs in common British examples of water-plants, heath-plants, plants inhabiting dry places, climbing plants, insectivorous plants, and parasites.
- (d) The structure and function of a typical flower.
- (e) Modes of pollination of common flowers
- (f) Modes of dispersal of seeds and fruits.
- (g) The structure of a seed and its mode of germination as seen in the maize, the bean, the melon, and other common seeds.
- (h) Vegetative reproduction of plants by bulbs, by tubers, and in other ways.
- The classification of plants. The general characters of the following British natural orders: Liliaceæ, Gramineæ, Ranunculaceæ, Cruciferæ, Leguminosæ, Rosaceæ, Primulaceæ, Labiatæ, Compositæ, Umbelliferæ, Cupuliferæ.
- B.-Zoology:
 - (a) The general structure of a mammal; knowledge of the chief features of the skeleton is expected.
 - (b) The external form, mode of life and habits of the bat, cat, dog, sheep, horse, kangaroo, and whale.

Matriculation Examination

- (c) The wing, feathers, beak, and foot of a bird. The flight of birds.
- (d) The nests and eggs of birds, as exemplified by two or three common British species. A fowl's egg. The place of formation of a chick : its nutrition and respiration while in the egg.
- (e) The general structure and life-history of a frog.
- (f) The general structure and mode of life of a fish.
- (g) The external features and mode of life of a snail, a cockroach, and an earth-worm.
- (h) The life-history of a moth or butterfly, and of a pond-snail.
- (i) One of the following groups:
 - i. (Marine animals). The general structure, mode of life, and life-history of a sea-anemone, a reef-forming coral, an oyster or edible mussel, a crab, a star-fish or seaurchin.
 - (Inland animals). The general structure, mode of life, and life-history of hydra, a pond-mussel, a crayfish, chironomus ('blood-worm,' 'harlequin-fly'), and a spider.

Books prescribed for 1905

GREEK, one book from each of (a) and (b):

- (a) Xenophon, Anahasis vi; Thucydides, Selections from Book iv as contained in Rouse's Pylos and Sphacteria.
- (b) Euripides, Alcestis, (omitting lines 77-135, 213-279, 569-605, 861-932); Aeschylus, Prometheus Vinctus (omitting lines 136-192, 397-435, 526-560, 887-906).

LATIN, one book from each of (a) and (b):

- (a) Caesar, de Bello Gallico v; Cicero, de Senectute.
- (b) Vergil, *Aeneid*, i; Ovid, *Fasti* iv lines 1-788, (as contained in Hallam's edition).

FRENCH:

Michelet, Recits de l'Histoire de France, vol. ii, pp. 60-171 (Hachette); Musset, On ne saurait penser à tout.

GERMAN :

Zastrow, Wilhelm der Siegreiche, ed. Ash, pp. 1-27 (Macmillan); Bernhardt, Deutsche Noveletten-Bibliothek, vol. ii, pp. 1-37 (Heath).

ENGLISH, one book from each of (a) and (b):

- (a) Shakspere, Henry V, As You Like It.
- (b) Macaulay, Lives of Johnson and Pitt; Lamb, Essays of Elia, part i.

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DEGREES, EXAMINATIONS, AND COURSES OF STUDY IN ARTS

The Degrees in Arts are :

Bachelor of Arts (B.A.). Master of Arts (M.A.). Doctor of Letters (Litt.D.).

Diplomas for Teachers¹ and in Commerce² are also granted by the University.

N.B. The following regulations are in force for the Session 1904-5. Considerable changes will probably be introduced in the following year.

DEGREE OF BACHELOR OF ARTS

1. The degree of Bachelor of Arts is conferred upon scholars of the University who have attended the courses of study approved by the University, and have passed the examinations appointed by it for the Ordinary degree of Bachelor of Arts, or for the degree of Bachelor of Arts with Honours. Honours are granted to scholars of the University who have passed through a regular course in one of the Honours Schools of the University.

2. All candidates for the degree of Bachelor of Arts are required to pass the Matriculation examination.

Ordinary Degree of Bachelor of Arts

3. Candidates for the Ordinary degree of B.A. are required to furnish certificates of having passed through a course of study approved by the University, extending over at least three academic years,³ of which years at least two⁴ shall be subsequent to the date at which they have passed the Matriculation examination.

¹ See page 117.

² See under Department of Commerce, page 133.

³ The course of study in any particular year must average not less than ten hours a week throughout the Session.

⁴ On and after October 1st, 1906, at the latest, three years' study will be required subsequent to the date of passing the Matriculation examination.

Degrees in Arts

4. The Examination for the Ordinary degree of Bachelor of Arts is divided into two parts, called the *Intermediate* and the *Final examination*.

Intermediate Examination

5. The Intermediate examination is held, ordinarily, twice in each calendar year. At the second Intermediate examination those candidates only may present themselves who have received permission from the Senate.

6. Candidates before entering for the Intermediate examination are required to furnish certificates of having passed the Matriculation examination, and of having attended a course of study, approved by the University, and extending over at least one academic year, in each of the subjects in which they present themselves for examination.

7. The names of candidates who have passed the Intermediate examination are published in a single list, the names being arranged in alphabetical order.

8. Candidates presenting themselves for the Intermediate examination for the degree of Bachelor of Arts are required to satisfy the Examiners in :----

- 1. Pure Mathematics or Logic.
- 2. Ancient History or Modern History.
- 3, 4. *Two* of the following languages, *one* of which must be Greek or Latin :
 - i. Greek.
 - ii. Latin.
 - iii. English.
 - iv. French.
 - v. German.
 - 5. English Literature, or Applied Mathematics, or Physics, or Education,¹ or Chemistry, or one of the Subjects named in 1, 2, 3, or 4 not already selected.

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¹ Education can only be offered by students who present themselves for the Intermediate examination at the end of their *second* year of residence.

Detailed Subjects of Examination and Approved Courses

PURE MATHEMATICS :

Elementary Solid Geometry (including straight lines, planes, and solid angles; the simpler properties of the parallelepiped, prism, cone, cylinder, and sphere, with the mensuration of these solids. Plane Trigonometry to solution of triangles (inclusive).

Approved Course : Mathematics III (p. 174).

LOGIC:

Deductive and Inductive Logic. Approved Course: Philosophy I (p. 131).

ANCIENT HISTORY :

Outlines of Greek and Roman History. Approved Course: Ancient History I (p. 130).

MODERN HISTORY :

Outlines of Mediæval or Modern History. Period for 1905 : Outlines of General History, A.D. 1494-1815. *Approved Course* : Modern History II (p. 130).

GREEK :

One prose and one verse book. Translation at sight from Greek into English. Translation of simple English sentences into Greek.

Books for 1905 : Plato, *Apology*; Æschylus, *Persae. Approved Course* : Greek III (p. 120).

LATIN :

One prose and one verse book. Translation at sight from Latin into English. Translation of English sentences into Latin. Books for 1905: Livy xxii, cc. 1-52; Horace, Odes iii, iv. Approved Course: Latin II (p. 121).

ENGLISH LITERATURE :

Questions on selected works of at least two authors. Questions on the history of a period of English Literature covering at least one of the selected works. An Essay on some subject connected with the prescribed period.

Books for 1905: Palgrave, Golden Treasury, book i; Marlowe, Faustus; Sidney, Apology for Poetry; Bacon, Essays; Shakspere, Hamlet; Chaucer, Prologue.

Period for 1905, 1558-1603.-

Approved Course: English Literature II (p. 123).

ENGLISH LANGUAGE :

- History of the English Language. Early English Prose: Books and passages selected from works before the close of the Fourteenth Century.
- Books for 1905: Sweet's Anglo-Saxon Primer and Anglo-Saxon Reader, prose pieces; Chaucer, *Prologue*.

Approved Course : English Language I (p. 122).

FRENCH:

One or more prescribed books in prose or verse, with questions in grammar. Translation at sight from French prose and verse into English. Translation of easy English passages into French. Dictation. Oral examination in pronunciation by reading aloud.

Books for 1905: Racine, Phedre and Les Plaideurs.

Approved Course: French II or III (p. 125).

GERMAN :

One or more prescribed books in prose or verse, with questions in grammar. Translation at sight from German prose or verse into English. Translation of easy English passages into German. Dictation. Oral examination in pronunciation by reading aloud. Book for 1905: Gutzkow, *Zopf und Schwert*.

Approved Course: German III (p. 128).

EDUCATION :

General Principles of Education:—The elementary theory of teaching, including the logical and psychological principles involved; school organisation and discipline; hygiene and physical training; the practice of teaching, with tests of the power of exposition and illustration; optional questions on the teaching of infants. In the practical part of the course candidates will be required to furnish certificates of attendance and competency from the teachers concerned.

Approved Course : Education I, II (p. 140).

APPLIED MATHEMATICS :

Statics and Kinetics of a particle as far as they can be taken without Differential and Integral Calculus. Hydrostatics. *Approved Course*: Mathematics V (p. 174).

PHYSICS :

The Properties of Matter; the chief phenomena of Sound, Heat, Light, Electricity, and Magnetism, treated in an elementary manner. Practical Physics.

Approved Course: Physics II (p. 176), and not less than three hours a week in the laboratory.

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CHEMISTRY :

Inorganic Chemistry, with special reference to the Non-Metals. Introduction to Organic Chemistry. Practical Chemistry, including the qualitative analysis of mixtures of not more than two simple mineral salts; the detection of the more common organic compounds; and exercises in simple preparations.

Approved Course: Chemistry I (p. 180), and not less than eight hours a week in the Laboratory.

Final Examination

9. The Final examination is held, ordinarily, twice in each calendar year. At the second Final examination only those candidates may present themselves who have received permission from the Senate.

10. Candidates presenting themselves for the Final examination for the Ordinary degree of Bachelor of Arts are required to have passed the Intermediate examination, and to furnish certificates of having attended a course of study approved by the University and extending over at least one academic year, in each of the subjects in which they present themselves.

11. The names of candidates who have passed the Final examination are published in two divisions, the names in each being arranged in alphabetical order.

12. Candidates for the degree of Bachelor of Arts with Honours, who have not been awarded Honours in the Examination for the degree of Bachelor of Arts with Honours at which they have presented themselves, may, if they have in the opinion of the Examiners acquitted themselves sufficiently well in such examination, proceed to the next Final examination for an Ordinary degree of Bachelor of Arts without being required to pass the corresponding Intermediate examination. Such candidates may be excused by the Senate from presenting themselves in those subjects in which they have been reported by the Examiners in the Honours School to have acquitted themselves satisfactorily.

Degrees in Arts

13. Candidates presenting themselves for the Final examination for the degree of Bachelor of Arts are required to satisfy the Examiners in :—

- 1. English Literature.
- 2. Greek or Latin, provided that candidates taking two modern languages in 3, 4 may substitute a third modern language for either Greek or Latin, and provided that candidates taking four of the following subjects: Advanced Political Economy, Commercial Law, Commercial Geography, Economic History, one of the other subjects in History, may substitute a modern language for Greek or Latin; and that candidates taking two of these subjects and one modern language may substitute another modern language for Greek or Latin.
- 3, 4. Two of the following:
 - i. Greek1 or Latin.1
 - ii. French Language and Literature.
 - iii. German Language and Literature.
 - iv. English Language.
 - v. *Two* of the following: Greek History, Roman - History, Modern History, Constitutional History, Ecclesiastical History, Economic History, Advanced Political Economy, Commercial Law, Commercial Geography.
 - vi. *Two* of the following: Greek History,² Roman History,² Modern History,² Constitutional History,² Economic History,² Advanced Political Economy,² Commercial Law,² Commercial Geography.²
 - vii. Political Economy.
 - viii. Pure Mathematics.
 - ix. Applied Mathematics.
 - x. Philosophy or Education.
 - xi. History of Philosophy.

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¹ Provided the candidate does not present this subject under 2.

² Provided the candidate does not present this subject under v.

Ordinary Degree of B.A.

Candidates who are Bachelors of Science and who presented Pure and Applied Mathematics at the Final B.Sc. examination are not allowed to present Pure Mathematics or Applied Mathematics, and candidates who are Bachelors of Science and who presented Mental and Moral Science at the Final B.Sc. examination are not allowed to present Philosophy.

Detailed Subjects of Examination and Approved Courses

ENGLISH LITERATURE:

Questions on selected works of at least three authors. Questions on the history of a period of English Literature covering at least two of the selected works. An Essay on some subject connected with the prescribed period. Questions involving a general knowledge of English Literature.

Period for 1905, 1558-1630.

Books: Palgrave, Golden Treasury, books i, ii ; Marlowe, Faustus; Sidney, Apology for Poetry; Bacon, Essays; Shakspere, Hamlet; Chaucer, Prologue; Ben Jonson, Discoveries; Webster, Duchess of Malfi.

Approved Course : English Literature, III (p. 124).

GREEK :

One prose and one verse book. Translation at sight from Greek into English. Translation of simple English prose into Greek.

Books for 1905: Plato, Gorgias; Homer, Odyssey, ix, xi, xii.

Approved Course: Greek IV, (p. 121).

LATIN:

One prose and one verse book. Translation at sight from Latin into English. Translation of easy English prose into Latin.

Books for 1905 : Tacitus, Histories, i, Lucretius, v.

Approved Course: Latin III, (p. 122).

ENGLISH LANGUAGE:

Early English : with especial reference to the poetical literature before the Norman Conquest. Gothic : Some portion of Ulfilas' Translation of the Bible.

Books for 1905: Sweet's Anglo-Saxon Reader (verse pieces); Wright's Primer of Gothic; Chaucer, Knight's Tale.

Approved Course : English Language II, (p. 123).

FRENCH LANGUAGE AND LITERATURE :

Translation from a prescribed French book, with questions in grammar. Translation at sight of French prose and verse into English. Translation of English into French. A prescribed period of French Literature.

Oral examination in pronunciation and conversation, the subject of the latter being taken from the prescribed book or period.

Books for 1905 : Victor Hugo, Préface de Cromwell, and Hernani.

Period for 1905: Victor Hugo et l'Ecole Romantique.

Approved Course : French, IV, V, (p. 125).

GERMAN LANGUAGE AND LITERATURE :

Translation from a prescribed German book, with questions in grammar. Translation at sight of German prose and verse into English. Translation of easy English prose into German. A prescribed period of German Literature.

Oral examination in pronunciation and conversation, the subject of the latter being taken from the prescribed book or period.

Book for 1905: Lessing, Nathan der Weise.

Period : Feud between the Leipzig and the Swiss schools ; Lessing's Life and Works.

Approved Course: German IV, V, (p. 128).

GREEK HISTORY:

A prescribed period. For 1905: Greek History to B.C. 431. Approved Course: Ancient History II (p. 130).

ROMAN HISTORY :

A prescribed period. For 1905 : Roman History B.C. 3I-180 A.D. Approved Course : Ancient History III (p. 130).

MODERN HISTORY:

A prescribed period *either* of English *or* of Modern Continental History. For 1905: English History, A.D. 1485-1603. *Approved Course*: Modern History III (p. 131).

CONSTITUTIONAL HISTORY:

A prescribed period. For 1905 : English Constitutional History, 1603-1832.

Approved Course: Modern History IV (p. 131).

ECONOMIC HISTORY:

A period of English Economic History. For 1905: A.D. 1327-1603.

Approved Course : Modern History V (p. 131).

POLITICAL ECONOMY :

Principles of Political Economy; Descriptive Economics.

ADVANCED POLITICAL ECONOMY:

General Political Economy, including Descriptive Economics and the advanced treatment of Exchange and Distribution.

COMMERCIAL LAW:

The principles of Law applicable to, and the more important leading cases bearing upon the following subjects, viz. ; principal and agent ; partnership ; limited companies ; mercantile securities and guarantees ; carriage by land ; carriage by sea (charter parties and bills of lading) ; policies of insurance ; sale of goods ; bills of exchange ; cheques and notes ; and bankruptcy.

Approved Course : Commercial Law (p. 137).

COMMERCIAL GEOGRAPHY:

Commercial Geography with special reference to a prescribed country or countries.

Approved Course : Economic Geography (p. 135).

PURE MATHEMATICS:

Analytical Plane Geometry, up to but not including the general equation of the second degree. The more elementary portions of the Differential and Integral Calculus, and of Differential Equations (ordinary).

Approved Course : Mathematics VI (p. 175).

APPLIED MATHEMATICS:

Statics of a particle and of a rigid body (exclusive of attractions). Hydrostatics; Kinetics of a particle and of a rigid body (elementary).

Approved Course: Mathematics VII (p. 175).

PHILOSOPHY :

Psychology and Ethics.

Approved Course : Philosophy II (p. 132).

HISTORY OF PHILOSOPHY:

- *Either* General History of Greek and Roman Philosophy, with books or portions of books to be prescribed from year to year, or General History of Modern Philosophy, with books or portions of books to be prescribed from year to year.
- Books for 1905: Ancient Philosophy, Plato, Protagoras and Theatetus; Modern Philosophy, Locke, Essay concerning Human Understanding, books i, ii, iii, cc. 3, 6, iv, cc. 1-11.

Approved Course: Philosophy III (p. 132).

EDUCATION :

The Theory of Education, with special reference to Ethics and Psychology in their application to Education; a period of the History of Educational Theory and Practice, with the study of prescribed books; the Practice of Teaching. Candidates may, at their option, pay special attention to the History of Education or to Psychology. In the practical part of the course, candidates will be required to furnish certificates of attendance and competency from the teachers concerned.

Period for 1905; the History of Education from the Revival of Learning to the end of the eighteenth century.

Book for 1905; Plato, *Republic* ii, iii, iv. *Approved Course*: Education III (D. 141).

Degree of Bachelor of Arts with Honours

14. Candidates for the degree of Bachelor of Arts with Honours are, except as hereinafter stated, required to furnish certificates of having attended courses of instruction approved by the University and extending over not less than three academical years in one of the Honours Schools of the University hereafter enumerated.

15. Every candidate for the degree of B.A. with Honours is required to present himself at the examination next in date after the expiration of the third academical 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.

16. 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 attended, in accordance with the University regulations, the courses required for such Honours Schools in the University, and on proving to the satisfaction of the Senate that they have performed the exercises of such classes as they shall have attended for such courses, viz.:

Classics.

English Language and Literature. Modern Languages and Literatures. History. Philosophy. Economic and Political Science.

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Honours Schools

17. 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 academical 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 a B.A. degree with Honours in such School.

18. 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 shall 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.

19. Names of candidates who have passed the examination for the degree of Bachelor of Arts 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.

Honours School of Classics

Attendance in the subjects of the school is required as follows: not less than twelve hours a week in the first and second year¹, and ten hours a week in the third year;

¹ The Intermediate B.A. is accepted instead of the first year's attendance in an Honours School, provided that the subjects chosen and the course attended by the candidate are substantially and to the satisfaction of the Senate those required for the first year's course of the Honours School,

provided always that such attendance shall include attendance on approved courses in two out of the three subjects of History, Philology, and Ancient Philosophy.

Examination

Prescribed Greek books, one paper.

Prescribed Latin books, one paper.

Questions on the subject matter of the prescribed books, two papers.

Translation at sight of Greek and Latin authors, two papers. Greek and Latin prose composition, two papers.

Greek and Latin verse composition, one paper (optional).

Not less than two of the following :

Greek and Roman History, Literature and Antiquities, one paper.

Greek and Latin Historical Grammar and Philology, one paper.

Greek and Roman Philosophy, one paper.

Special Books for 1905:

GREEK: Homer, Iliad xxi, xxii, xxiii, xxiv, Odyssey ix, x, xi, xii; Pindar, Olympian Odes; Aeschylus, Oresteia; Sophocles, Philoctetes, Trachiniae, Oedipus Tyrannus; Aristophanes, Knights, Frogs, Wasps; Herodotus viii, ix; Thucydides vi, vii; Demosthenes, Philippics i, ii, iii, and de Corona; Plato, The Republic; Aristotle, Ethics i, ii.

LATIN: Plautus, Captivi and Rudens; Terence, Phormio and Adelphi; Lucretius i, iii, v; Catullus (Palmer's Selections); Vergil; Horacc; Livy vii, viii, ix; Cicero, Academics, pro Sestio, de Oratore i, Epistles (Tyrrell's Selections) i—xlviii; Tacitus, Annals i, Histories iii, Agricola; Juvenal, Satires i, iii, iv, v, x, xi, xiv.

English Language and Literature

In this School there are alternative schemes of study. Scheme A is mainly linguistic. and Scheme B mainly literary. Under both schemes a competent knowledge of Latin and of at least one modern language will be necessary for the attainment of high Honours.

Scheme A

Candidates are required to attend the following courses in the subjects of the school: -during three academic years courses in English Language, including the History of the Language, Early English prose and verse, and Gothic, with

Honours Schools

either Icelandic or Old Saxon, averaging not less than three hours a week ; during two academic years courses in English Literature averaging not less than three hours a week.

Candidates are also required to attend for two years approved courses of two hours a week in History, English or Modern; for two years approved courses in French or German of two hours a week, and for a third year, a course of one hour a week in the History of the French Language and Literature, or in the History of the German Language and Literature; in the first year, a course of three hours a week in Latin or Greek; and in the second or third year, a course of one hour a week in Comparative Philology.

Examination

Essay, one paper.

- Translation of unseen passages of English, with questions, one paper.
- Prescribed books in Old and Middle English, with literary and linguistic questions, one paper.

Outlines of English Literature, one paper.

- Grammar of Old and Middle English dialects, with illustrative passages for translation or comment, two papers.
- History of English, with reference to general principles of linguistic development, one paper.

Gothic, one paper.

Either one paper in Icelandic or Old Saxon, and one paper in Old French, or a dissertation on a subject selected by the candidate.

Oral Examination in English Language.

Scheme B

Attendance in the subjects of the school is required as follows: in the first year, three hours a week in English Literature, and three hours a week in English Language¹; in the second year, five hours a week in English Literature, and two hours a week in English Language; in the third year, five hours a week in English Literature.

Candidates are also required to attend, during the first and second years, approved courses in subjects other than English Language and Literature, such courses to average six hours a week in the first year and four hours a week in the second year; and during the third year, a course of two hours a week in some language other than English.

1 See Footnote p. 105.

Examination.

Essay, one paper.

Translation of unseen passages of English, with questions, one paper.

Prescribed books in Old and Middle English, with literary and linguistic questions, one paper.

Outlines of English Literature, one paper.

Special period of English Literature, with prescribed books, two papers.

An English author, or selected subject from English Literature, two papers.

History of Criticism, one paper.

A dissertation on some subject selected by the candidate.¹

Oral examination in English Language.

Books and Feriods prescribed for 1905

Schemes A and B

BOOKS IN OLD AND MIDDLE ENGLISH: Anglo-Saxon Chronicle, 901-1016; Battle of Maldon; Exodus; Elene, vv 1-708; Seafarer; Layamon, vv 2902-3778; Ancren Riwle (portions in Sweet's Reader); Chaucer, Frologue to Canterbury Tales, Prioresse Tale.

Scheme B

- SPECIAL PERIOD OF LITERATURE, 1780-1850. BOOKS: Elake, Lyrical Poems (except Prophetic Odes); Crabbe, Village, Parish Register; Burns, Selections (Clarendon Press); Wordsworth and Coleridge, Lyrical Ballads, 1800, with preface; Wordsworth, Poems of 1807; Byron, Childe Harold iii, iv, Vision of Judgment; Shelley, Poems of 1820-2; Keats, Poems of 1820; Landor, Selections; Scott, Waverley, Ivanhoe, Quentin Durward; de Quincey, Confessions of an English Opium Eater; Peacock, Nightmare Abbey, Maid Marian; Coleridge, Biographia Literaria; Lamb, Essays of Elia; Carlyle, Sartor Resartus; Browning, Selections; Tennyson, Poems of 1842; the works of the Brontes.
- SPECIAL AUTHOR: Shakspere, with special reference to the following plays: 1 Henry IV, As You Like it, King Lear, Tempest.
- BOOKS ON CRITICISM AND ITS HISTORY suggested for study: Aristotle, Poetics; Horace, Ars Poetica; du Bellay, Défense et Illustration de la Langue française; Sidney, Defence of Poesy; Ben Jonson, Discoveries; Dryden, Essay on Dramatic Poetry; Boileau, L'Art poetique; Lessing, Laocoon and Hamburgische Dramaturgie; Wordsworth, Preface and Appendices to Lyrical Ballads; Shelley, Defence of Poesy; Coleridge, Biographia Literaria; Charles Lamb, Literary Criticisms; Hazlitt, Shakspere's Characters; Victor Hugo, Préface de Cromwell; Arnold, Essays in Criticism, Second Series.

¹ The subject must be submitted for approval to the Senate. The dissertation must be forwarded to the Registrar before the end of the second term of the year in which the candidate completes his Honours course.

Modern Languages and Literatures

Candidates are required to present certificates of having attended two of the following1:

I. FRENCH.

For two years approved courses in French of not less than two hours a week in each year: for three years a course of French Literature of not less than one hour a week; and an advanced course of Old French, with Historical Grammar, of not less than two hours a week during each of the first two years, and three hours a week for the third year.²

II. GERMAN

For two years approved courses in German of not less than two hours a week in each year: for three years a course of German Literature of not less than one hour a week : and an advanced course of Old and Middle High German, with Gothic and Historical Grammar, of not less than two hours a week during each of the first two years, and three hours a week for the third year.3

HI. ENGLISH.

Language. During the first year, a course on the History of the Language of not less than two hours a week, and a course of translation of not less than one During the second year, a course of hour a week. translation of not less than two hours a week, and a course of Gothic (if not attended under II), or of French (if not attended under I), of not less than one hour a week. During the third year, a course of translation of not less than two hours a week, and an advanced course of not less than one hour a week.

Literature. During one year, a course of instruction in English Literature, averaging not less than three hours a week. During two other years, courses of instruction in English Literature, together amounting to an average of not less than four hours a week.⁴

¹ See Footnote p. 105.

² Approved Courses: French, II or III, IV, V, VI.

⁴ Approved Courses: English Language, I, II, III. English Literature, III, IV, V, VI.

Candidates are also required to attend, during two years, other courses of instruction of not less than two hours a week.

Examination

Candidates are required to present themselves for examination in *two* of the three subjects, I, II, III.

I. FRENCH.

Oral examination.

- Composition and Essay, the subjects for the latter to fall within the range of the prescribed books and periods, one paper.
- Translation of unseen passages, with questions on literature suggested by the passages, one paper.
- Translation from set books (after 1500), one paper.

A period or periods of literature (after 1500), one paper.

Set books in Old French, one paper.

Historical Grammar, one paper.

II. GERMAN.

Oral examination.

Composition and Essay, the subjects for the latter to fall within the range of the prescribed books and periods, one paper.

Translation of unseen passages, with questions on literature suggested by the passages, one paper.

Translation from set books (after 1500), one paper.

A period or periods of literature (after 1500), one paper.

Set books in Old and Middle High German, one paper.

Historical grammar, one paper.

III. ENGLISH.

Oral examination.

Translation of unseen passages of English, and of passages from Gothic and Old French, with questions suggested by the passages, two papers.

Translation from prescribed English books, with questions suggested by the passages, one paper.

A period of literature, one paper.

Essays and questions (literature), one paper.

History of the language and Historical grammar, one paper.

Books and periods prescribed for 1905:

I. FRENCH:

Books after 1500: Darmesteter et Hatzfeld, Morceaux choisis des Ecrivains du 16^e siècle (both prose and verse); Pascal, Les Pensées; Corneille, Le Cid, Polyeucte; Molière, Les Femmes Savantes, Le Misanthrope; Bossuet, Oraisons Funebres du Prince de Conde et de la Reine d'Angleterre; Victor Hugo, Préface de Cromwell; Les Orientales. Periods of literature : Le Théâtre en France au 17^e siècle ; L'Ecole Romantique.

Books in Old French : E. Koschwitz, Les plus Anciens Monuments de la Langue Française ; Chardry, Le petit Plet ; Aucassin et Nicolete (ed. Suchier).

- II. GERMAN:
 - Books after 1500: Luther, vol. i (selection, ed. Neubauer, Halle); Goethe, Faust, Part i, Egmont; Schiller, Wallenstein, Balladen; Lessing, Minna von Barnhelm, Nathan der Weise, Hamburgische Dramaturgie (ed. Lyon, Velhagen and Klasing); Grillparzer, Sappho.

Period : Die zweite klassische Periode.

- Books in Old and Middle High German : Braune, Althochdeutsches Lesebuch ii, iv, vi.viii, xii, xiv, xv, xvi (1-8, 14), xvii, xxiii (I, 4, 5, 10, 11, 18, 19), xxiv, xxviii-xxxii, xxxiii (1-4, 8-12), xxxiv, xxxvi, xl, xli; Nibelungenlied Av. i-xix; Gott/ried von Strassburg i, ii, viii; Bartsch, Liederdichter, xxi.
- **III. ENGLISH:**
 - OLD ENGLISH: Beowulf, 1888 to end; Andreas; Battle of Maldon; Sweet, Reader, xxx-xxxiv (dialect pieces); The Anglo-Saxon Chronicle (Laud MS.).
 - MIDDLE ENGLISH: Morris and Skeat, Specimens of Early English, the following pieces: Cursor Mundi; Barbour, Bruce; Ormulum; Genesis and Exodus; Chaucer, Man of Lawes Tale; Psalter; Ancren Riwle; Owl and Nightingale; Ayenbile of Inwit.

History

Attendance in the subjects of the School is required as follows : during three academic years attendance on approved courses in History averaging not less than six hours a week.¹

Candidates are required in addition, *either* to pass the Intermediate examination as for the Ordinary degree, *or* to present certificates of having attended during the first and second academic years approved courses of instruction in subjects other than History, averaging not less than six hours a week, of which three hours a week shall be a language course.²

¹ Approved Courses: Ancient History, I, H, III; Modern History, II, III, IV, V, VI.

² Approved Courses: Greek, III; Latin, II; English Literature, III; French, II or III; German, III.

Examination

An Essay, one paper.

General History and Geography, two papers.

English (including Constitutional) History, two papers.

A general paper, including questions on English Literature, Archeology, Political Economy and Economic History, Political Science.

Two of the following subjects, two papers being given to each :--Roman History, B.C. 78-44. The History of the British Isles, A.D. 410-731.

England under Edward I.

History of Italy, A.D. 1417-1492.

The Age of Henry VIII.

The Age of Louis XIV.

The History of the English Pcor Law or the Distribution of Wealth.

Philosophy

Candidates are required to attend, during the first year, the classes for the Intermediate examination for the Ordinary degree of B.A. or B.Sc., Logic being one of the subjects thereof; during the second and third years approved courses in Philosophy of not less than four hours a week in each year.

They are also required to attend, during the second and third years, approved courses of lectures on other subjects, the number of lectures amounting to three 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.

Honours Schools

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.

Economics

Attendance in the subjects of the School is required as follows: four hours a week in the first year and six hours a week in the second and third years.

Candidates are also required *either* to pass the Intermediate examination for the Ordinary degree of B.A., *or* to attend, during the first and second years, approved courses in subjects other than those of the Honours School, averaging not less than six hours a week, which shall include a language course of three hours a week.

Examination

Economics, with questions on Commercial Geography, two papers.

Political Science, including questions on prescribed books, one paper.

Economic History of England, one paper.

- Ancient History: Outlines of Greek and Roman History, with special reference to Economic and Political History, one paper,
 - or Modern History: Outlines of Modern European History (including English) from 1500 to 1900, one paper.

Jurisprudence or Constitutional Law, as required for the Intermediate LL.B. examination, or Commercial Law as required for the Final B.A. examination, one paper.

- A special subject in Economics, Economic History, or Political Science, two papers.
- A second special subject in the same subjects, two papers or one of the following :

Ethics, two papers.

- Geography, with special reference to a prescribed country, two papers.
- A special historical subject, two papers,
- A legal subject or subjects, not taken under the section above, two papers.
Degrees in Arts

DEGREE OF MASTER OF ARTS

1. The degree of Master of Arts is conferred, on payment of the proper fee, upon registered Bachelors of Arts when of three years' 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 are not required to present themselves for any further examination for the degree of Master of Arts.

3. Bachelors of Arts who have obtained the Ordinary degree are required to satisfy the Examiners in a further examination on *one* of the following subjects :—Languages, English, History, Philosophy, Political Economy. Certificates of Attendance are not required.

4. The names of candidates who have passed the further examination for the degree of Master of Arts are arranged in alphabetical order without distinction of classes.

Examination

Languages

Two of the following :--

I. Greek:

Translation from Greek books selected from those prescribed for Honours in Classics, one paper.

Questions upon the subject matter of the specified books, and translation at sight, one paper.

Greek prose composition, one paper.

Books prescribed for 1905: Homer, Odyssey ix—xii; Aeschylus, Eumenides; Euripides, Bacchae; Aristophanes, Knights; Thucydides vi; Plato, Republic viii, ix; Demosthenes, Phinppics i—iii.

2. Latin:

Translation from Latin books selected from those prescribed for Honours in Classics, one paper.

Questions upon the subject matter of the specified books, and translation at sight, one paper.

Latin prose composition, one paper.

Books prescribed for 1905: Plautus, *Trinummus*; Lucretius v; Horace, *Epistles*; Vergil, *Georgics*; Cicero, *de Oratore* i, *pro Milone*; Tacitus, *Histories* i; Juvenal i, iii, iv, x. 3. French:

- Translation from prescribed French books into English, including easy passages from mediæval French, with questions upon the prescribed books and historical grammar, one paper.
- Translation at sight from French into English, and from English into French, one paper.
- Period of French Literature, and Essay in French bearing on the subject prescribed, one paper.
- Oral examination in conversation, and in the theory and practice of pronunciation.
- Books prescribed for 1905: G. Paris et Langlois, Chrestomathie du Moyen Age; Darmesteter et Hatsfeld, Moreaux choisis des Ecrivains du 16^o siècle (prose only); Corneille, Le Cid; Moliere, Le Misanthrope; Bossuet, Discours sur l'Histoire Universelle, Part iii (La Suite des Empires); Victor Hugo, Les Orientales.

Period of Literature for 1905 : Victor Hugo et l'Ecole Romantique.

- 4. German:
 - Translation from prescribed German books into English, including easy passages in Middle High German, with questions upon the prescribed books and historical grammar, one paper.
 - Translation at sight from German into English, and from English into German, one paper.
 - Period of German Literature and Essay in German bearing on the subject prescribed, one paper.
 - Oral examination in conversation, and in the theory and practice of pronunciation.
 - Books prescribed for 1905: Walther von der Vogelweide (selection ed. O. Güntter, Sammlung Göschen No. 23); Nibelungenlied, Av. 12--19; Luther (selection, ex. Neubauer, Halle), i, pp. 41-112; Schiller, Wallensteins Lager, Piccolomini; Goethe, Faust, i, and Götz von Berlichingen; Lessing, Nathan der Weise; Grillparzer, Sappho.
 - Period of Literature for 1905: Feud between the Leipzig and the Swiss Schools: Lessing's Life and Works.

5. English Language and Literature :

Translation from prescribed books in Old and Middle English, with linguistic and literary questions, one paper.

Outlines of English Literature, one paper.

- *Either* Grammar of Old English dialects (or of Middle English dialects), with illustrative passages for translation and comment, one paper.
- Or Period of English Literature, with prescribed books, one paper.

The books and periods prescribed for 1905 are drawn from those prescribed in the Honours School.

English

Translation of unseen passages of English, with questions, one paper.

Translation from prescribed books in Old and Middle English, with literary and linguistic questions, one paper.

Outlines of English Literature, one paper.

One of the following groups :

 Grammar of Old and Middle English dialects, with illustrative passages for translation or comment, two papers; and Gothic, one paper.

2. An Essay, one paper; and

A special period of English Literature, with prescribed books, two papers.

History

Either (a)

General History and Geography, two papers.

English (including Constitutional) History, two papers.

An Essay, one paper.

Or(b)

Two of the following subjects, two papers in each :

Roman History, B.C. 78-44.

The History of the British Isles, A.D. 410-731.

England under Edward I.

History of Italy, 1417-1492.

The Age of Henry VIII.

The Age of Louis XIV.

The History of the English Poor Law or the Distribution of Wealth.

An Essay, one paper.

Philosophy

General Questions, one paper.

Three of the following :

Logic, Deductive and Inductive, one paper.

Psychology, one paper.

Ethics, one paper.

History of Philosophy, Ancient or Modern, one paper.

Advanced Psychology or Moral and Political Philosophy.

One of the following special subjects, one paper, provided that no candidate may offer as special subject a period or author included in the period of History of Philosophy offered

by him.

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 Scottish Philosophy. Kant.

Political Economy

The Economic History of England, one paper.

The Economic special subject (or, if there be more than one, one of them) for Honours in History, two papers. (See p. 112.) History of Economic Theory, one paper.

Public Finance, one paper.

DEGREE OF DOCTOR OF LITERATURE

The regulations for the degree of Doctor of Literature will be announced later.

TEACHERS' DIPLOMA 1

1. Candidates before receiving the Diploma must have graduated or passed the Final examination for a degree in Arts or Science in this or some other University of the United Kingdom, provided that a candidate who has taken Education as a subject for his degree may not receive the Diploma until he has presented and passed in some subject other than Education, not being a subject previously taken by him, as prescribed for the Final examination for the degree of B.A. or B.Sc.

2. The examination for the Diploma will be partly theoretical and partly practical.

- (a) Theoretical. Candidates will be required to pass a written examination in the Theory, History, and Art of Education.
- (b) Practical. Candidates will be tested in the practice of Education:
 - i. By reports by the Professor of Education on their work in teaching during their period of training.
 - ii. By teaching before the Examiners and submitting to them written records of their work in Schools.

¹ The Teachers' Diploma is under consideration by the Board of Education as

qualifying for registration upon Column B. Graduates who hold the Teachers' Diploma may be recognized by the Board of Education as fully certificated teachers in Elementary Schools (Column A), provided that the practical work has been done in public elementary schools.

3. Before admission to an examination candidates will be required to pay a fee of $\pounds z$ and to present certificates of attendance upon prescribed courses in :

- (a) Logic, Psychology, and Ethics in their application to Education.
- (b) Educational theory and its applications to discipline and instruction with special reference to methods of teaching the usual subjects of the Secondary School curriculum; school organisation, physical education, and school hygiene.
- (c) A prescribed period in the History of Educational Theory and Practice.

In connection with any of these divisions (a) (b) (c) a book or portion of a book may be prescribed.

Candidates will also be required to furnish evidence of having received practical training for a prescribed period in approved practising schools, the amount of time prescribed being at least 100 hours; and of having attended approved courses of criticism and demonstration lessons, the number of lessons prescribed being at least 20.

4. Candidates must attend a course of study for at least one year in preparation for the Teacher's Diploma after passing their Final examination in Arts or Science in a University of the United Kingdom.

5. Persons who are actually engaged in teaching and who graduated or passed the Final examination for a degree in this or other University of the United Kingdom before 1st January, 1601, may be admitted to examination for the Teacher's Diploma on payment of the fee of $\pounds z$ and on presentation (i.) of certificates of attendance upon an approved course of not less than thirty lectures in the University in the Theory, Practice, and History of Education; (ii.) of schemes and notes of lessons which they have given during their period of teaching; (iii.) of certificates from the Governors or Head Master or Head Mistress of a Secondary School testifying their practical efficiency as teachers in that school.

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6. Candidates may further offer themselves for a Diploma as Teachers of Special Subjects. Such candidates will be examined in the theory of teaching the special subject, as well as practically in class teaching and demonstrations of that Subject. In the event of candidates not already holding recognised qualifications of attainments in the said subjects, they will be required to pass an examination in such subjects.

7. Candidates will be required to present certificates of having satisfactorily passed through a course of instruction, approved in each case by the Senate, in the method of teaching the special subject in question, and to have given criticism lessons in that subject. This course must include practical demonstrations in the case of a Science subject.

8. The course of instruction referred to in clause 6 shall be given by the Professor or Lecturer charged with the subject in the University or an Assistant Lecturer in that subject authorised by him; and such Professor or Lecturer or Assistant Lecturer shall be present at all criticism lessons in the special subject.

9. The number of lessons in the course of instruction and the number of criticism lessons required to satisfy the conditions of clause 7 shall, in each case, be approved by the Senate. The time so occupied may be reckoned towards the 100 practising lessons required for the general Diploma.

Books and Period prescribed for 1905

- Period : History of Education from the Revival of Learning to the end of the Eighteenth Century.
- Special Books: Aristotle, *Ethics* i-iii c.5 x c.9, and *Politics* iv (vii) c.17, v (viii). Parkin, *Life and Letters of Edward Thring*. Texts in Woodward, *Vittorino da Feltre*.

Courses in Arts

CLASSICS

Professor RHYS ROBERTS

Professor CONNAL

GREEK LANGUAGE AND LITERATURE

I. Elementary Class

This class will be for beginners; it will not be held unless there is a reasonable number of entries.

Saturdays at 9.30 a.m.

Fee for the session, \pounds_1 1s.; for a term, 7s. 6d.

Text Books

Morice's edition of Arnold's First Greek Book (Rivington). Sonnenschein's Greek Grammar (Swan Sonnenschein).

II. Matriculation Course

The work in this course will comprise grammar, elementary composition, translation at sight, and the special study of Rouse's selections from Thucydides, book iv, and Euripides, *Alcestis* (omitting lines 77-135, 213-279, 569-605, 861-932).

Mondays, Wednesdays, and Fridays at 11.30 a.m., and a class in composition on one other hour a week at a time to be fixed.

Fee for the course: without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 55.

Books recommended Rouse's Pylos and Sphakteria (Rivington). Blakeney's edition of the Alcestis (George Bell).

III. Intermediate Course

The work in this course will comprise composition, translation at sight and the special study of Plato's *Apology* and Aeschylus, *Persae*.

Mondays, Wednesdays and Fridays at 3 p.m., and a composition class on one other hour a week, at a time to be fixed.

Fee for the course: without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 5s.

Books recommended Jebb, Primer of Greek Literature (Macmillan). Plato, Apology, Adam (Combridge Press). Aeschylus, Fersae, Sidgwick (Clarendon Press).

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IV. Final Course

The work in this course will comprise more advanced composition, translation at sight, and the special study of Homer, *Odyssey* ix, xi, xii, and Plato, *Gorgias*.

Mondays, Wednesdays and Fridays, at 9.30 a.m., and a composition class on one other hour a week at a time to be fixed.

Fee for the course: without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 5s.

Books recommended Autenrieth, Homeric Dictionary (Macmillan). Jebb, Introduction to Homer (Maclehose).

Odyssey ix, xi, xii; Merry's edition of books i-xii (Clarendon Press).

Plato, Gorgias, Thompson's edition (George Bell).

V. Honours Course

The details of this course will be announced later.

LATIN LANGUAGE AND LITERATURE

I. Matriculation Course

The work in this course will comprise grammar, elementary composition, translation at sight, and the special study of Caesar, *de Bello Gallico* v, and Vergil, *Aeneid* i.

Mondays, Wednesdays and Fridays at 10.30 a.m., and Thursdays at 11.30 a.m. (composition). A special class in grammar will be held on Tuesdays at 2 p.m.

Fee for the course : without the classes in composition and grammar, \pounds_3 135. 6d.; for the composition and grammar classes, \pounds_1 55. each.

Books recommended

Caesar, de Bello Gallico v, Brown (Blackie, Is. 6d.).

Vergil, Aeneid i, Sidgwick (Pitt Press, 1s. 6d.) or Page (Macmillan, 1s. 6d.).

II. Intermediate Course

The work in this course will comprise composition, translation at sight, and the special study of Livy xxii, 1-52, and Horace, *Odes* iii, iv.

Mondays, Wednesdays and Fridays at 9.30 a.m., and Tuesdays at 10.30 a.m. (composition).

Fee for the course: without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 55.

Books recommended

Livy xxii, Loane (Blackie, 2s. 6d.).

Horace, Odes iii, iv; Page (Macmillan, Is. 6d. each) or Gwynn (Blackie, Is. 6d. each.).

III. Final Course

The work in this course will comprise more advanced composition, translation at sight, and the special study of Tacitus, *Histories* i, and Lucretius v.

Mondays, Wednesdays and Fridays at 11.30 a.m., and Tuesdays at 11.30 a.m. (composition).

Fee for the course: without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 55.

Books recommended

Tacitus, *Histories* i, Davies (Pitt Press, 2s. 6d.). Lucretius v, Duff (Pitt Press, 2s.).

IV. M.A. and Honours Course

For students reading for the M.A. or Honours examination.

Tuesdays and Thursdays at 9.30 a.m., Saturdays at 11.30 a.m., and Saturdays at 9.30 a.m. (composition).

Fee for the course : without the class in composition, \pounds_3 135. 6d.; for the composition class, \pounds_1 55.

ENGLISH LANGUAGE & LITERATURE

Professor Vaughan Dr. Moorman

ENGLISH LANGUAGE

I. Intermediate and First Year Honours Course

In this course the history of the English language will be treated, with special reference to Old and Middle English grammar.

English

Three hours a week, at times to be arranged. Fee for the course, \pounds_3 138. 6d.

Text Books

Sweet, Anglo-Saxon Primer. Prose pieces in Sweet's Anglo-Saxon Reader. Chaucer, Prologue to the Canterbury Tales.

II. Final Course

The work in this course will comprise a more advanced study of the English language, and elementary Gothic.

Three hours a week, at times to be arranged.

Fee for the course, \pounds_3 13s. 6d.

Text Books

Verse pieces in Sweet's Anglo-Saxon Reader. Chaucer, Knight's Tale. Wright's Gothic Primer.

III. Honours and M.A. Course

Honours students in their second year attend this course for two hours a week, Honours students in their third year attend for one hour a week.

Translation from Old and Middle English texts, as prescribed for the Honours School (see p. 108).

Fee for two hours a week, $\pounds z$ 128. 6d.; for one hour, $\pounds I$ 118. 6d.

ENGLISH LITERATURE

I. Matriculation Course

The work in this course will include the study of English essay writing and of the following works, Shakspere, As You Like It; Lamb, Essays of Elia.

Tuesdays at 11.30 a.m. throughout the Session, and Thursdays at 2 p.m. in the second and third terms.

Fee for the course, \pounds_2 5s.

II. Intermediate Course

The work in this course will comprise the history of English literature from 1557 to 1603, and the special study of Chaucer, *Prologue to Canterbury Tales*; Palgrave, *Golden Treasury*, book i; Sidney, *Apology for Poetry*; Marlowe, *Doctor Faustus*; Shakspere, *Hamlet*; Bacon, *Essays*. Mondays, Wednesdays and Fridays at 10.30 a.m. during the first and second terms.

Fee for the course, \pounds_2 12s. 6d.

III. Final and Honours Course

The work in this course will comprise the history of English Literature from 1557 to 1637. A special study will be made of the books for the Intermediate course and also of Palgrave, *Golden Treasury*, book ii; Ben Jonson, *Discoveries*; Webster, *Duchess of Malfi*.

Mondays, Wednesdays and Fridays at 10.30 a.m. throughout the Session.

Fee for the course, £3 13s. 6d.

IV. Honours Course (Second Year)

This course will be devoted to the study of the life and works of Shakspere.

One hour a week at a time to be arranged. Fee for the course, \pounds_{1155} 6d.

V. Honours Course (Second and Third Years)

The outlines of English Literature. One hour a week at a time to be arranged. Fee for the course, f_{1115} , 6d.

VI. Honours Course (Third Year)

The history of English literature from 1780 to 1850, with the special study of the books prescribed for the Honours School (p. 108).

One hour a week at a time to be arranged. Fee for the course, $f_{,1}$ 115. 6d.

FRENCH LANGUAGE AND LITERATURE

Professor BARBIER

Mr. LECLERE

I. Matriculation Course

The work in this class will comprise grammar, elementary composition, translation at sight, conversation in French, and the study of special books.

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French

Mondays, Wednesdays and Fridays, at 3 p.m. Fee for the Session, $\pounds_{,3}$ 135. 6d.

Text Books

Michelet, Récits de l'Histoire de France, vol ii, pp. 60-171 (Hachette). Musset, On ne saurait penser à tout (Hachette). Grammar : Beuzemaker, French Course, second year (Blackie, 25. 6d.)

II, III, 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 Racine, *Phèdre* and *Les Plaideurs*.

Course II will be held on Mondays, Wednesdays and Fridays at 11.30 a.m., Course III. at 4 p.m. on the same days.

Fee for either course, \pounds_3 13s. 6d.

Text Book

Kastner, Elements of French Composition (Hachette, 2s.).

IV. Final Course

The work in this course will comprise more advanced syntax and composition, translation at sight, the elements of historical grammar, and the special study of Victor Hugo, *La Préface de Cromwell* and *Hernani*.

Mondays, Wednesdays and Fridays, at 2 p.m. Fee for the Session, \pounds_3 13s. 6d.

Text Books

Victor Hugo, La Préface de Cromwell, edition Souriau. Hernani (Hachette).

Gasc, French Prose Composition (Bell, 3s.). Daumic, Histoire de la Litterature Française (Delaplane, 3s. 4d.)

V. French Literature

Lectures will be given in French on Victor Hugo et ^PEcole Romantique, on Tuesdays at 3 p.m., during the First and Second Terms.

Fee, $\pounds I$ IS.; no entry will be taken for less than two terms.

VI. French Literature Revision Class

Tuesdays at 3 p.m. during the Third Term.

Students reading for the Final B.A. and Honours are expected to join this class.

Fee, 105. 6d.

Text Book

Doumic, Histoire de la Littérature Française (Delaplane, 3s. 4d.)

VII. Honours Course

Mondays, Wednesdays and Fridays, at 4 p.m. Fee for the session : two hours, \pounds_2 125. 6d. ; three hours, \pounds_3 135. 6d.

VIII, IX. Elocution Courses

Tuesdays at 4 p.m. during the First and Second Terms for first year students of the Day Training College.

Wednesdays at 3 p.m. during the First and Second Terms for second year students of the Day Training College.

Fee, \pounds_{I} is.; no entry will be taken for less than two terms.

Text Books

Barbier, *Graduated French Reader* (Longmans, 2s.) for the special piece set to students of the Day Training College.

Dent's *Elements of Phonetics* (Dent, 2s. 6d.) for first year students. Paul Passy, *Les Sons du Français* (Firmin-Didot, 1 fr. 50) for second year students.

X. Commercial Course.

Two hours a week at times to be arranged.

In addition to the study of French correspondence, etc., a book bearing on French commercial life will be read.

Fee, £ 2 125. 6d.

XI. Saturday Morning Training Class (Elementary)

This course is intended to instruct teachers in the methods of teaching elementary French.

Saturdays 10.15 a.m. to 12.15 p.m., beginning October 8. Fee \pounds 4 4s. No entry will be taken for less than the whole course.

Text Book

Heath's Practical French Grammar (D. C. Heath & Co., 1903).

French—German

XII. Saturday Afternoon Training Class (Advanced)

This course is intended to instruct teachers in the methods of teaching French to a more advanced stage than in the Morning class, of which it is a continuation.

Saturdays 3 to 5 p.m., beginning October 8.

Fee \pounds_4 4s. No entry will be taken for less than the whole course.

GERMAN LANGUAGE AND LITERATURE

Professor SCHUDDEKOPF

Mr. Gough

The German courses have been so arranged as to be applicable to (a) candidates for University and other examinations; (b) students of modern literature; (c) general students and students of science; (d) commercial students.

The Professor will be pleased to direct students as to what courses will best suit them.

I. Elementary Class

Mondays, Wednesdays and Fridays, at 2 p.m.

This class is intended for beginners. The greatest attention will be paid to pronunciation. Easy German prose will be read from the beginning.

Fee for the course, $f_{3135.6d.}$

Text Books

Kuno Meyer, German Grammar, Part I. (Sonnenschein). Sonnenschein, First German Reader and Writer (Sonnenschein). Anderson, Eight Stories, ed. Rippmann (Pitt Press).

II. Matriculation Course

Mondays, Wednesdays 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 books set for the Matriculation examination will be read; but instead of these, students of science will have the option of reading German prose bearing on various branches of science. German conversation will be practised.

Fee for the course, \pounds_3 135.6d.

Text Books

Kuno Meyer, German Grammar, Parts i and ii (Sonnenschein). Second German Reader and Writer (Sonnenschein). Zastrow, Wilhelm der Siegreiche, ed. Ash (Macmillan). Bernhardt, Deutsche Noveletten-Bibliothek, vol. ii. (Heath). Dippold, Scientific German Reader (Ginn & Co.).

III. Intermediate Course

Mondays, Wednesdays and Fridays, at 3 p.m.

This course is suitable for candidates entering for the Intermediate examination, commercial students, and for general students who wish to acquire a greater proficiency in German. In addition to the prescribed work, syntax, dictation, composition, and unprepared translation will be studied, and the class will have considerable practice in German conversation.

Fee for the course, ± 3 13s. 6d.

Text Books

Kuno Meyer, German Grammar, parts i and ii (Sonnenschein). Third German Reader and Writer (Sonnenschein). Gutzkow, Zopf und Schwert (Pitt Press).

IV. Final Course

Mondays, Wednesdays and Fridays, at 9.30 a.m.

The work of this class comprises revision of elementary grammar, the elements of historical grammar, translation, and composition. The class will be taught in German.

Fee for the course, \pounds_3 13s. 6d.

Text Books

Lessing, Nathan der Weise (Clarendon Press). Longmans' German Composition (Longmans, 3s.). Trechmann, Short Historical Grammar of the German Language (Macmillan).

V. German Literature

Two courses of Lectures will be delivered in German during the first and second terms, on Tuesdays, at 4 p.m., commencing October 11th.

Subject for the first term: Die Vorgänger der zweiten klassischen Periode, Klopstock, Herder, Wieland.

Subject for the second term : Lessings Leben und Werke.

N.B.—This class will be continued during the third term for candidates reading for Honours in German or the Final B.A. examination.

German

Fee for the first two terms, $\pounds I$ IS.; for one term, IOS. od.; for the whole course, $\pounds I$ IIS. 6d.

VI. Commercial Course

Tuesdays and Thursdays, at 2 p.m.

In addition to the study of German correspondence, &c., a book bearing on German commercial life will be read. The class will be taught in German.

Fee for the course, \pounds_2 12s. 6d.

Text Books

Dann, German Commercial Correspondence (Longmans). Weber, Die Börse, parts i and ii (Göttingen, Vandenhoeck and Ruprecht).

VII. Honours Course

Mondays, Wednesdays and Fridays at 10.30 a.m.

The work of this class will comprise historical grammar, outlines of Old High German and Middle High German Literature, 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.

For books and periods see page 111. Fee for the course, \pounds_3 13s. 6d.

VIII. Saturday Morning Training Course

This class will meet on Saturdays, from 10.15 a.m. to 12.15 p.m., beginning October 8th. The full course will extend over 25 lessons of two hours each. (N.B. The hours may be slightly altered to meet the convenience of students living outside Leeds.)

It ought to be joined only by students who already possess at least an elementary knowledge of German.

The object of the class is to instruct its members in the art of teaching German above the elementary stage. The instruction will be partly theoretical and partly practical, and will include phonetics, pronunciation, grammar, translation, conversation, and composition.

Text books will be recommended at the first meeting of the class.

Fee, \pounds_4 4s. No entry will be taken for less than the full course.

Courses in Arts

HISTORY

Professor GRANT Mr. TEMPERLEY

ANCIENT HISTORY

I. Intermediate Course

Outlines of Greek and Roman History. Mondays and Wednesdays at 11.30 a.m. Fee for the course, £2 125. 6d.; for Greek History or Roman History alone, £1 115. 6d.

II. Final Course : Greek History

The period treated will be Greek History down to 431 B.C. Two hours a week at times to be arranged Fee for the course, $\pounds 2$ 125. 6d.

III. Final Course: Roman History

Period : B.C. 31 to A.D. 180. Tuesdays and Thursdays at 9.30 a.m. Fee for the course, $\pounds 2$ 125. 6d.

IV. Honours and M.A. Course

Roman History from B.C. 31 to A.D. 14. Two hours a week at times to be arranged. Fee for the course, \pounds_2 128. 6d.

MODERN HISTORY

I. Matriculation Course

Outlines of English history. Tuesdays and Thursdays at 10.30 a.m. Fee for the course, \pounds_2 125. 6d.

II. Intermediate Course

Outlines of modern history from 1494 to 1815. Tuesdays and Thursdays at 11.30 a.m. Fee for the course, \pounds_2 125. 6d.

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History-Philosophy

III. Final Course: English History

The period treated will be 1485 to 1603. Mondays and Wednesdays at 9.30 a.m. Fee for the course, \pounds_2 128. 6d.

IV. Final Course: Constitutional History

English constitutional history from 1603 to 1832. Two hours a week at times to be arranged. Fee for the course, \pounds_2 125. 6d.

V. Final Course: Economic History

Professor CLAPHAM

The commercial and industrial history of England mainly in the nineteenth century.

Two hours a week at times to be arranged. Fee for the course, \pounds_2 128. 6d.

VI. Honours and M.A. Course

The age of Henry VIII. Two hours a week at times to be arranged. Fee for the course, $\pounds 2$ 125. 6d.

PHILOSOPHY

Mr. GILLESPIE

I. Intermediate Course : Logic

Wednesdays and Fridays, at 2.

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 *Jevons* or *Fowler*, before entering the class.

Fee for the course, \pounds_2 125. 6d.

Text Book

Welton, Manual of Logic (2 volumes, Clive, 15s.).

II. Final Course: Psychology and Ethics

Three lectures a week throughout the session, at hours to be arranged.

Courses in Arts

This course includes the outlines of psychology, and an introduction to general ethical theory, with more detailed study of some author or authors. The ethical doctrines of Kant and J. S. Mill will be studied this year.

Fee for the course, \pounds_3 13s. 6d.

Text Books

Stout, *Elements of Psychology* (Clive, 8s. 6d.). Mackenzie, *Manual of Ethics* (Clive, 6s. 6d.).

III. Final Course: History of Ancient Philosophy

Three hours a week throughout the session, at hours to be fixed at the beginning of the first term.

Subjects : The outlines of the history of Greek philosophy with more detailed study of special books. These will be the *Protagoras* and the *Theætetus* of Plato in session 1904-5. Fee for the course, \pm , 3 138. 6d.

tee loi the course, £3 13s. ou.

IV. Final Course: Advanced Psychology

Two hours a week throughout the session, at hours to be fixed at the beginning of the first term.

This course is intended for candidates for the final B.Sc. examination, and will not be held unless such candidates present themselves. It is supplementary to Course II.

Fee for the course, \pounds_2 125. 6d.

V. Honours Courses

Lecture courses of one or two hours a week each on some of the subjects prescribed for the Honours School of Philosophy and for M.A. in Philosophy.

Fee for a course of two hours a week, \pounds_2 125. 6d; for a course of one hour a week, \pounds_1 115. 6d.

VI. Teachers' Diploma Courses

Lectures will be delivered on Aristotle, *Ethics* i-iii, c.5 x c.9, *Politics* iv(vii)c.17, v(viii). This class must be attended by students reading for the Teachers' Diploma of the University.

Hours of meeting to be arranged at the beginning of the first term.

Fee for the course, \pounds_1 is. (see page 142).

COMMERCE

Professor CLAPHAM

Mr. Shaw

Professors and Lecturers in other subjects, especially French, German, and Law, take part in the teaching.

Course for the Diploma in Commerce

The course, as at present organised, extends over two years: a three years' degree course is under discussion for the future. To meet the case of those who wish to give a part of their time to study and a part to actual business training, the bulk of the classes are held in the afternoon. It is probable, however, that the best way of combining study in the University with business training would be to give up part of the vacations, especially the long summer vacation, to office or other practical work. Those students who are giving the whole of their time to study are advised to devote the long vacation to the study of languages abroad.

Candidates for the Diploma must be at least seventeen years of age when they enter the University, and must have passed the Matriculation examination, the London Matriculation, or some other public examination approved by the Senate. They must have satisfied the examiners in at least one modern foreign language. They are advised, but not obliged, to take two languages and geography. At the end of each year examinations will be held and the Diplomas will be awarded on the result of these examintions.

The subjects for the first year will be :--

- I. French or German.
- 2. Economics, including the modern commercial and industrial history of England.
- 3. Economic Geography—the British Empire.
- 4. Accountancy.
- 5. Mathematics *or* a second Language *or* some other course to be approved by the Senate.

The subjects for the second year will be :--

- 1. French or German.
- 2. Economics, advanced.
- 3. Economic Geography the principal foreign countries.
- 4. Accountancy, advanced.
- 5. Commercial Law.
- 6.¹ A second language or a short course in the Textile, the Engineering, or other technical department of the University.

The fees for the complete first year's course, including registration and subscription to the University Union, will amount to about \pounds_{18} ; those for the second year's course to rather more if subject 6 be taken.

Syllabus of Principal Diploma Classes

The classes are open on the usual conditions to students not taking the Diploma course.

French :

Professor BARBIER and Mr. LECLERE

German :

Professor SCHUDDEKOPF and Mr. GOUGH

The language taken as subject r in each year will be very thoroughly studied, five hours class work every week being given to it. Special attention will be paid to the reading of moder nbooks, conversation, composition, and correspondence. When either language is studied as a second language less time will be given to it.

For French classes see page 125.

For German classes see page 127.

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¹ This subject is not compulsory. The choice in this case, as in number 5 of the first year course, will be regulated by the special needs of students.

Commerce

Economics

Professor CLAPHAM

First Year Course.—Mondays, Wednesdays and Fridays, 2 p.m.

Second Year Course.—Three hours a week at times to be arranged.

Fee for the session for either year, \pounds_3 13s. 6d.

First Year: The first term will be given to the study of the modern commercial and industrial history of England, mainly in the nineteenth century. This will lead up to the analysis and explanation of the existing industrial and commercial organisation of the country. The main principles connected with the production and distribution of wealth, with wages, profits, interest and rent, and the values of goods and services will be dealt with. The chief features of the English monetary and banking systems will be examined, and some attention will be given to foreign conmerce and the relations of government to industry and trade.

Second Year: This course will be devoted mainly to the study of more advanced subjects, e.g. :---the organisation of the great markets, including the "money market;" price fluctuations; the foreign exchanges; trade depressions and commercial crises; more advanced monetary questions; the effects of combinations of masters and men on production and prices; international competition. Special sections of the course will be devoted to (i) transport by land and sea, including the control of railways by the state and the effects of such control in different countries; (ii) public finance, national and municipal, rates, taxes, debts, the Budget.

Economic Geography

Professor Clapham

First Year Course.—The British Empire, Tuesdays and Thursdays, 4 p.m.

Second Year Course.—The principal foreign countries, two hours a week at times to be arranged.

Fee for the session for either course, \pounds , 2 125. 6d.

These two courses will supplement those in economics. They will deal with the geographical basis of trade; with the situation, features, population, mineral, and other resources and industrial and commercial development of the various countries. Trade routes, railway and canal systems, will be studied geographically. The mercantile marine and the import and export trades of each country will be examined; and also the distribution of the leading industries, the special features of each, the sources of its raw material and the markets for its goods. The courses will also include an examination of commercial policy in each of the countries dealt with.

Accountancy

Mr. Shaw

First Year Course.—Wednesdays and Fridays, 4 p.m. Second Year Course.—Wednesdays and Fridays, 3 p.m. Fee for the session for either course, $f_{.2}$ 125. 6d.

First Year: The course will deal with (i) the general principles of book-keeping, illustrated by the ordinary transactions of a merchant or manufacturer; (ii) the special principle of book-keeping by double entry; (iii) the books themselves—various subsidiary books, leading up to the ledger; (iv) the trial balance and the various methods of preparing it; (v) the different forms of books and accounts suitable for various kinds of businesses; (vi) the various methods of stock-taking; (vii) cheques, bills of exchange, and other important commercial documents.

Second Year: (i) Partnership accounts and other more complicated transactions; (ii) the books and forms used for limited companies in connection with the share capital, debentures, etc.; a study of the balance sheets of a number of companies; (iii) the analysis of accounts with a view to the computation of earnings and comparison of expenses; (iv) departmental accounts; (v) the preparation of accounts required for income tax purposes; (vi) the various methods of payment of wages and of remuneration for management; (vii) costing and cost accounts; (viii) sinking funds, provision for depreciation, etc.

Commercial Law

Professor PHILLIPS

Tuesdays and Thursdays at 3 p.m. throughout the session.

First Term: The general principles of the law of contract; the conception of contract in English Law; doctrine of consideration; statute of frauds; Sale of Goods Actmistake-misrepresentation-fraud-illegality; assignment of contract, discharge of contract.

Second Term: Two independent short courses each of one hour a week. (a) Law of negotiable instruments; (b) Law of Bankruptcy.

Third Term: Two independent courses as in the second term :-(a) Industrial Law or Law as to Employers and Employed; (b) Company Law.

Fee for the Session, \pounds_2 125. 6d; for one term, \pounds_1 55.; for Sections (a) or (b) in the Second or Third Terms, 155. each.

EDUCATION

Professor Welton

Miss ROBERTSON

Mr. WELPTON Miss MELVILLE

Day Training College for Teachers for Primary Schools

A Day Training College, under the provisions of the Education Code, was established in 1891.

The following particulars are supplied for the information of King's Scholars who desire to be admitted to the Leeds Day Training College.

1. Pupil Teachers who have successfully completed their term of apprenticeship, or who terminate their engagement with the consent of their managers, and others who, not having been Pupil Teachers, will be over 18 years of age at the commencement of the session in which they wish to enter, may apply for admission to the Leeds Day Training College. Such application should be made as early as possible. 2. Applicants will be required to furnish certificates of sound health and good conduct upon forms which will be supplied by the Registrar.

3. Applicants may be examined for admission at the King's Scholarship examination, held at Leeds and elsewhere in December.

Candidates for the King's Scholarship examination must give notice to the Board of Education before the 1st of October. That examination is held in Leeds, not at the University, but at the Education Offices, and candidates who wish to be examined in Leeds must apply to the Clerk of the Education Committee of the City Council for seats.

4. All candidates, whether they have passed the King's Scholarship examination or not, will be required *to pass* the Matriculation examination of the University before admission.

5. Preference will be given to those candidates for admission who are willing to remain for a third year in order to complete their training, if they are reading for a University degree.

6. All candidates will, on admission, be required to sign a declaration of their intention to become Elementary teachers, and must be examined by the Medical Officer of the University.

7. Twenty Men and twenty-five Women King's Scholars may be admitted to the Day Training College next session, and those accepted will be required to come into residence at the beginning of October. They will be at liberty to reside at their own homes if these are within reasonable distance of the University, or they may, by permission of the Managing Committee of the Training College, reside in lodgings which have been inspected, and are registered and subject to inspection, by the University authorities.

8. The Leeds Day Training College year coincides nearly with the Session of the University of Leeds, which begins in October, is divided into three terms of about eleven weeks each, and ends in June. Training College students will be engaged in their practical training during certain parts of the University vacations.

Education

9. The Government Grant for maintenance of $\pounds 25$ a year for men, and $\pounds 20$ a year for women students, will be paid to such King's Scholars as reside at home or in registered lodgings, at the times and in the instalments prescribed by the Board of Education.

10. All King's Scholars admitted to the Training College will be required to pay annually a charge of \mathcal{L}_{10} , and also a sum of 10s. 6d., the compulsory fee payable for membership of the University Union. No further payment to the University will be required, but Scholars will have to provide their own books, and those who work in the University laboratories will have to supply themselves (by purchase or hire) with a small amount of scientific apparatus. The University examination fees will also have to be paid by all King's Scholars.

II. The King's Scholars in residence will be admitted without additional fee to the lectures, classes, and laboratory work required for their prescribed courses of study.

12. All students of the Day Training College will attend the classes and will be required to enter for the examinations qualifying for a degree of the University.

13. The Government certificate will be issued on the results of examinations conducted in part by the Board of Education, and in part by the University. Students who offer approved University examinations will be allowed to substitute these for the greater part of the syllabus of the Certificate examination conducted by the Board of Education.

14. The professional training of the students is conducted by the staff of the Department of Education. This training includes courses of lectures and written exercises in the History, Theory, and Art of Education, supplemented by practical work in selected schools under the supervision of the professional staff. Needlework is under the charge of the Mistress of Method.

Teachers for Secondary Schools

A full course of instruction in the theory and practice of education is provided for men and women students intending to become teachers in Secondary Schools. Such students attend the ordinary courses of Lectures in Education and Criticism Lessons, and special courses to prepare for the Teachers' Diploma of the University are provided as required.

Arrangements are also made for practical training in Class Teaching and Management in certain selected Secondary Schools in Leeds or the immediate neighbourhood.

The whole course may be taken in one session, or may be spread over two or three sessions.

LECTURE COURSES

I. Education: First Year Course

Lectures on Mondays, Wednesdays and Fridays, at 4 p.m.

Each Term—General nature of education. The psychological foundations of the general principles of educational method. Applications of the general principles of method to the teaching of the usual school subjects and the preparation of notes of lessons. Three hours a week.

Each Term—Criticism Lesson. One and a half hours a week on Thursdays at 3.15 p.m.

Fee (except for King's Scholars in the College) for Lectures only, \pounds_3 135. 6d.; for Lectures and Criticism Lessons, \pounds_4 4s.

II. Education: Second Year Course

Lectures on Tuesdays and Thursdays throughout the session at 9.30 a.m.

First Term :

The logical and psychological foundations of teaching. Second Term:

The psychological and ethical foundations of moral education, with applications to school discipline.

Third Term:

Physical education and school hygiene. School organization.

Each Term—Criticism Lesson. One and a half hours a week on Thursdays at 3.15 p.m.

Fee (except for King's Scholars in the College) for Lectures only, \pounds_3 3s.; for Lectures and Criticism Lessons, \pounds_3 13s. 6d.

Education

III. Education : Third Year Course

- (a) Course A. Tuesdays and Thursdays at 10.30 a.m. First Term: Plato, Republic ii, iii, iv. Second and Third Terms: The history of education from the revival of learning to the close of the eighteenth century.
- (b) Course B. Wednesdays and Fridays at 3 p.m. The theory of education, with special reference to its ethical and psychological bases.
- (c) Criticism Lessons. Each term for one and a half hours per week. Thursdays at 3.15 p.m.

Fees (except for King's Scholars in the College):—For Course A, Lectures only, \pounds_3 35.; For Lectures and Criticism Lessons, \pounds_3 135. 6d.; for Course B, Lectures only, \pounds_3 35.; for Lectures and Criticism Lessons, \pounds_3 135. 6d.

IV. Nature Knowledge

For first year King's Scholars, on Saturdays, 9.30 a.m. to 12.30 p.m. See page 190 under Nature Knowledge.

V. General Elementary Science

For second year King's Scholars, on Saturdays, 9.30 a.m. to 12.30 p.m. See pages 179 and 183.

VI. Drawing and Elementary Design

This course is arranged to meet the requirements of the students in the Day Training College, and consists of one Lecture per week in the first and second years, together with at least one hour per week for practical work :

The Lecture for first year King's Scholars is on Thursdays, from 2 to 3 p.m.

The Lecture for second year King's Scholars is on Tuesdays, from 2 to 3 p.m.

The time devoted to practical work will be arranged to meet the convenience, as far as possible, of individual students.

Students wishing to prepare for any subjects which they may require to complete the Elementary Drawing Certificate of the Board of Education, may do so by arrangement with the lecturer.

Courses in Arts

VII. Reading and Recitation

For first year King's Scholars, (men) on Wednesdays, at 5 p.m.; (women) on Wednesdays at 11.30 a.m. For second year King's Scholars, on Thursdays, at 2 p.m.

VIII. Music

For first and second year King's Scholars, on Thursdays, at 5 p.m. Tutorial classes will be held at times to be arranged.

IX. Needlework

For first and second year King's Scholars, two hours a week (time to be arranged).

X. Physical Exercises

For first and second year King's Scholars, two half hours per week for each year (times to be arranged).

COURSE FOR TEACHERS' DIPLOMA

1. The general course in Education (all three years), with special reference to Parkin's *Life and Letters of Edward Thring*, and texts contained in Woodward's *Vittorino da Feltre*.

2. Aristotle : *Ethics* i-iii c.5, x 9, and *Politics* iv (vii) c. 17, v (viii).

3. Criticism lessons as in general course.

4. Practical work in schools under supervision of the professional staff.

Fee for whole course, \pounds_{14} 14s.; for Parts 1, 2, and 3, \pounds_{9} 9s.; for Part 2 (*Aristotle*) only, \pounds_{1} 1s.; for Part 4, \pounds_{5} 5s.

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DEGREES, EXAMINATIONS, AND COURSES OF STUDY IN LAW

The degrees in Law are :

Bachelor of Laws (LL.B.).

Doctor of Laws (LL.D.).

Degree of Bachelor of Laws

1. All candidates for the degree of Bachelor of Laws are required to have matriculated and to have passed the Matriculation examination¹ or to have graduated in this or some other University of the United Kingdom.

2. The examination for the degree of Bachelor of Laws is divided into two parts, called respectively the *Intermediate* and the *Final* examination. The *Intermediate* and the *Final* examinations are held in June or July.

Intermediate Examination

3. The names of candidates who have passed the Intermediate examination are published in two divisions.

4. At the Intermediate examination candidates will be required to present certificates of attendance on courses in the University for one year in Roman Law; The Law and Custom of the English Constitution; Jurisprudence; Logic or Political Economy or Ancient History;² provided that any candidates who are already graduates of some other Faculty, or of any other University within the United Kingdom, shall not be required to attend classes or to be examined in Logic or Political Economy or Ancient History.

¹ For the present, and until otherwise determined by the University, Barristers called to the Bar and Solicitors admitted on the Rolls previous to the 1st of January, 1803, who are desirous of entering for the Intermediate and Final examinations for the degree of LL.B. in the University, will be excused the Matriculation examination of the University.

Applications from persons who shall have been either called to the Bar or admitted on the Rolls previous to the 1st of January, 1896, and who are desirous of entering for the Intermediate and Final examinations for the degree of LL.B. in the University, to be excused the Matriculation examination of the University, will be heard and determined by the Senate.

Approved courses : in Logic, Philosophy I (p. 131), in Ancient History, Ancient H story I (p. 130).

Subjects of examination

Roman Law: Institutes of Justinian (omitting Book iii, Tit. 1-9); Institutes of Gaius (omitting Book iii, 1-81); History of Roman Law, up to and including the legislation of Justinian, two papers.

The Law and Custom of the English Constitution, one paper.

Jurisprudence : Principles of Jurisprudence, and Early History of Institutions, one paper.

One of the following:

Logic, one paper.

Political Economy, one paper.

Ancient History, one paper.

Final Examination¹

5. Candidates for the Final examination will be required to present certificates of having attended during two years after passing the Intermediate examination, courses of instruction in the Department of Law for not less than five hours a week in one of such years, and four hours a week in the other of such years, provided that students who have been called to the bar or who have been admitted on the rolls as solicitors, and students who are reading in the chambers of a barrister or who are articled to a solicitor, may be admitted to this examination on presenting certificates of having attended courses in Law in the University for three hours a week during two years after the date of passing the Intermediate examination.

6. Candidates who are already graduates in some other Faculty and desire to proceed to the Final examination after two instead of three years' attendance on classes in the Law department of the University must attend in the first of such years the classes for the Intermediate examination and during the first and second years classes in English Law for three² hours a week.

7. Candidates who offer themselves for examination in any of the special subjects of International Law, Constitutional Law, Conflict of Laws, are required further to present a certificate of having attended a course in the University in one of such special subjects.

¹ Persons who, before or after entering into Articles of Clerkship, have passed this examination, are exempted from the Intermediate examination of the Incorporated Law Society.

² Candidates may, however, in place of one or two hours a week in the first year attend one or two additional hours a week in the second year.

Degrees in Law

8. Graduates of this or any other University of the United Kingdom in any other Faculty may proceed to the Final examination after two instead of after three years' study in the Law department of the University, and will be examined in subjects 1, 2, and 3 only of the Intermediate examination.

9. The names of candidates who have passed the Final examination are published in three divisions in alphabetical order.

Subjects of examination

The subject of examination is English Law, in which the following papers will be set :

Real and Personal Property; the principles relating to the nature, creation, and devolution of the estates and interests that may be held in Real and Personal Property, one paper.

The Principles of the Law of Contracts, one paper.

The Principles of the Law of Torts, one paper.

The Principles of Equity, one paper.

One of the following, selected by the candidate, of which he will be required to show a detailed knowledge, as well as of the leading cases connected therewith :

Succession, Testamentary and Intestate, one paper.

Trusts, one paper.

Bankruptcy, one paper.

Crimes, one paper.

Candidates for a place in the First division must offer themselves for examination in *one* of the following :

International Law, one paper.

Constitutional Law, one paper.

Conflict of Laws, one paper.

Degree of Doctor of Laws

The Regulations for the degree of Doctor of Laws are under consideration.

NOTE. The following is an extract from the Consolidated Regulations of the Inns of Court :

"The Council may accept a degree granted by any University within the British Dominions, for which the qualifying examination was in Law, as an equivalent for the examination in any of the subjects mentioned in Rule 43 (Roman Civil Law, the Law of Real and Personal Property, Common Law and Equity) other than Common Law and Equity."

Undergraduates of this University can keep their terms at any of the Inns of Court by dining in Hall any *three* days in each Term.

DEPARTMENT OF LAW

Supported by the Yorkshire Board of Legal Studies

Professor PHILLIPS

The Law Department of the University of Leeds has been founded by the Yorkshire Board of Legal Studies, assisted by the Incorporated Law Society of the United Kingdom, and it is intended to afford systematic instruction throughout the academic year to students preparing for

- 1. The Law examinations of the University of Leeds.
- 2. The examinations of the Council of Legal Education, preparatory to call to the Bar, and
- 3. The examinations of the Incorporated Law Society of the United Kingdom, qualifying for admission to practice as a Solicitor.

Most of the classes will also be found useful to candidates for the Law degree of the University of London.

Students pursuing the requisite course of study for a University degree in Laws, or for the examinations of the Council of Legal Education or of the Incorporated Law Society of the United Kingdom, will, after registration and payment of the entrance fee, be admitted to all the University lectures and classes that are arranged to meet their special requirements for an annual composition fee (paid in advance) of f.8 8s. Students who are preparing for both a degree in Law and admission to the rolls as solicitors, may attend all the lectures and classes for this double purpose for an annual composition fee of £10 10s. Those who desire to attend less than four lectures or classes may pay the separate fees of the classes selected. Candidates for the examinations of the University of Leeds, must, however, comply with the University regulations as to the number of hours of weekly attendance to be given to the prescribed courses.

The courses will be arranged so as to give preparation for the Intermediate examinations in one session, and for the Final examinations in two sessions.

Professor Phillips would be glad to confer with law students on all questions concerning their examinations, and to render them such assistance as might be in his power.

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Courses in Law

Particular attention is called to the fact that in addition to the lectures and classes announced below, arrangements will be made to hold during the ensuing session Tutorial Classes. For these no additional fees will be charged. The hours of such classes will be fixed by Professor Phillips after consultation with intending students.

In cases where the hours of the lectures and classes are not stated, arrangements will be made in accordance with the requirements of individual students and the convenience of the majority.

I. Intermediate Courses

Roman Law

Professor PHILLIPS

Wednesdays and Fridays, at 3 p.m., throughout the session. During the third term attendance is optional for candidates for the Intermediate LL.B.

This is a qualifying course for the Intermediate examination of the University of Leeds, and prepares for the examination in Roman Law of the Council of Legal Education.

It will deal with the general history of Roman Law and with the elements of that Law so far as they are contained in the Institutes of Gaius and Justinian, omitting the titles on Intestate Succession.

Fee for the course, \pm , 3 3s.

Text Books recommended

Gneist's Institutionum et Regularum Juris Romani Syntagma (Teubner, Leipzic).

Moyle's *Institutes of Justinian* (Clarendon Press, Oxford). Poste's or Muirhead's edition of *The Institutes of Gaius*.

The Law and Custom of the English Constitution

Professor Phillips

Fridays, at 4 p.m., throughout the session.

This is a qualifying course for the Intermediate Law examination of the University of Leeds, and prepares for the examination in Constitutional Law and Legal History of the Council of Legal Education.

Fee for the course, \pounds_2 2s.

Courses in Law

Text Books recommended

Dicey, Lectures Introductory to the Study of the Law of the Constitution. (Macmillan).

Anson, Law and Custom of the English Constitution, Parts I and II.

- Analytical and Historical Jurisprudence

Professor PHILLIPS

Wednesdays, at 4 p.m. throughout the session.

This is a qualifying course for the Intermediate Law examination of the University of Leeds, and prepares for the examination for the Studentship and Honours of the Council of Legal Education.

. Fee for the course, \pounds_2 2s.

Text Books recommended

Austin, Jurisprudence (Campbell's Student's Edition.) Sir Henry Maine, Ancient Law.

The Elements of English Law

Professor PHILLIPS

Mondays and Thursdays, at 4 p.m. throughout the session. This class will prepare for the Intermediate examination of the Incorporated Law Society of the United Kingdom.

Subject: Stephen's Commentaries on the Laws of England This class will be mainly tutorial.

Fee for the course, \pounds_3 3s.

II. Final Courses

Real and Personal Property

A course of Lectures of one hour a week throughout the session will be given at times to be arranged.

This is a qualifying course for the Final examination of the University of Leeds, and will prepare also for the Final examinations of the Council of Legal Education and the Incorporated Law Society.

Fee for the course, \pounds_2 2s.

Text Books

Williams, Real Property. Williams, Personal Property.

Common Law

Professor PHILLIPS

During the session 1904-5, a course of Lectures on the Law of Torts of one hour a week throughout the session, will be given at times to be arranged, to be followed in the next session by a course on the Law of Contracts.

These are qualifying courses for the Final examination of the University of Leeds, and will prepare also for the Final examinations of the Council of Legal Education and the Incorporated Law Society.

Fee for the course, $f_{,2}$ 25.

Text Book recommended

Pollock on Torts.

Equity

A course of Lectures on the Principles of Equity of one hour a week throughout the session, will be given at times to be arranged, qualifying for the Final examination of the University of Leeds, and preparing for the Final examinations of the Council of Legal Education and the Incorporated Law Society.

Fee for the course, \pm , 2 2s.

Text Books

Indermaur's Equity, 12th edition (21s.) Brett's Leading Cases in Modern Equity, 3rd edition (16s.)

Trusts or Succession

A course of Lectures on Trusts or Succession will be given during the present session. The class will meet twice a week at times to be arranged.

These courses respectively qualify for the optional subjects of Trusts or Succession in the Final examination of the University of Leeds.

Fee for the course, \pounds_3 3s.

Text Books

Underhill on Trusts and Trustees. Succession. To be announced.
Courses in Law

Bankruptcy

Professor PHILLIPS

A course of Lectures on the Law and Practice of Bankruptcy, specially arranged to meet the requirements of candidates for the Final examination of the Incorporated Law Society, and qualifying also for the optional subject of Bankruptcy at the Final LL.B. examination of the University of Leeds, will be given. The class will meet one hour a week throughout the session, at times to be arranged.

Fee for the course, $f_2 2s$.

Text Book

Ringwood's Principles of Bankruptcy, latest edition (10s. 6d.)

Criminal Law

Professor PHILLIPS

A course of Lectures on Criminal Law and Practice, of one hour a week throughout the session, will be given at times to be arranged.

The course will prepare for the Final examinations of the Council of Legal Education and the Incorporated Law Society, and will qualify for the optional subject of Crimes in the Final examination for the degree of LL.B. of the University of Leeds.

Fee for the course, f_{12} 2s.

Text Book

Harris' Principles of the Criminal Law, 7th edition (20s.)

International Law-Public and Private

Professor PHILLIPS

A class will be held when required in International Law, Constitutional Law, or The Conflict of Laws, to prepare candidates for the First Division in the LL.B. examination of the University of Leeds. Such a class would also be found useful to candidates for the examination of the Council of Legal Education.

Fee for the class, f_{22} 2s.

Conveyancing

A class for tuition in the practice of Conveyancing will be held once a week throughout the session. The time of meeting will be arranged. It will specially prepare for the Final examination of the Incorporated Law Society, but will also be useful to other students.

Fee for the class, \pounds_2 2s.

Company Law

A course of lectures on the Law and Practice of Joint Stock and other Companies will be given during the first and second terms. The class will meet once a week, at times to be arranged.

Fee for the course, f_{11} 115. 6d.

Text Books

F. B. Palmer's *Handbook of Company Law*, 3rd edition (12s. 6d.). Reference to Buckley on *Companies*.

Equitable Procedure

A class for tuition in the practice of the Chancery Division of the High Court of Justice will be held once a week during the third term, at an hour to be arranged.

The course is specially arranged to meet the requirements of candidates for the Final examination of the Incorporated Law Society.

Fee for the course, \pounds_1 is.

Text Book

Indermaur's *Manual of Practice* and references to the Annual Practice.

Legal Evidence and Procedure

Professor PHILLIPS

A course of lectures on the Law of Evidence and Procedure in the King's Bench Division of the High Court of Justice will be given throughout the session. The class will meet once a week, at an hour to be arranged.

It will prepare for the Final examinations of the Council of Legal Education and the Incorporated Law Society.

Fee for the course, \pm , 2 2s.

Text Books

Wills's *Theory and Practice of the Law of Evidence*, edition 1894 (105. 6d.).

Indermaur's Practice of the Supreme Court, &c., 7th edition (4s.).

Courses in Law

Probate, Divorce, and Admiralty Law

A class for tuition in the principles of Law and Procedure in Probate, Divorce, Admiralty, and Ecclesiastical Cases will be held once a week throughout the session, at an hour to be arranged.

The course is specially arranged to meet the requirements of candidates for the Final examination of the Incorporated Law Society.

Fee for the course, \pounds_2 2s.

Text Books Gibson's Probate, Divorce, and Admiralty Law. Eustace Smith's Ecclesiastical Law.

DEGREES, EXAMINATIONS & COURSES OF STUDY IN THE FACULTIES OF SCIENCE & TECHNOLOGY

The Degrees in Science are :

Bachelor of Science (B.Sc.). Master of Science (M.Sc.). Doctor of Science (D.Sc.).

Diplomas are also granted by the University in the following technological subjects : Engineering, Civil, Mechanical and Electrical; Coal Mining; Textile Design, Spinning, and Textile Manufacture; Dyeing; Leather Manufacture. For particulars see page 172, and under the several departments.

N.B.—The following regulations are in force for the Session 1904-5. Considerable changes will probably be introduced in the following year. See also page 158.

DEGREE OF BACHELOR OF SCIENCE

1. The degree of Bachelor of Science is conferred upon scholars of the University who have attended the courses of study approved by the University, and have passed the examinations appointed by it for the Ordinary degree of Bachelor of Science, or for the degree of Bachelor of Science with Honours. Honours are granted to scholars of the University who have passed through a regular course in one of the Honours Schools of the University.

2. All candidates for the degree of Bachelor of Science are required to pass the Matriculation examination.

Ordinary Degree of Bachelor of Science

3. Candidates for the Ordinary degree of Bachelor of Science are required to furnish certificates of having passed through a course of study approved by the University, extending over at least three¹ academic years, of which years at least two² shall be subsequent to the date at which they have passed the Matriculation examination.

4. The examination for the Ordinary degree of Bachelor of Science is divided into two parts, called the Intermediate and the Final examination.

Intermediate Examination

5. The Intermediate examination is held, ordinarily, twice in each calendar year. At the second Intermediate examination those candidates only may present themselves who have received permission from the Senate.

6. Candidates before entering for the Intermediate examination are required to furnish certificates of having passed the Matriculation examination, and of having attended a course of study approved by the University and extending over at least one academic year, in each of the subjects in which they present themselves for examination.

7. The names of candidates who have passed the Intermediate examinations are published in a single list, the names being arranged in alphabetical order.

8. Candidates presenting themselves for the Intermediate examination for the degree of Bachelor of Science are required to satisfy the Examiners in :-

I, 2, 3. Three of the following :

- i. Pure Mathematics.
- ii. Applied Mathematics.
- iii. Physics.
- iv. Chemistry.
- v. Biology.
- vi. Applied Mechanics or Surveying.

¹ The course of study in any particular year must average not less than ten

² On and after October 1st, 1906, at the latest, three years' study will be required subsequent to the date of passing the Matriculation examination.

- Provided that of the three subjects selected *one* shall be Pure Mathematics or Applied Mathematics or Biology.
 - 4. One of the following, to be presented at either the Intermediate or the Final examination, the standard being that of the Intermediate examination in either case.
 - i. Applied Mathematics.¹
 - ii. Logic.
 - iii. French Language.
 - iv. German Language.
 - v. English Literature.
 - vi. Applied Mechanics.¹
 - vii. Surveying.1
 - viii. Education.²

Detailed Subjects of Examination and Approved Courses

PURE MATHEMATICS :

Elementary solid geometry (including straight lines, planes, and solid angles: the simpler properties of the parallelepiped, prism, cone, cylinder, and sphere, with the mensuration of these solids). Algebra. Plane trigonometry to solution of triangles (inclusive). Analytical geometry of the straight line and circle.

Approved Course: Mathematics III (p. 174).

APPLIED MATHEMATICS :

Statics and kinetics of a particle as far as they can be taken without differential and integral calculus. Hydrostatics.

Approved Course: Mathematics V (p. 174).

PHYSICS:

The properties of matter, the chief phenomena of sound, heat, light, electricity, and magnetism, treated in an elementary manner. Practical physics.

Approved Course: Physics II (p. 176), and three hours a week in the physical laboratory.

¹ If not already taken under 1, 2, 3.

² The examination in Education will be held at the end of the second year of residence.

CHEMISTRY :

Inorganic chemistry, with special reference to the non-metals. Introduction to organic chemistry. Practical chemistry, including the qualitative analysis of mixtures of not more than two simple mineral salts; the detection of the more common organic compounds; and exercises in simple preparations.

Approved Course: Chemistry I, or II & I part ii, or III & I part ii, with work in the chemical laboratory (p. 180).

BIOLOGY :

- Animal morphology. Vegetable morphology and physiology. Laboratory work.
- Approved Course: Biology I, three lectures a week in the first and second terms, four in the third term; together with laboratory work (p. 185).

APPLIED MECHANICS :

- Theory of simple structures; strength of materials; kinematics of machinery. Machine drawing. Practical geometry.
- Approved Course: Engineering VI, with practical work in the Drawing office (p. 198).

SURVEYING :

- Plane geodesy or surveying; levelling; hydrography; estimating. Descriptive engineering—earthwork and masonry. Machine drawing. Practical geometry.
- Approved Course: Engineering III, with practical work in the Drawing office (p. 197).

LOGIC:

Deductive and inductive logic. Approved Course: Philosophy I (p. 131).

ENGLISH LITERATURE:

- Questions on selected works of two or more authors of different periods treated in their relation to the history of English literature. An essay or essays on the history of a short period of English literature which shall cover at least one of the selected works.
- Books for 1905: Palgrave, Golden Treasury, Book i; Marlowe, Faustus; Sidney, Apology for Poetry; Bacon, Essays; Shakspere, Hamlet; Chaucer, Prologue.

Period : 1558-1603.

Approved Course : English Literature II (p. 123).

FRENCH:

One or more prescribed books in prose or verse, with questions in grammar. Translation at sight from French prose and verse into English. Translation of easy English passages into French. Dictation.

Books for 1905: Racine, *Phèdre* and *Les Plaideurs*. Approved Course: French II or III (p. 125).

GERMAN :

One or more prescribed books in prose or verse, with questions in grammar. Translation at sight from German prose or verse into English. Translation of English sentences into German. Dictation.

Book for 1905: Gutzkow, Zopf und Schwert.

Approved Course: German III and V (p. 128).

EDUCATION:

General principles of education; the elementary theory of teaching, including the logical and psychological principles involved; school organization and discipline; hygiene and physical training; the practice of teaching, with tests of the power of exposition and illustration; optional questions on the teaching of infants. In the practical part of the course candidates will be required to furnish certificates of attendance and competency from the teachers concerned.

Approved Course: Education I, II (p. 140).

Final Examination

9. The Final Examination is held, ordinarily, twice in each calendar year. At the second Final examination only those candidates may present themselves who have received permission from the Senate.

10. Candidates presenting themselves for the Final examination for the Ordinary degree are required to have passed the Intermediate examination, and to furnish certificates of having attended a course of study, approved by the University and extending over at least one academic year, in each of the subjects in which they present themselves.

11. The names of candidates who have passed the Final examination are published in two divisions, the names in each being arranged in alphabetical order.

12. Candidates for the degree of Bachelor of Science with Honours, who have not been awarded Honours in the examination for the degree of Bachelor of Science with Honours at which they have presented themselves, may, if they have in the opinion of the Examiners acquitted themselves sufficiently well in such examination, proceed to the next Final examination for an Ordinary degree of Bachelor of Science without being required to pass the corresponding Intermediate examination. Such candidates may be excused by the Senate from presenting themselves in those subjects in which they have been reported by the Examiners in the Honours School to have acquitted themselves satisfactorily.

13. Candidates presenting themselves for the Final examination for the degree of Bachelor of Science are required to satisfy the Examiners in :---

Two of the following :

Pure and Applied Mathematics. Physics. Chemistry. Zoology. Botany. Physiology. Geology. Mental and Moral Science. Agriculture.¹ Or one of the following :

Engineering.

Electrical Engineering.

N.B. By a resolution of the Senate Mining, Dyeing and Tinctorial Chemistry, and Leather Manufacture, will be included among the subjects of the Final examination on conditions to be hereafter determined. Details will be announced later.

Detailed Subjects of Examination and Approved Courses

MATHEMATICS :

- *Pure*: Analytical plane geometry, up to but not including the general equation of the second degree. The more elementary portions of the differential and integral calculus, and of differential equations (ordinary).
- Applied: Statics of a particle and of a rigid body (exclusive or attractions). Hydrostatics. Kinetics of a particle and of a rigid body (elementary).

Approved Courses: Mathematics, VI and VII (p. 175).

PHYSICS:

Physical laws and principles and the experimental evidence on which they are based. Practical examination in the laboratory.

Approved Course: Physics III, and nine hours a week in the Physical laboratory, see page 177.

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¹ Agriculture may not be presented with Mental and Moral Science.

CHEMISTRY :

General inorganic and organic chemistry, including chemical theory. One of the following treated more fully: (a) chemistry of the non-metals; (b) chemistry of the metals; (c) organic chemistry. Practical chemistry : including qualitative analysis, simple gravimetric and volumetric analysis, and exercises in preparations.

Approved Courses : Chemistry, two of the following if not already attended, II, III, IV, V, and Chemical laboratory, see page 180.

ZOOLOGY :

- Animal morphology. Elements of embryology and of systematic zoology. Laboratory work.
- Approved Course : Biology III, and not less than nine hours a week in the Biological laboratory, see page 187.

BOTANY :

- Elementary tissues of plants; compound organs of nutrition and reproduction. Vegetable physiology. Systematic botany and elements of botanical classification. Laboratory work.
- Approved Course : Biology IV, and not less than nine hours a week in the laboratory, see page 187.

PHYSIOLOGY :

Histology of the animal body. Systematic physiology of the animal body. Laboratory work in histology and physiological chemistry, with a practical examination on the more important instruments employed in physiological research.

GEOLOGY:

- Geology, with practical work. One of the following : (a) elementary palaeontology ; (b) applied geology ; (c) mineralogy.
- Approved Courses: Geology I with II, III, or IV, and not less than four hours a week in the Geological laboratory, see page 190.

MENTAL AND MORAL SCIENCE :

Psychology and Ethics. Psychology (more advanced). *Approved Courses* : Philosophy II and IV (p. 132).

AGRICULTURE :

Soils; manures; crops; feeding stuffs; stock; economics. One of the following:

Agricultural Chemistry¹: Chemistry of soils, manures, feeding stuffs, dairy products, practical agricultural chemistry (including qualitative and quantitative analysis).

*Agricultural Botany*²: structure of plants, plant physiology, elements of botanical classification, diseases of plants.

¹ This subject may not be offered if Chemistry is taken as a principal subject.

² This subject may not be offered if Botany is taken as a principal subject.

Agricultural Zoology¹: injurious insects, farm parasites.

- Veterinary Science : anatomy and physiology of domesticated animals, diagnosis of diseases, hygiene.
- Agricultural Geology²: dynamical geology, lithology, stratigraphy, applied geology.

Bacteriology: morphology, physiology, dairy bacteriology, soil bacteriology, practical work.

ENGINEERING :

Two of the following, A, B, C, provided that if *either* A *or* B has been taken in the Intermediate it must not be repeated.

- A. Theory of simple structures, strength of materials, kinetics of machinery.
- B. Plane geodesy or surveying, levelling, hydrography, estimating; descriptive engineering—earthwork and masonry.
- C. Dynamics of machinery, hydraulics, the steam engine, complex structures, methods of designing structures and machines.

Together with

D. Drawing.

E. Engineering laboratory.

Abproved Courses : Engineering IV, VI, VII, VIII, IX (page 197).

ELECTRICAL ENGINEERING:

- (a) Electricity: theory, applications, and practical work.
- (b) Subject A of Engineering above, or if this has been taken at the Intermediate examination, subject C of Engineering.
- (c) Drawing and Engineering laboratory.
- Approved Courses: Engineering VI, VII, VIII, IX (page 198); Electrical Engineering I, II, III, IV (page 200).

Degree of Bachelor of Science with Honours

14. Candidates for the degree of Bachelor of Science with Honours are, except as hereinafter stated, required to furnish certificates of having attended approved courses of instruction extending over not less than three academical years in one of the Honours Schools of the University hereafter enumerated.

2 This subject may not be offered if Geology is taken as a principal subject.

¹ This subject may not be offered if Zoology is taken as a principal subject.

15. Every candidate for the degree of B.Sc. with Honours is required to present himself at the examination next in date after the expiration of the third academical 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 University Council.

16. Candidates for the degree of Bachelor of Science with Honours may present themselves for examination in any of the following Honours Schools, on furnishing certificates of having attended, in accordance with the University Regulations, the Courses required for such Honours Schools in the University, and on proving to the satisfaction of the Senate that they have performed the exercises of such classes as they shall have attended for such courses, viz. :

> Mathematics. Physics. Chemistry. Zoology. Botany. Physiology. Geology. Engineering.¹

17. Candidates who have passed the Final examination for an Ordinary degree of Bachelor of Science may, with the sanction of the Senate and on furnishing certificates of having attended, during the academical 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 a B.Sc. degree with Honours in such School.

18. Candidates who have passed the Second M.B. examination may, with the sanction of the Senate, and on furnishing certificates of having attended during the academical year following such second M.B. examination

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¹ This examination is accepted by the Council of the Institution of Civil Engineers as exempting from their prescribed examination for Associate Membership.

the third year's, or during the two academical years following such Second M.B. examination the second and third years' 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.

19. No candidate for a degree of Bachelor of Science 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 shall 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.

20. 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.

Honours School of Mathematics

The following attendance¹ is required in the subjects of the school —during three years, six hours a week.

Candidates are also required to attend during the first and second years approved courses of lectures on two other subjects, averaging not less than six hours a week; for one of these lecture courses there may be substituted in each year a laboratory course of six hours a week.²

¹ The Intermediate B.Sc. is accepted instead of the first year's attendance in an Honours School, provided that the subjects chosen and the course attended by the candidate are substantially and to the satisfaction of the Senate those required for the first year's course of the Honours School.

a The following courses of lectures are approved :-Mathematics III, V, VI, VII, VIII, IX; Physics II; Chemistry I or II or III.

Honours Schools

Examination

Ten papers will be set on the following subjects :---PUKE MATHEMATICS : Pure Geometry, plane and solid. Algebra. Theory of Equations and Determinants. Plane Trigonometry. Spherical Trigonometry with simple applications to Astronomy. Analytical Geometry of two and of three dimensions. Elements of Projective Geometry. Differential Calculus with applications to plane curves. Integral Calculus. Ordinary Differential Equations. Partial Differential Equations of the first order. Finite Differences. APPLIED MATHEMATICS :

APPLIED MATHEMATICS : Dynamics of a particle. Statics. Attractions. Dynamics of rigid bodies. Hydrostatics. Elementary Hydrodynamics. Elementary Theory of Sound.

Physics

The following attendance is required in the subjects of the school: During the first year¹ courses of three hours a week each on Physics, Applied Mathematics, Pure Mathematics, together with one other course of three hours a week, for which one day a week in the Physical laboratory may be substituted.

During the second year a course of three hours a week on Physics, with one day a week in the Physical laboratory; and two other courses of two hours a week each, one of which must be Pure or Applied Mathematics.

During the third year two days a week practical work in the Physical laboratory, and two courses of lectures of two hours a week each, for one of which one day a week in the Physical laboratory may be substituted.

Candidates are also required to attend in the first or second year a lecture course in Chemistry of two hours a week; and in one of the three years one day a week in the Chemical laboratory *or* one day a week in the Engineering laboratory.²

¹ See footnote page 162.

 $_2$ The following courses of lectures are approved :--Physics II, III, IV, V ; Mathematics III, V,

Degrees in Science

Examination

Experimental Physics, including Chemical Physics, two papers.

Experimental and Theoretical Physics, requiring a knowledge of the Differential and the elements of the Integral Calculus, two papers.

One of the following :

- Mathematical Physics, more advanced portions, one paper.
- Technical applications of Electricity, requiring a knowledge of the Differential and the elements of the Integral Calculus, one paper.
- Some selected portion of Physics to be approved by the Senate, one paper. Candidates who offer this subject are also required to present an original research or thesis on some subject connected with the portion of Physics selected for examination, the subject of the research or thesis to be submitted to the Senate for approval not later than Dec. 1st preceding the examination.
- Practical examination in the Physical laboratory extending over two days.

Chemistry

Candidates are required to attend :

- During the first¹ and second years systematic courses of lectures on the metallic and non-metallic elements, together with practical work in the Chemical laboratory² for three days a week.
- During the second or third year (a) a systematic course on Organic Chemistry; (b) a course or courses on Chemical Philosophy and Physical Chemistry; and (c) a course or courses in one of the following subjects: Mineralogy and Crystallography, Technological Chemistry, Metallurgy, Sanitary Chemistry, Physiological Chemistry, Chemical Physics treated experimentally.
- During the third year practical work in the Chemical laboratory² for five days a week.

¹ See footnote page 162.

² Candidates, as above stated, are required to take regular courses of Laboratory work; but any candidate who can produce satisfactory evidence that his knowledge is sufficient to make it unnecessary for him to pursue such regular courses shall be allowed, on recommendation of the Board of Science and Technology accepted by the Senate, to proceed to more advanced work or to undertake original investigations, and such advanced work or original investigation may be accepted as substitute for the required Honours Course of Laboratory work provided always that all candidates shall be required to undergo the whole of the Honours Examination in Laboratory work

Honours Schools

Candidates are also required to attend in the first year a course in Pure or Applied Mathematics and a course in Experimental Physics¹; in the second year the Physical laboratory for one day a week; and in the first or second year one additional course.²

Examination

Inorganic Chemistry, one paper.

Organic Chemistry, one paper.

History of Chemistry and of Chemical Philosophy, one paper.

Physical Chemistry, one paper.

One of the following subjects :

Mineralogy and Crystallography, one paper.

Technological Chemistry,³ one paper.

Metallurgy, one paper.

Sanitary Chemistry, one paper.

Physiological Chemistry, one paper.

Chemical Physics treated experimentally, one paper.

Practical Examination in the Laboratory, extending over three davs.

Zoology

The course for the first year is that for the Intermediate examination for the Ordinary degree of Bachelor of Science, Biology being one of the subjects thereof, and candidates are required to pass this examination before proceeding further in their Honours course.

In the second and third year candidates must attend full courses of instruction in Zoology, including laboratory⁴ work; laboratory work in the third year must extend over at least two and a half days a week.

Candidates must also attend for part of one academic year a course in Embryology; and during one year a course in one of the following: (a) Geology, with practical work; (b) Physiology, with laboratory⁴ work; (c) Botany, with laboratory4 work.

4 See footnote 2 page 164.

¹ In the case of students who furnish evidence of possessing a satisfactory knowledge of Elementary Physics, another course may be substituted for Experi-mental Physics in the first year, provided Physics is taken in that case as an

mental Physics in the first year, provided Physics is taken in that case as an additional course in the first or second year. 2 The following courses of lectures are approved :--Chemistry II, III, IV, V; Lectures on Colouring Matters, 2 classes; Leather Lectures, I, II; Mathematical Classes, recognised for Ordinary B.Sc.; Mineralogy. 3 The following are among the subjects included under this head, from which the candidate may select on e²-1. Alkali, Sulphuric Acid, and kindred industries. 2. Fuel. 3. Colouring Matters. 4. Dyeing and Printing. 5. Distillation of Coal and Coal Tar products. 6. Chemistry of Leather Manufacture. 4 See founde 2. are for

Degrees in Science

Examination

I. Zoology, Comparative Anatomy (including the more important extinct forms), Embryology, four papers.

One of the following :

Geology, one paper.

Physiology, one paper.

Botany, one paper.

Practical examination in the laboratory, extending over three days, the third being devoted to the subject taken under 2.

Botany

The course for the first year is that for the Intermediate examination for the Ordinary degree of Bachelor of Science, Biology being one of the subjects thereof, and candidates are required to pass this examination before proceeding further in their Honours course.

In the second and third years candidates must attend full courses of instruction in Botany, including laboratory¹ work; laboratory work in the third year must extend over at least two and a half days a week.

Candidates must also attend in the second or third year a course in *one* of the following: (a) Zoology, with laboratory work; (b) Geology, with practical work; (c) Physiology, with laboratory work; (d) Organic Chemistry, with laboratory work.

Examination

- I. Botany, including Vegetable Anatomy and Morphology, Vegetable Physiology, Systematic Botany, and the Distribution of Plants in time and space, four papers.
- 2. One of the following :

Zoology, one paper.

Geology, one paper.

Physiology, one paper.

Organic Chemistry, one paper.

Practical examination in the laboratory, extending over three days, the third being devoted to the subject taken under 2.

Physiology

The course for the first year is that for the Intermediate examination for the Ordinary degree of Bachelor of Science, Biology being one of the subjects thereof, and candidates are required to pass this examination before proceeding further in their Honours course.

1 See footnote 2, page 164.

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2

In the second and third years candidates must attend full courses of instruction in Physiology, including laboratory work ; laboratory work in the third year must extend over at least two and a half days a week.

Candidates must also attend in the second or third year an approved course of lectures in *one* of the following: (a) Mathematics, three hours a week; (b) Physics, two or three hours a week, together with laboratory¹ work; (c) Chemistry, three hours a week, together with laboratory¹ work: (d) Human Anatomy with practical work; (e) Zoology, three hours a week, with laboratory¹ work; (f) Psychology, three hours a week.

Candidates must also attend in the second or third year an approved course of lectures in *one* of the following: (a) Practical Physics, with laboratory¹ work; (b) Organic Chemistry, with laboratory¹ work; (c) Comparative Anatomy,¹ two hours a week, with laboratory work; (d) Advanced Psychology, two hours a week.

Examination

1. Animal Physiology, three papers.

 One of the following : Physics, one paper. Organic Chemistry, one paper. Comparative Anatomy, one paper. Psychology, one paper.

Practical examination extending over three days, the third being devoted to the subject taken under 2.

Geology

In this school there are alternative schemes of study, Scheme A---Physical, and Scheme B--Biological.

Scheme A

The course for the first year is that for the Intermediate examination for the Ordinary degree of Bachelor of Science, and candidates are required to pass this examination before proceeding further in their Honours course.

In the second and third years attendance is required on the following courses of study :

In each year a full course in Geology (including laboratory¹ work) of six hours a week.

1 See footnote 2, page 164.

Degrees in Science

In the second year courses in Physics and Chemistry, including one day a week of laboratory work in each subject, and a course in Elementary Mineralogy. In the third year a course of lectures and practical work in *one* of the following: Mineralogy, Inorganic

Chemistry, Physics, and Metallurgy.

Candidates are also required to present a certificate of having, during the third year, devoted at least one hour a week under the direction of the Professor in the special subject presented by them at the examination for Honours.

Examination

I. Geology, two papers.

2. Petrology, one paper.

3. One of the following :

Mineralogy, one paper. Inorganic Chemistry, one paper. Physics, one paper. Metallurgy, one paper.

- 4. A special paper in Geology or Petrology, or in some branch of Physics, Chemistry, or Metallurgy, bearing on Geology or Petrology, to be selected by the candidate with the approval of the Senate.
- 5. Practical examination, extending over three days, the third being devoted to the subject taken under 3.

Scheme B

The course for the first year is that for the Intermediate examination for the Ordinary degree of Bachelor of Science, Biology being one of the subjects included, and candidates are required to pass this examination before proceeding further in their Honours course.

In the second and third years attendance is required on the following courses of study :—

- In each year a full course of instruction in Geology and Palæontology, including practical work.
- During two terms of the second year, a course of lectures (three hours a week) in Zoology, with laboratory work.
- During two terms of the third year, a course of lectures (three hours a week) in the Zoology of the

Vertebrates, together with Practical Osteology

A course of Palæobotany, with practical work.

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Honours Schools

Candidates are also required to present a certificate of having, during the third year, devoted at least one hour a week to work, under the direction of the Professor, in the special subject presented by them at the examination for Honours.

Examination

Geology, one paper.

Palæontology, one paper.

Special Paper on some subject in Palæontology, selected by the candidate with the approval of the Senate.

Zoology, one paper.

Palæobotany, one paper.

Practical examination in Geology, Palæozoology and Palæobotany, Zoology, extending over three days, the third being devoted to Zoology.

Engineering

Candidates are required to present certificates of having attended¹:

- During three academic years courses in Engineering averaging three hours (lectures) a week in the first year, four hours a week in the second year, and four hours a week in the third year, with practical work for about seven hours a week in each year.
- During two academic years courses of three hours a week in Pure Mathematics and in Experimental Mechanics or Applied Mathematics, and in the third year a course of three hours a week either in Pure or in Applied Mathematics.

Two courses of at least two hours a week each throughout one academic year, selected from one or more of the following subjects : Physics, Chemistry, Geology.²

Examination³

I. ENGINEERING, including the following subjects, seven papers : Linear and angular measurement.

Plane geodesy or surveying. Levelling. Hydrography.

Estimating.

¹ See footnote page 162. 2 The following courses of lectures are approved :- Engineering, I, III, IV, VI, VII; Electrical Engineering, I, II, III; Mathematics, III, V, VI, VII; Physics, I, II, III; Chemistry. I or II, or III (2 terms only); Geology, I and III. 3 This evamination is recognized by the Council of the Institution of Civil Engin-eers as exempting from their prescribed examination for Associate Membership,

Descriptive Engineering—earthwork and masonry. Graphics. Linear Drawing. The theory of concrete forces. The theory of simple structures. The theory of the strength of materials. Kinematics of machinery. Descriptive Engineering—bridges, roofs and machines. Dynamics of machines. Hydraulics. The theory of heat and steam engines. The theory of complex structures. Methods of designing structures and machines. Application of electricity to engineering.

11. MATHEMATICS, including the following subjects, three papers : Analytical plane and solid geometry. Differential and integral calculus. Statics, dynamics of a particle, rigid dynamics, hydrostatics.

DEGREE OF MASTER OF SCIENCE.

1. The degree of Master of Science is conferred, on payment of the proper fee, upon registered Bachelors of Science, when of three years' 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 examination¹ on *one* of the following subjects : Mathematics, Physics, Chemistry, Zoology, Botany, Physiology, Geology, Engineering. Certificates of attendance are not required.

4. The names of candidates who have passed the further examination for the degree of Master of Arts or of Science are arranged in alphabetical order without distinction of classes.

Examination

MATHEMATICS :

Analytical Geometry, Plane and Solid. Differential and Integral Calculus. Dynamics and Statics of a Particle. Hydrostatics and Rigid Dynamics.

The fee must be paid before March 31.

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.

Practical examination, one day.

CHEMISTRY :

Inorganic Chemistry, one paper.

Organic Chemistry, one paper.

One of the following :

History of Chemistry and of Chemical Philosophy, one paper. Physical Chemistry, one paper.

Mineralogy and Crystallography, one paper.

Technological Chemistry, one paper.

Metallurgy, one paper.

Sanitary Chemistry, one paper.

Physiological Chemistry, one paper. Chemical Physics treated experimentally, one paper.

Practical examination, one day.

ZOOLOGY :

Zoology and Comparative Anatomy (including the more important extinct forms) and Embryology, two papers.

Practical examination, one day.

BOTANY :

Botany, two 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.

ENGINEERING :

Surveying and Descriptive Engineering. Theory of Structure and Strength of Materials.

Designing and Drawing.

Mechanics and Kinematics.

DEGREE OF DOCTOR OF SCIENCE

1. The degree of Doctor of Science is conferred by the University upon registered Masters of Science of the University who shall be deemed by the Council, on a report furnished 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 Science 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 Council, the degree may be conferred at the expiration of not less than six years from the date of admission to the Bachelor's degree.

DIPLOMAS

Diplomas in the following subjects will be granted by the University to students who pursue prescribed courses of study, and pass prescribed examinations: Engineering, Civil, Mechanical, and Electrical; Coal Mining; Textile Industries—(1) Textile Designing and Cloth Finishing, (2) Woollen and Worsted Spinning, (3) Textile Manufacturing; Dyeing; Leather Manufacture.

The course of study prescribed for Diplomas, except where specially mentioned, extends over three years, and includes in each case some subject or subjects other than those which give the title to the Diploma.

General Regulations

Applicable to all Diplomas

Candidates for Diplomas are required to give satisfactory attendance upon all the subjects which form part of their course of study, and to present themselves for the class examinations 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.

Special Regulations

Engineering, Civil, Mechanical, and Electrical; Coal Mining: Full details will be found in the separate prospectus of the Engineering Departments, to be obtained from the Registrar.

Textile Design, Spinning, and Cloth Manufacture: Full details will be found in the separate prospectus of the Department of Textile Industries, to be obtained from the Registrar.

Dyeing. Details under the Department of Dyeing and Tinctorial Chemistry, page 215.

Leather Manufacture : Details will be found under the Department of Leather Industries, page 223.

MATHEMATICS

Professor Rogers Mr. Watson

I. Matriculation Course

Mondays, Wednesdays, and Fridays, at 2 p.m.

The subjects are elementary geometry, algebra, and arithmetic, as required for the Matriculation examination. Text books will be recommended by the Professor.

Fee, £3 135. 6d.

II. First Year Course for Engineers

Mondays, Wednesdays, and Fridays, at 3.0 p.m. This course will treat of algebra, elementary trigonometry, and other subjects useful to engineering students.

Fee, £3 135. 6d.

III. Intermediate Course in Pure Mathematics

Mondays, Wednesdays, and Fridays, at 2 p.m.

Students reading for the Intermediate B.Sc. examination attend for all three hours; students reading for the Intermediate B.A. examination attend on Mondays and Wednesdays only.

Fee for three hours a week, \pounds_3 13s. 6d.; for two hours, \pounds_2 12s. 6d.

Books recommended

Hobson and Jessop, *Elementary Trigonometry* (Cambridge) Bottomley's *Mathematical Tables* (Collins, Is.)

IV. Second Year Course for Engineers

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

The subjects are elementary co-ordinate geometry, differential and integral calculus.

Fee, £ 3 135. 6d.

Book recommended Castle's Calculus for Engineers

V. Intermediate Course in Applied Mathematics

Mondays, Wednesdays, and Fridays, at 4 p.m. Elementary statics, dynamics, and hydrostatics. Fee, \pounds_3 13s. 6d.

Book recommended Jessop, Elements of Applied Mathematics (Bell, 4s. 6d.)

Mathematics—Physics

VI. Final Course in Pure Mathematics

Mondays, Wednesdays, and Fridays, at 11.30 a.m Subjects : co-ordinate geometry, differential and integral calculus.

Fee, £3 138. 6d.

Book recommended Lamb, Infinitesimal Calculus

VII. Final Course in Applied Mathematics

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

Subjects: statics, dynamics, and hydrostatics. Text books will be recommended by the Professor.

Fee, £3 135. 6d.

VIII., IX. Honours Courses in Pure and Applied Mathematics

Courses of lectures of three hours a week each in Pure and Applied Mathematics will be delivered to students reading for Honours in Mathematics. Hours of meeting will be arranged.

Fee for each course, $\pounds 3$ 13s. 6d.

PHYSICS¹

Chair endowed in 1884 by public subscription in memory of the late Lord Frederick Cavendish, first President of the Yorkshire College

Professor Stroud Mr. Allen Mr. Shorter

LECTURE COURSES

I. Matriculation Course, Elementary Mechanics

Experimental Lectures : Tuesdays and Thursdays, at 9.30 a.m., throughout the Session.

Exercise Class—Saturdays, at 9.30 a.m., throughout the Session.

This course will embrace the subject of Mechanics, and is framed to meet the requirements of candidates for the Matriculation examination of the University of Leeds.

¹ Candidates for the First examination in Medicine, or the Intermediate Science or Preliminary Scientific (M.B.), London, should refer to the Course given on page 243.

The subjects will be as follows: properties of matter, composition and resolution of forces, the simple machines, the balance, centre of gravity, friction, laws of motion, falling bodies, laws of fluid pressure, specific gravity, Boyle's law, the barometer, the air pump, the siphon.

Fees—For the whole course, \pounds_3 135. 6d.; for the Experimental lectures only, \pounds_2 125. 6d.; for the Exercise class only, \pounds_1 5s.

Text Book.

Pinkerton's Mechanics and Hydrostatics (Blackie & Son, 3s. 6d.)

II. Intermediate Course

Experimental Lectures—Wednesdays and Fridays at 3 p.m., or Wednesdays and Fridays at 4 p.m.

Exercise Class—Mondays at 3 p.m., or Thursdays at 9.30 a.m., throughout the Session. Students taking the whole course will therefore attend either on Mondays, Wednesdays, and Fridays at 3 p.m., or on Wednesdays and Fridays at 4 p.m., and Thursdays at 9.30 a.m.

This course will be divided into two parts : the first will consist of experimental lectures describing and exhibiting the chief phenomena of Electricity and Magnetism. The second part will treat of *Mechanics*— Work, centrifugal force, the pendulum, elasticity; *Heat*—Temperature, expansion, change of state, relations of heat and work, mechanical equivalent of heat; *Acoustics*—Nature of sound wave motion, velocity of sound, musical intervals, vibrations of rods and strings; *Light*—Velocity of light, methods of measuring the intensity of light, the spectrum, reflection and refraction at spherical surfaces, achromatism.

Fees for the whole course, the same as for the first year course. For Parts I. or II. only $\pounds 2$ 2s. For the Experimental lectures of Parts I. or II. only, $\pounds 1$ 11s. 6d.

Text Books

Part I. S. P. Thompson, *Electricity and Magnetism* (Macmillan, 4s. 6d.)

Jones, *Examples in Physics* (Macmillan, 3s. 6d.) Part II. Jones, *Sound, Light, and Heat* (Macmillan)

Recapitulation Class.

This class is intended for students of the Intermediate course who fail to get a first or second class in the terminal

Physics

examinations, and will be limited to such students. The class will meet for one hour per week on Mondays, at 9.30 a.m., during the second and third terms.

Fee, £, 1 15.

III. Final Course

Lectures—Mondays, Wednesdays, and Fridays, at 10.30 a.m., throughout the Session.

In this course the various branches of Physics will be discussed in a more advanced manner than in the preceding courses. The complete course will consist of two parts, the first comprising certain parts of Mechanics, the theory of Gravitation, and Astronomy, Acoustics, Light, and Heat. The second part will be devoted to Electricity and Magnetism.

Among the subjects discussed will be :--

- Part I.—Oscillation, theory of attraction, gravitation, elements of astronomy, elasticity, capillarity, vibration, interference, laws of cooling, conductivity, laws of thermodynamics, the eye, spectrum analysis, physical optics, optical interference, polarisation.
- Part II.—Electrostatics, electrometers, magnetism, electrical and magnetic potential, magnetic measurements, terrestrial magnetism, magnetic permeability, the voltaic battery, electrical currents, electro-magnetism, electro-dynamics, resistance, &c.

Fee, \pounds , 3 13s. 6d.

Text Book

Watson, Physics (Longmans 10s. 6d.)

The following works may also be usefully consulted :--

Poynting & Thomson, Properties of Matter and Properties of Sound

Edser, Heat and Light

Foster & Porter, Electricity and Magnetism

IV., V. Honours Course

Three lectures a week throughout the Session, at times to be arranged.

This will form a continuation of the previous course, and will treat the subject mainly from the mathematical standpoint. It is designed to meet the requirements of candidates for Honours in Physics. The complete course extends over two Sessions. Fee, £3 13s. 6d. per Session.

N.B.—The class will meet for the first time on Thursday, October 6, at 2 p.m., when times will be arranged for the Lectures to suit the convenience of students attending the class.

VI. Surveying Instruments

Experimental lectures—One per week during the Second Term, at times to be arranged.

This course of ten Experimental lectures is intended for students of Civil Engineering and others, who require a knowledge of the chief instruments in use for surveying purposes.

The instruments discussed and exhibited will embrace the sextant, optical squares, telescopes, telescopic eye pieces, tacheometers and telemeters, range and position finders, curve rangers, aneroid barometers.

Determination of Azimuth, Latitude and Longitude.

This Class will not be held unless six students at least present themselves.

Fee, 105. 6d.

PHYSICAL LABORATORY

The Physical laboratory will be open from 9.30 a.m. to t p.m., and from 2 to 5 p.m. (except on Saturdays), for instruction in the methods of performing physical experiments.

Students preparing for the Intermediate B.Sc. examinations or for the First examination in Medicine, will require to devote at least three hours per week throughout the session to practical work. Those, however, who are intending to take Physics as one of their subjects in the Final B.Sc. examination are recommended to take one day per week while preparing for their Intermediate examination.

A student preparing for the Final B.Sc. examination is required to devote at least nine hours per week for one session to practical work. Whenever possible, however, it is recommended that twelve hours per week be given to

Physics

the subject. Those who are intending to spread the course over two years are recommended to spend six hours per week for each of the two sessions.

The laboratory will be open for the different classes of work according to the following table :---

1.1.1.1	9.30—12.30.	.2.05.0.
М.	Honours.	Final.
Tu.	Final.	Intermediate.
w.	Honours.	Final.
Th.	Final.	Intermediate.
F.	Honours.	Final.
S.	Intermediate.	the better fact for

Text Book for Intermediate Course:-Schuster & Lee's Intermediate Physics (Macmillan).

For Fees, see page 82.

(direa) Visato

General Elementary Science

This Class, which is intended for teachers, will meet on Saturdays from 9.30 a.m. to 12.30 p.m., for half the Session. It will be divided into two sections, viz.:--

I. For those who are new to the study of Science.

2. For those who have taken Science courses.

Section 1 will meet from the beginning of the Session to the middle of the Second Term.

Section 2, from the middle of the Second Term to the end of the Session.

The classes will be co-ordinate with classes in the Chemical department. See page 183.

Fee, £,2 125. 6d.

Courses in Science

CHEMISTRY¹

Professor	SMITHELLS	Professor Cohen
Dr.	PATTERSON	Dr. DAWSON
Mr.	Lowson	Mr. WHITELEY

LECTURE COURSES

I. General Course of Chemistry

The Lectures of this course are given throughout the Session, on Mondays, Wednesdays, and Fridays, at 11.30 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.

Fee for the whole Course (including tutorial class), \pounds_4 4s.; Fee for Part I., \pounds_3 13s. 6d.; for Part II., \pounds_1 1s.

II. Inorganic Chemistry²

Advanced Course-Metals

Mondays, Wednesdays, and Fridays, at 9.30 a.m., throughout the Session.

This class will deal chiefly with the Metals and their Compounds. A previous general knowledge of chemistry is necessary.

Fee, £3 135. 6d.

III. Inorganic Chemistry

Advanced Course-Non-Metals

Tuesdays, Thursdays, and Saturdays, at 9.30 a.m., throughout the Session.

This class will deal chiefly with the chemistry of the non-metallic elements. A previous general knowledge of chemistry is necessary.

Fee, £, 3 13s. 6d.

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r Candidates for the First examination in Medicine, or the Intermediate Science or Preliminary Scientific (M.B.), London, should refer to the Course given on page 243.

² It will be advisable, as a rule, for students to take Course II. before Course III. but this order is not essential.

Chemistry

IV. 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.

Fee, £3 13s. 6d.

V. Honours Courses

A. Organic Chemistry

Professor COHEN

Mondays, Wednesdays, and Fridays, at 12 (noon), during the first and second terms. Fee, £,2 125. 6d.

B. History of Chemistry

Professor COHEN

Mondays, Wednesdays, and Fridays at 9.30 a.m., during the first term.

Fee, £, 1 115. 6d.

C. Physical Chemistry

Dr. DAWSON

Tuesdays, Thursdays, and Saturdays, at 9.30 a.m. during the second and third terms.

Fee, £,2 125. 6d.

D. Electro-Chemistry

Dr. DAWSON

One hour weekly at a time to be arranged. Fee, £1 115. 6d.

VI. Chemistry of Food and Drugs

During the third term a special class will be held for those students who are taking the Final examination of the Institute of Chemistry in Branch E (Food and Drugs).

Fee, £,2 25.

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.

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,¹ and also, if required, a few of the more costly tests, and any expensive materials which he 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.

For Fees see page 82.

Students taking the course for the First examination in Medicine or the Preliminary Scientific (M.B.) of the University of London, must attend at the hours specified on page 243.

2. Practical Organic Chemistry for Medical Students

Tuesdays and Thursdays, from 10 to 12 (noon) during the Third Term. A tutorial class is included. Fee, \pounds_2 25.

1 For the convenience of students, a supply of apparatus is kept at the University, and may be purchased from the Laboratory steward.

Chemistry

3. 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 term of the session, from beginning of January to end of March, on Tuesdays and Thursdays, from 2 to 5 p.m., 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, sulphur dioxide and dust.

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.

Fee, £, 5 5s.

4. General Elementary Science

This Class, which is intended for teachers, will meet on Saturdays from 9.30 a.m. to 12.30 p.m. for half the Session. It will be divided into two sections, viz. —

1. For those who are new to the study of Science.

2. For those who have taken Science courses.

Section I will meet from the middle of the Second Term to the end of the Session,

Section 2, from the beginning of the Session to the middle of the Second Term.

The classes will be co-ordinate with classes in the Physical Department. See page 179.

Fee, £2 125. 6d.

Applied Chemistry Course

The following course of instruction is recommended to students who intend to devote themselves to Applied Chemistry :---

First Year—Chemistry Lectures.—General Course or Advanced Course II.

Chemical Laboratory (3 days per week). Mathematics. Physics. French or German.

Fee for the First Year Course (including Entrance Fee of \pounds_1 1s. and Union Fee of 10s. 6d.), with General Chemistry, \pounds_28 18s. 6d.; with Advanced, \pounds_28 9s.

Second Year.—Chemistry Lectures.—Advanced Course, II. or III., or both.

Organic Chemistry.

Chemical Laboratory (3 days per week)

Physics.

French or German.

Fee for the Second Year Course (including Union Fee), with Advanced Chemistry, Course II. or III., \pounds_{27} 8s. with both, \pounds_{30} 14s. 6d.

Third Year—Organic Chemistry.

Honours Courses, B, C, D. Chemical Laboratory (4 days per week). Physical Laboratory (1 day per week.) Elementary Engineering.

Fee for the Third Year Course (including Union Fee) \pounds_{33} 18s. 6d.

The above course is suitable for students preparing for the Associateship of the Institute of Chemistry.

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Biology

BIOLOGY

Professor Miall Dr. Smith Mr. Taylor Mr Walker Mr. Unwin

I. Intermediate Course : Elementary Biology

A. Zoology 1

Lectures on Mondays, Wednesdays and Fridays during the first term, and on Mondays and Wednesdays during the second term, at 10.30 a.m. Demonstrations and Laboratory work on Mondays, from 2.0 to 5.0 p.m., and Tuesdays, from 9.30 a.m. to 12.30 p.m., during the first term, and on Mondays, from 2.0 to 5.0 p.m. during the second term.

Subject: Types of Animal Life.

Text Books.

Marshall, *The Frog* (Cornish, 3s. 6d.) Marshall & Hurst, *Practical Zoology* (Smith, Elder & Co., 10s. 6d.)

Fee, £5 5s. (including Laboratory practice).

Each student is required to provide himself with a microscope, a pocket lens, a dissecting case (a suitable case is made for Reynolds & Branson, Leeds, and sold at 13s. 6d.), a biological drawing book (Jackson, Leeds, 1s.), two razors and a strop.

Any of the following microscopes will suffice for the biological work. The Professor of Physiology recommends students who intend to take Practical Physiology in a later part of their course to procure one of the first three.

I. Swift's College Stand, with Zeiss D objective in place of $\frac{1}{4}$ in., $\pounds 6$ 10s.

2. Swift's College Stand, with Zeiss DD in place of $\frac{1}{4}$ in., $f_{.7}$ 2s.

3. Leitz' Stand, II.b, with objectives 3 and 7, £6 5s.

4. Swift's College Stand, with Swift's 1 in. and $\frac{1}{6}$ objectives, \pounds_{5} 5s.

1 This course will prepare for the examination of the University in Elementary Biology (see Time-table on page 243). It is recognised by the Royal College of Surgeons as meeting its requirements in Comparative Anatomy.

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Every microscope should be fitted with a ruled circle in the eyepiece for drawing. Messrs. Reynolds & Branson will supply such a circle for 7s. 6d., or 6s. 6d. when included with a microscope.

Revision Class

A Revision Class in Zoology will be held in the third term, meeting on Thursdays at 11.30 a.m. Practical work on Fridays from 9.30 to 11.30 a.m.

Fee, £1 1s.

B. Botany¹

Lectures on Fridays at 10.30 a.m., during the second term, and on Mondays and Wednesdays at 9.30 a.m., Tuesdays and Thursdays at 2 p.m., during the third term. Demonstrations and Laboratory work on Tuesdays from 9.30 to 12.30, during the second term, and on Mondays and Wednesdays, 10.30 to 11.30 a.m., Tuesdays and Thursdays, from 3 to 5 p.m. during the third term. Also, for candidates taking the London Inter. Science examination, Tuesdays from 9.30 to 12.30 during the third term.

SUBJECTS.—Types of plant life; the elements of descriptive and systematic botany.

Fee, \pounds_{55} 5s. (including Laboratory practice).

Text Books

Bower, Practical Botany for Beginners (Macmillan, 3s. 6d.). Simpson, Families of British Flowering Plants (Jackson, 1s.).

II. Medical Biology

During the first term the Lectures will be given on Mondays, Wednesdays and Fridays at 10.30 a.m.; demonstrations and Laboratory work on Mondays from 2 to 5, and Tuesdays from 9.30 to 12.30, During the second term the Lectures will be given as above; Laboratory work on Tuesdays from 10.30 to 12.30, and Fridays, from 2 to 4 p.m.

Fee, \pounds , 5 5s. (including Laboratory practice).

Text Books and Regulations as for Elementary Biology, A. Zoology (above).

¹ This course will prepare for the examination of the University in Elementary Biology (see Time Table on page 243).

Biology

III. Final Course: Zoology

A. (Year following Intermediate examination). Lectures three times a week throughout the session, at hours to be arranged with the class.

Subjects. The structure and life-history of selected animals; the classes of the animal kingdom; extinct vertebrates.

B. (Final year). Lectures twice a week throughout the session, at hours to be arranged with the class.

Subjects. The development of selected animals; remarkable extinct animals; the orders of vertebrates, mollusks and insects; the freshwater fauna; the geographical distribution of animals in connection with the physical history of the continents.

Fee for each session, $\pounds 5$ 5s.

Courses of laboratory work, occupying from nine to twelve hours per week, at the choice of the student, will be provided in connection with these courses of Lectures. For fees, see scale of laboratory fees on page 82.

The courses will prepare for the Zoology of the Final B.Sc. examination.

IV. Final Course: Botany

A. (Vear following Intermediate examination). Lectures on Mondays, Wednesdays, and Fridays throughout the session, at hours to be arranged.

The life-history and relationships of representative groups of plants Physiology and anatomy of plants.

The laboratory work accompanies the lectures, and must extend to at least nine hours a week.

B. (Final year). Two lectures a week during the first and second terms.

A detailed course on a selected group of cryptogams. Classification and distribution of important orders of phanerogams.

The œcology of plants and plant communities.

The structure of important groups of fossil plants.

Fee for each session, \pm , 5 5s.

Laboratory work is provided to accompany the lectures. (For fees see p. 82).

The course will prepare for the Botany of the Final B.Sc. examination.

Courses in Science

V. Economic Entomology

Lectures at 11.30 on Thursdays; Laboratory work, 9.30 to 11.30, on Fridays during the first term. The course will commence on October 13.

The structure and classification of Insects will be treated in an elementary way, and the life-history of certain types will be followed out. It is expected that attention to the work of the class will qualify any student to read with advantage special memoirs on injurious Insects.

Special arrangements will be made for the benefit of students desirous of taking a fuller course of instruction in Economic Entomology, either for teaching purposes or to qualify for appointments.

Fee, £,1 115. 6d.

Text Book

Miall, Injurious and Useful Insects (Bell & Sons, 3s. 6d.).

VI. Biological Laboratory

The Biological laboratory will be open daily from 9.30 a.m. to 5 p.m. (Saturdays, 9.30 to 12.30).

For Fees see page 82.

Each Laboratory student, or student taking a practical class in Biology, will be required to use his own microscope and dissecting instruments. Microscopes may be had on loan from the University at the rate of 2s. 6d. each per term, to be paid in advance. The Regulations hung up in the Biological laboratory are to be observed by all students in this department.

VII. Natural History for Agricultural Students

Lectures and Laboratory work on Mondays, 10.30 to 12.30; Wednesdays at 11.30; Fridays, 9.30 to 11.30, during the first and second terms, commencing October 12.

Subjects: elementary facts of structure of plants and animals; drawing; the use of the microscope; simple experiments on the growth of plants and allied matters; the elements of Agricultural Botany.

Fee, £,2 125. 6d.

VIII. Botany for Agricultural Students

(Second year of Agricultural Course).

Mondays and Wednesdays, from 2 to 4 p.m., and Fridays, at 2 p.m., during the first and second terms.

Subjects : Structure and nutrition of plants ; the elements of systematic Botany ; diseases of crops caused by fungi.

Laboratory work to accompany the Lectures, with special work on identification of grasses and other crop-plants, common weeds, and diseases of plants.

This course will prepare for the National Diploma examination.

Fee, £3 35.

IX. Forestry

During the third term. Lecture hours (twice a week) to be arranged. Laboratory work on Tuesdays and Thursdays, 9.30 to 11.30.

Occasional excursions will be made during the Term; students to pay their own railway fares or other expenses.

Subjects: (1) Forest Botany; the structure and growth of trees and timber.

(2) General Forestry; trees in relation to soil and climate; the growth of trees in the open and in forests; formation and regeneration of woods and plantations; pure and mixed woods; general management of trees.

Laboratory work includes identification of important trees and timbers, and common diseases of trees.

Fee, £,2 125. 6d.

X, XI, XII. Saturday Classes in Elementary Biology

X. Botany

Mr. WALKER

A course of elementary lessons, suited to the requirements of teachers, will be given on Saturday mornings from 9.30 to 12.30, throughout the session. The following subjects will receive attention:—the classification of Flowering Plants, types of Cryptogams and Flowering Plants, the mode of life of the higher plants. Special attention will be given to the study of living plants, and occasional excursions will be held. Fee for the session, \pounds_3 3s.; for one term, \pounds_1 11s. 6d.

The Biological laboratory will be open on Saturdays from 9.30 to 12.30, and from 2 to 5 for other students; among the rest for students preparing for the examinations of the London University. For fees see the scale on page 82.

XI. Nature Knowledge

Professor MIALL

The Class will meet on Saturdays from 9.30 to 12.30, beginning October 8, and will extend throughout the session.

Natural objects will be studied in the Laboratory, and afterwards discussed in the class-room.

Fee, £5 5s.

XII. Experimental Plant Physiology

Mr. WALKER

This Class will be held at the Manor Farm, Garforth, on Saturday afternoons throughout the Session. It is intended for Teachers of Horticulture, and is held in connection with a course in Horticulture, which is given in the mornings.

Fee for the two Courses, £1 125. 6d.

PHYSIOLOGY

Professor BIRCH

Mr. CLARK

For Courses in this Department see pages 264 to 266.

GEOLOGY

Professor KENDALL Mr. DWERRYHOUSE

I. Final Course in Geology

Mondays, Wednesdays, and Fridays throughout the Session, at 2 p.m.

SYLLABUS.—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.

Geology

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. Mountain-building. The elements of Stratigraphical Geology and Palæontology. The application of Geology to Civil Engineering.

Fee, £,3 135. 6d.

II, III, IV. 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.

Lecture Fee, \pounds_2 125. 6d. for each Course.

V. Honours Course in Geology

A Course of not less than 90 Lectures will be given at hours to be arranged with the students.

Fee, $\pm, 3$ 135. 6d.

VI. Honours Course in Mineralogy

A Course of 30 Lectures and demonstrations will be given for students reading for Honours Geology (Scheme A).

Fee, £1 115. 6d.

VII. Mineralogy for Mining Course

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.

Lectures on Wednesdays and Fridays, at 11.30 a.m. Lecture Fee, \pounds , 2 12s. 6d.

VIII. Agricultural Geology

A Course of about 60 Lectures will be given on Mondays, Wednesdays, and Fridays, during the First and Second Terms, at 11.30 a.m., commencing October 12. SYLLABUS.—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.

Fee, £ 2 125. 6d.

IX. Geology applied to Sanitary and Civil Engineering

On Mondays, during the second and third terms, at 5 p.m.

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, sewage-farms, &c.

Fee, 105. 6d.

X. Field Course

A Course of Practical Instruction, with Field Excursions, will be given at times to be arranged.

Fee, \pounds_3 135. 6d. An allowance of \pounds_1 15. will be made to students who attend the excursions towards the payment of railway fares.

XI. Laboratory

The Geological Laboratory will be open every day except Thursday.

Students preparing for the Final B.Sc. (Ordinary), will be required to take not less than 4 hours practical work a week exclusive of the time devoted to II., III., or IV. Students preparing for Honours will be required to take not less than 6 hours a week.

For fees, see page 82.

XII. 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.

Fee, £1 1s.

XIII. Matriculation Course: Geography

Mondays, Wednesdays, and Fridays, at 9.30 a.m., in the second and third terms.

(a) Physical Geography:

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The agents at work on and beneath the surface of the earth. Phenomena resulting from earth-heat. Distribution of land and water.

G

(b) Political and Commercial Geography:

Political and Economic Effects of natural features and conditions. Outlines of Geography of the British Empire (including Historical Geography). Political and Commercial Geography of the United Kingdom. The Course will prepare for the Matriculation Examination. Fee, $\pounds 2$ 125. 6d.

CIVIL & MECHANICAL ENGINEERING

Professor GOODMAN

Dr. Wilson Mr. MacLachlan Mr. Myers Mr. Duncan

The course of instruction in Engineering extends over three sessions, and comprises (a) Lectures on Engineering Principles and Work; (b) Instruction in Machine and Geometrical Drawing; (c) Experimental Work in the Engineering Laboratory.

The work of the 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.

It is very desirable that, when possible, students should have some practical experience in engineering works before taking up the University course.¹

An ordinary three hours' Examination is held at the end of the first and second terms. At the end of the third term a piece of designing and drawing work is set, for which a fortnight is allowed.

For Scholarships and Bursaries open to students of Engineering, see page 292 and following pages.

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¹ See a pamphlet published by the University on "The Training of Professional Engineers." The Registrar will forward a copy on application.

Entrance Examination

All students entering the departments of Civil and Mechanical and Electrical Engineering, or entering the three years' course and the Diploma course in Mining, are required to produce certificates of having passed the Matriculation examination, the Oxford and Cambridge local examinations in Mathematics, London Matriculation, or other approved examination, or to pass the following Entrance¹ examinations :—

Arithmetic: The ordinary rules of Arithmetic including vulgar and decimal fractions, proportion, factors, H. C. F. and L. C. M., practice, square root, conversion from English to Metric system, averages, percentages, interest.

- Algebra: The ordinary rules of Algebra including fractions, brackets, simple equations with problems. H. C. F. and L. C. M.
- Geometry: The first book of Euclid or its equivalent including riders.

Every student is required to pass in each subject.

Students under 17 have to take a paper on English Composition and Dictation as shown on page 78.

Students who do not take the ordinary mathematical course for Engineers, or who enter in January, will be required to pass an entrance examination in the following subjects :---

- Algebra: Up to quadratic and simultaneous equations, involving two or three unknowns, with problems. Binomial theorem, logarithms. *Trigonometry*: Up to and including the solution of triangles. *Geometry*: The first three books of Euclid or their equivalent, with riders.
- 2. *Mechanics*: Moments, levers, centre of gravity, resolution of forces, pulleys, work, friction, laws of motion, falling bodies, fluid pressure.

Degree and Diploma Courses

Students who can devote three years to attendance at the University, are strongly recommended to take up the B.Sc. degree course in Engineering Science (see p. 164). Students

¹ The Entrance examination is held in July, October, and January and it may (under certain conditions) be taken at any place convenient to the Candidate. The examination will be held on Tuesday, October 4, 1904, at 2 p.m.; Tuesday, January 9, 1905, at 10 a.m. and 2 p.m.; and Tuesday, July 4, 1905, at 2 p.m. Candidates should send in their names to the Registrar by the morning of October 3 for the October examination, January 8 for the January examination, and June 27 for the July examination. Students who have attended Evening Classes at the University, and have taken a satisfactory position in the examinations, will be exempted from this examination.

intending to read for a degree should, if possible, pass the Matriculation examination before taking up the University course. The Institution of Civil Engineers now requires that all candidates for membership shall take an Honours Engineering degree, or shall pass an equivalent examination before being admitted.

A diploma in Engineering Science will be granted by the University to students who have pursued a full three years' course of study in Engineering, Mathematics, and other subjects, and have passed the usual term examinations in each class, and such final examination as may be appointed, to the satisfaction of the Senate. Candidates for these diplomas, who do not pass satisfactorily in their examinations in any year, may be required to take that year's course over again, in whole or in part, as the Senate may determine.

For full information as to the courses qualifying for the B.Sc. degree and the diploma see the separate prospectus of the Engineering departments, which may be obtained from the Registrar.

LECTURE COURSES

I. First Year: Elementary Engineering

Mondays, Wednesdays, and Fridays, at 4 p.m.

This course is suitable for students in all branches of Engineering. Elementary graphical constructions, strength of materials, riveted joints, beams, fuels, steam boilers, steam and the steam engine, gas and petroleum engines, transmission of power, hydraulics.

Fee, £4 4s.

II. General Engineering

This Course is intended to give students who are going into other branches of industry than that of Engineering an intelligent idea of Engines and Machinery, &c., without entering into minute details.

Course A: for students of Applied Chemistry, Dyeing, Leather Manufacture, and Textile Industries.

Mondays, Wednesdays, and Fridays, at 9.30 a.m.

Generation of steam boilers, engines; heating by steam; transmission of power by shafts, belts, ropes; pumps for air, water, and other liquids, grinding machinery, drying plant, fans, electric transmission of power.

Fee, £3 135. 6d.

Course B: for Agricultural Students.

Mondays, Wednesdays, and Thursdays, at 2 p.m., during the First and Second terms only.

Elementary mechanics; air, water, heat; steam engine, gas and petroleum engines; electrical generators, motors and conductors.

Fee, £,2 125. 6d.

Course C: for Mining Students

Mondays: First and Third terms, at 4 p.m.

Mechanics, strength of materials, heat, boilers, steam engines.

Fee, £1 1s.

Mondays, throughout the Session, 5.30 to 7 p.m.

Instruction will be given in the Engineering laboratory. Mensuration, levers, graphic determination of forces, testing, indicating, steam and boiler testing.

Fee, £1 115. 6d.

III. Second Year : Civil Engineering

Tuesdays and Thursdays, at 4 p.m.

Chain surveying, needle surveys, plane table, angular instruments, levelling, geodetic astronomy, optical instruments for the measurement of distances, setting out of railway curves, half width of railways, hydrographic, geodetic, and underground surveying.

Fee, £2 125. 6d.

IV. Third Year: Civil Engineering

Tuesdays and Thursdays, at 10.30 a.m.

Framed structures, roofs, girders, arches, cements and concrete foundations, lateral pressure of earthwork, masonry, dams and tunnels.

Fee, £2 125. 6d.

Courses in Technology

V. Practical Surveying

Instruction is given in Surveying and field work for about fourteen clear working days during the Easter vacation, commencing on March 31, 1905. The class is held at Barden in Wharfedale, where accommodation is provided at a farmhouse.

Fee—Including board and lodging... $\dots \pounds 6 = 6 = 0$

"-Including the Civil Engineering Lec-

tures in Class III. or IV. ... 8 8 0

VI. Second Year : Mechanical Engineering

Mondays, Wednesdays, and Fridays, at 10.30 a.m., with an Exercise Class one hour a week.

Graphical constructions, strength and elasticity of materials, beams, combined bending and direct stresses, strutts, shafts, helical springs; boilers; the thermodynamics of the steam engine; air, gas, and petroleum engines; transmission of power, hydraulics, mechanics of machines.

Fee, £4 4s.

VII. Third Year: Mechanical Engineering

Tuesdays, Thursdays, and Saturdays, at 9.30 a.m., with an exercise class one hour a week.

Treatment of advanced problems in graphical constructions, mathematical theory of elasticity, steam, dynamics of the steam engine, governors, friction and lubrication, kinetics of machines, hydraulics, compressed air, refrigeration.

Fee, £4 4s.

VIII. Engineering Drawing

The Drawing Department is open every day. A Draughtsman is always in attendance.

Fees for the Session:

Students	attending	I 2	hours	or more p	er week	£	7	7	0
2.2	23	6	hours	per week		•••	5	5	0
,,	3.9	3	>>	,.			3	3	0

VIIIa. Machine Design

Saturdays, at 9.30. Fee, \pounds , 1 115. 6d.

Electrical 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.

For fees see p. 82.

Object Drawing, &c.

Wednesdays, from 11.30 a.m. to 1 p.m. in the Art Studio. Freehand sketches of working drawings, parts of machinery, apparatus, &c.; the use of water-colour for tinting architectural or mechanical drawings.

Fee, \pounds , 1 115. 6d. for the Session.

ELECTRICAL ENGINEERING

Mr. PARR

The courses of instruction in this department have been arranged to meet the requirements of the following students: (1) those who purpose to take the B.Sc. degree of the University of Leeds in Electrical Engineering; (2) those who are desirous of taking the diploma of the University in Electrical Engineering only; (3) those who are unable to devote the time required for the complete courses of study for the degree or diploma, but who desire to attend special parts of those courses.

The Degree course necessitates three years attendance at the University after matriculation in the University.

The Diploma course extends over three years after passing the Entrance examination to the Engineering departments intended for students not taking degrees, but may, under certain conditions, be taken in two years.

The instruction during the First year of the above courses is almost the same for Civil, Mechanical, and Electrical Engineering. In the Second year the electrical engineering student begins to specialise in the work of the department, while in the Third year most of his time is devoted to this particular work.

LECTURE COURSES

I. Elementary Electrical Engineering

Mondays, Tuesdays, and Thursdays, from 11.30 to 12.30 throughout the session.

This course is specially intended for students in their Second year, who are preparing for the University degree or the diploma in Electrical Engineering, and embraces the application of fundamental principles in the construction and action of electrical engineering appliances in general.

Fee, £,4 4s.

Text books recommended

- Parr's *Electrical Engineering Measuring Instruments*, (Blackie and Son, 9s. net).
- Parr's Electrical Engineering in Theory and Practice, vols. i. and ii. (Macmillan & Co.)
- Electricity as applied to Mining, by Lupton, Parr and Perkin (Crosby Lockwood and Son).

II. Advanced Electrical Engineering

Mondays, at 9.30, throughout the session.

This course is specially intended for students in the third year of preparation for the degree or diploma, and embraces the generation, transformation, distribution, and applications of single and polyphase alternating currents of electricity.

Fee, £1 115. 6d.

III. Advanced Electrical Engineering

Tuesdays at 10.30 a.m. throughout the session.

This course is specially intended for students in the third year of preparation for the degree or diploma, and embraces the generation, transformation, distribution, and applications of direct currents of electricity.

Fee, £1 115. 6d.

IV. Electrical Design

Lectures on Fridays at 9.30 a.m., and Designing and Drawing on Mondays, Tuesdays, and Fridays (11.30), Thursdays at 10.30, throughout the session.

This course also is specially arranged for students in the third year of preparation for the degree or diploma, and embraces lectures on the general principles underlying electrical design, and also the complete mechanical and electrical design of direct and alternating current dynamos, motors, transformers, condensers, together with installation design and estimates. Students will themselves design and draw from new data the machines and appliances dealt with in the course.

Fee, £3 138. 6d.

ELECTRICAL ENGINEERING LABORATORIES

These comprise—elementary laboratories, dynamo, electromotor, transformer, instrument, photometer, and cable jointing rooms, which are equipped with a large variety of the most modern plant and appliances necessary for elementary and advanced testing in electrical engineering.

Text books required

1st and 2nd years. Parr's Practical Electrical Testing in Physics and Electrical Engineering (Longmans, Green & Co., 8s. 6d.).
3rd year. Parr's Electrical Engineering Testing (Chapman & Hall, 9s. net).

For detailed syllabuses of lecture and laboratory courses, special departmental time tables, description of equipment, and further particulars relating to degree, diploma, and special courses, examinations (entrance or otherwise), and evening classes, see separate prospectus of the Electrical Engineering department, to be had on application to the Registrar.

MINING DEPARTMENT

Assisted by the Drapers' Company of the City of London, and by the West Yorkshire Coal Owners' Association

Professor Thompson Mr. Perkin

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 Professor every facility for instructing his students. As the University is, moreover, provided with excellent Physical, Chemical and Engineering (Mechanical and Electrical) laboratories, it has excellent facilities for giving its students both a theoretical and practical training in the art of Mining. There are three distinct courses of study arranged in this department to meet the requirements of different classes of students, viz :---

- 1. A three years' course in General Mining.¹
- 2. A two years' course in Coal Mining, qualifying for the Diploma in Coal Mining.
- 3. A two years' course in Coal Mining.

Students entering for Courses 1 or 2 will be required to pass an Entrance examination; for syllabus of subjects and dates of examination see page 195.

Detailed syllabus of these courses, with complete timetables and the fees payable, will be found in the separate prospectus of the Engineering and Mining Departments, to be obtained from the Registrar.

Three Years' Course in General Mining¹

This course of instruction is intended 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 entirely to general science and Engineering. In the second year he continues his work in general science and Engineering, adding Electrical Engineering and the introductory lectures on Coal Mining. In the third year the student takes a course of Geology, including field work, but spends the greater part of his time in special Mining work. Students are required to devote the summer vacation to getting experience in mines.

In addition to the subjects specified in the time tables below, 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.

The fee for the complete course in each year is about \pounds_{30} .

¹ This course is under consideration as qualifying for the degree of B.Sc. Students who take the first year of this course qualify for the Intermediate examination for the degree of B.Sc., according to the regulations now in force,

Mining

	Syn	aous	
First Year		Second Year	
I	Jours		Hours
pe	r week,		per week.
Mathematics, Intermediate	3	Mathematics, Final	3
Physics II	3	Electrical Engineering	3
Chemistry, General Course	3	Engineering VI	3
Engineering I	3	Coal Mining	I
Machine Design	I	Engineering Laboratory	6
Physical Laboratory	3	Electrical Engineering	
Chemical Laboratory	õ	Laboratory	3
Engineering Drawing and		Engineering Drawing	6
Laboratory	6		

Third Year

			1	per week.
Mining				3
Metallurgy, 1st Term			···· }	
Ore Dressing, 2nd Term			}	2
Surveying, 3rd Term]	
Geology I.				3
Geology Laboratory				6
" Field Course				
Metallurgy Laboratory,	st Term)	
Mining Laboratory and	Surveying	2nd	and (15
3rd Terms			J	

II. Diploma Course in Coal Mining:¹ (Two Years)

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 get a liberal training in the scientific principles underlying their profession.

Students entering this course apply themselves mainly during the first year to general science and Engineering. In the second year the work in Electrical Engineering is continued; Geology is added, and students devote themselves mainly to the special mining work, consisting of lectures on Mining and Metallurgy lectures (first term only), which deal with fuel, refractory materials, and the properties of metals and alloys. In the laboratory students will receive instruction in the testing of fuel, safety lamps, fans, &c., and conduct experiments on coal washing. The remainder

r Steps are being taken to obtain from the Home Office recognition of this course as equivalent to two years' service in the mine for the purposes of the Colliery Manager's certificate.

of their time will be spent in making drawings of machinery used in mines, plan drawing, and in the course of field and underground work in Surveying.

Students are required to obtain four months' experience at a mine during the vacations or to have had previous experience at mines before entering on the course.

Syllabus								
First Year	Second Year							
Physics II.	Mining							
Chemistry I. (two terms)	Metallurgy (first term)							
Mathematics II.	Geology I.							
Engineering I.	Geological Laboratory, three							
Coal Mining	hours							
Chemical Laboratory, three hours	Electrical Engineering Laboratory,							
Physical Laboratory, three hours	three hours							
Engineering Laboratory, six hours	Mining Laboratory and Surveying,							
Drawing, five hours	fifteen hours							
Electrical Engineering Laboratory,								
two hours								

III. Two 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 C.M.R. Act, 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.

The course will extend over two years. The first year students attend on Mondays from 3 to 7 p.m. The second year students, on Tuesdays, during the same hours. The instruction in 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 pocketbook 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

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Mining

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 has been put on 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.

The first year course begins on Monday, October 10, and the second year on Tuesday, October 11. Students must call upon the Vice-Chancellor on either October 10 or 11, between 2 and 3 p.m., to register their names and take out their class tickets.

Syllabus

First Year	Second Year
Mathematics	Mining
Engineering	Chemistry of Coal Mining
Engineering Laboratory	Surveying
Mining	Geology

Fee for either of the above courses, \pounds_5 5s. Composition Fee for both years, if paid in advance, \pounds_{10} .

SYLLABUS OF LECTURES, &c. I. Coal Mining

Mondays, at 4 p.m.

These lectures are intended to co-ordinate the information which students have acquired during the previous vacation, and to show them what to observe in the next summer's work preparatory to the Mining lectures of the third year.

With this object the general processes necessary for the extraction of coal from the ground will be passed in review, while to relieve the lectures of the third year those mining operations which find their best exemplification in coal mining will be discussed in detail.

Fee, £, 1 115. 6d.

II. Mining

Mondays, Tuesdays, and Thursdays, at 9.30 a.m.

This course will consist of about 90 lectures, which will be delivered during the third year. 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.

Fee, £3 135. 6d.

III. Metallurgy

Wednesdays and Thursdays, at 10.30 a.m.

These lectures are for mining students, and are intended to give them a knowledge of the treatment required to recover the useful metals, so that they may be in a position to judge the cost of treatment of any particular ore. The lectures will deal with the properties of fuel and the various refractory materials, principles of construction of furnaces and the utilisation of heat. Fluxes. Properties of metals and alloys. Extraction of the common metals from their ores.

Fee, £ 2 125. 6d.

IV. Laboratory Work

A course of instruction in testing fuel and refractory material and the assaying of ores and metallurgical products. Special attention will be given to the methods suitable for prospectors and to experimental work in the concentration of minerals by water.

V. Surveying (Office Work)

During the second term students in the regular course spend their time in plotting surveys, drawing mining machinery, and in general office work in studying the methods of recording field observations, the purposes to which these are applied, and the instruments with which they are made. The drawing work will be supplemented by lectures to prepare the student for the Field and Underground work of the third term.

VI. Surveying (Field and Underground Work)

During the third term a course of instruction in Field work will be given, the students making and plotting their own surveys. This course will include chaining by ordinary chain and steel bands, precautions to be observed in chaining where great accuracy is required and on slopes.

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Mining—Textile Industries

Measurements of length by wires. Traversing by dial and theodolite on the surface and underground. Triangulation survey. Adjustment of errors in traverse and triangulation surveys. Levelling and contouring. Setting out work. Determination of meridian. Connection of the underground and surface surveys.

The Field work will be supplemented by lectures on the methods employed.

The Fees for Laboratory work and Surveying will be according to the time spent by the student in such work. (See page 82).

TEXTILE INDUSTRIES

Endowed by the Clothworkers' Company of the City of London

Professor BEAUMONT Mr. WHOWELL

Mr. Hollis

Mr. FARLEY

The Department comprises the following branches :

- (a) Woollen Yarn Manufacture.
- (b) Worsted Yarn Manufacture.
- (c) Designing, Weaving, and Textile Manufacturing.
- (d) Finishing of Textile Fabrics.

Each branch possesses a complete plant of machinery designed and constructed for the demonstration of the technicalities of the various processes in Spinning, Weaving, and Finishing.

All the operations effected on the scouring, blending, carding, combing, spinning, weaving, dyeing, and finishing machines are primarily conducted for showing the nature and results of certain methods of work. The student records the experiments made during the session, and receives actual specimens of materials, yarns, and fabrics.

The scheme of teaching, as it relates to mechanical operations, is devised to give as varied an experience in Spinning and Textile Manufacturing as possible, and also to practically supplement, in an efficient way, the Lecture Courses of study

Mr. YEWDALL

The Spinning Buildings are equipped with the newest machinery for treating fine, medium, and coarse wools from the raw or greasy state to the spun yarn, whether on the worsted or woollen system, and for the construction of single, folded and fancy twist threads.

In the Weaving Sheds there are 116 looms, including the principal types of power looms, with the necessary accessories, such as winding, warping and beaming (hand and power), card stamping and lacing machines, healding, pegging, and other frames. This extensive series of looms affords unique facilities for experiments in the design, structure, weaving, and colouring of all classes of fabrics.

The Finishing Shed contains machinery for scouring, milling (by stocks, machine, and combined milling machine and stocks), raising, crabbing, cutting (on three builds of machines), and pressing (electric system).

In the Textile Museum there is a valuable collection of woven and other specimens, and students have the privilege of consulting and gleaning information from them during the session.

The testing and examination of fibres, materials in the several stages of manufacture, yarns and fabrics, are so important in teaching and actual manufacturing, that the Conditioning Laboratory has been equipped with apparatus for this purpose.

Courses of Study

The following are the principal courses of study :

- (a) Textile Designing and Cloth Finishing.
- (b) Woollen and Worsted Spinning
- (c) Textile Manufacture, including Woollen and Worsted Spinning, Textile Designing and Weaving and Cloth Finishing.

Courses for the Diploma

Diplomas are awarded in each of the above courses when the following subjects are also taken :

(a) Lectures in Engineering, French or German; Practice in Applied Art, and Mechanical Drawing.

Textile Industries

- (b) Lectures in First Year Textile Designing and Weaving, Engineering, French or German, and Mechanical Drawing.
- (c) Lectures in Engineering, French or German, and Mechanical Drawing.

For general regulations applicable to students taking the courses of study and examinations for the diploma, see page 172. For further details and time-tables of all courses of study in the department see the departmental prospectus, obtainable from the Registrar.

Lecture Courses and Experimental Work

Designing and Weaving

First year—Lectures, pattern analysis, designing and calculations, Tuesdays and Thursdays, from 9.30 to 11.30, throughout the session. *Subjects* :—Designs and fabrics, hand looms, power looms, yarns, calculations—costing, speed of power looms, etc., analysis of single-make fabrics.

Fee, £5 5s.

Experimental Weaving on Tuesdays and Thursdays, from 2 to 5.

Experiments in pattern composition, by arranging coloured yarns in simple and complex weaves in single and compound cloths, in the following classes of fabrics :—Trouserings, suitings, fine coatings, mantle cloths, dress goods, &c. A loom is allotted to each First year student, on which he works out experiments in single and backed fabrics. For fees see page 82.

Second year—Lectures, designing, pattern analysis, and calculations, on Mondays and Fridays, from 9.30 to 11.30, throughout the session. Subjects:—Double-make fabrics and designing, power looms, Jacquard or Harness loom, calculations on setting and costing, output of weaving machines, etc., dissection of backed, double and compound fabrics. Fee, \pounds_5 55.

Experimental Weaving, Mondays and Fridays, from 2 to 5.

Fancy woollen and worsted coatings, trouserings, and suitings; union fabrics for coatings, suitings, and mantlings; dress goods, shirtings, figured vestings, figured dress stuffs, figured mantles in various materials; velvets, plain and figured; plushes and imitation sealskins; lenos, figured gauzes; shawls, rugs, &c., &c. For fees see page 82.

Textile Colouring

First year – Lectures, Tuesdays and Thursdays, from 11.30 to 12.30, during the first and second terms. Subjects: — Theories of colouring; qualities of colours; functions of colours in Woven Design; harmony and contrast; various styles of patterns produced by colours, such as mixtures, stripes, checks, &c. Fee, f_{22} 2s.

Second year—Mondays, from 11.30 to 12.30, during the first and second terms. Subjects:—Colour in relation to combination and drafted designs; backed and double-make cloths; rib patterns; spotted effects; figured patterns coloured in the warp, in the weft, and in both warp and weft. Fee, \pounds_1 15.

Cloth Finishing

Lectures on styles and processes of finishing, and the constructing of finishing machinery, on Fridays, from 11.30 to 12.30, during the first and second terms. Practical Cloth Finishing, Tuesdays and Thursdays, from 2 to 4. *Subjects* :—Scouring, tentering, milling, washing off, raising—both on the gig and by hand—cutting or cropping, pressing and steaming. Fee (for both lectures and practical course), \pounds_2 2s.

Woollen Spinning

First year—Lectures, Tuesdays, from 4 to 5, during the first and second terms. Subjects:—Wools; materials; manufacture of mungo and shoddy; carbonising; wool washing and the construction of washing machines; utilisation of scour suds and the recovery of oils; the processes of drying, blending, burring, and garnetting, and the machinery employed. Fee, \pounds_{i} 1 is.

Second year—Lectures, Wednesdays, from 4 to 5, during the first and second terms. *Woollen Yarn.*—Scribbling, carding, condensing and spinning; different kinds of machines; the counts of the cards for various kinds of material; various kinds of feeds for scribbler and carder; condensers; calculations on the weight and value of spun material, also of the loss of material in yarn manufacture. Fee, \pounds_{I} is.

Practical Woollen Spinning: First year—Wednesdays; Second year—Tuesdays. For fees see page 82.

Worsted Spinning

First year—Lectures, Fridays, from 4 to 5, during the first and second terms. Subjects.—Worsted Yarn.— System of making worsted yarns, and the several points of difference between woollen and worsted threads; the quality. and length of the wool in relation to the kind of yarn produced; preparing, carding, backwashing, and gilling; the nature of these processes, and the construction and working of the machines used therein; the Noble's combing machine and the process of combing; comparison of the condition of the material in the different stages in woollen yarn making up to scribbling, with those in worsted yarn making up to combing. Fee, f_{r1} 15.

Second year—Lectures, Thursdays, from 4 to 5, during the first and second terms. Subjects.—Worsted Yarn.— Principles of Combing on Lister's, Holden's, and Heilman's machines ; principles of drawing ; open, cone, and French systems ; construction and working of drawing and roving frames ; spinning on the cap, flyer, and ring machines ; the kinds of yarn for which each machine is considered most suitable ; construction of doubling and twisting frames ; production of mixture, marl and twist yarns ; making-up of hanks, bundles, balls, and the process and effect of genapping ; yarn-testing for condition, strength, elasticity, amount of twine and weaving qualities; costing or calculations on the manufacture of both woollen and worsted yarns. Fee, $\pounds I$ IS.

Practical Worsted Spinning : *First year*—Fridays ; *Second year*—Thursdays. For fees see page 82.

Yarn and Fabric Analysis

These studies are followed in a Laboratory specially equipped with testing, conditioning and other apparatus.

Third Year Designing and Weaving

The experimental Designing course of study is supplemented in the third year by occasional lectures on such subjects as textile economics, textile inventions, new yarns and woven structures, and industrial developments.

Specialization

Third and Fourth year students and students who have graduated at other colleges, are afforded facilities of pursuing special courses of study in any branch of woollen and worsted spinning, designing and weaving or manufacturing.

Text Books

Beaumont, Woollen and Worsted Cloth Manufacture (Bell and Sons, 7s. 6d.)
Beaumont, Colour in Woven Design.
Bradbury, Textile Calculations.

Fox, Weaving Mechanism.

Bowman, Structure of the Wool Fibre.

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 (see page 208) and also students in the Designing of carpets, tapestries, mantle cloths and other figured fabrics are required to take the courses in Applied Art.

First Year Course

Lectures on Wednesdays, from 10.30 to 11.30.

Practical Work in the Art Studio on Wednesdays, from 9.30 to 10.30, 11.30 to 12.30, and from 2 to 4 or 3 to 5.

Fee, \pounds_1 115. 6d. per term ; \pounds_2 125. 6d. for two terms ; or \pounds_3 35. for the Session.

Text Book for First and Second Year Courses Ornamental Design for Woven Fabrics, by C. Stephenson and F. Suddards (Methuen & Co., 7s. 6d.).

Second Year Course

Lectures on Thursdays, from 11.30 to 12.30.

Practical work in the Art Studio on Thursdays, from 9.30 to 11.30, and from 2 to 4.

Fee, \pounds_1 115. 6d. per term ; \pounds_2 125. 6d. for two terms ; or \pounds_3 35. for the Session.

Third Year Course

Wednesdays or Thursdays, from 9.30 to 12.30, and from 2 to 4.

Fee, \pounds_1 115. 6d. per term ; \pounds_2 125. 6d. for two terms ; or \pounds_3 3s. for the Session.

Arrangements may be made by which students who wish to devote themselves more closely to the artistic side of Textile Design may attend the Design Studio for two or more days per week, the Fees for which will be at the same rate as for the above Third Year course.

DYEING AND TINCTORIAL CHEMISTRY

Professor GREEN

Mr. PERKIN Mr. STEVEN

The instruction given in the various courses is arranged to meet the requirements both of students intending to become practical dyers or masters of dyeworks, and of those wishing to acquire a more thorough acquaintance with the chemistry of the colouring matters and their manufacture, with the object of becoming Dyers' Chemists, Chemists in Colour Works, Travelling Chemists for Dye Manufacturers, Experts in Analysis of Dyewares, &c. For the latter class, *i.e.*, Colour Chemists, an intimate acquaintance with the structural organic chemistry of the artificial dyestuffs is essential, and a very thorough knowledge of pure chemistry is required before specialising in this direction. For the Dyer such an advanced knowledge, though useful, is not essential, and in any case cannot be acquired in a three years' course. It is, however, equally necessary for the Dyer that he should acquire at the outset a sound fundamental knowledge of the chemical and physical sciences underlying the art with which he is ultimately to deal. The study of the colouring matters may thus be confined to a general acquaintance with their chemical relationships, and a thorough knowledge of their various properties and different behaviour in dyeing. Accordingly, to meet the requirements of these two classes of students, two courses have been arranged, a *Three Years' Course* for practical dyers and a *Four Years' Course* for colour chemists.

The *Three Years' Course* qualifies for the Diploma in Dyeing of the University; see pages 153 and 172. The first year will be spent in the Chemical department, together with lectures on Physics and German. The second year will be divided between Pure Chemistry, Elementary Engineering, and practical work in Dyeing; whilst the last year will be devoted entirely to Dyeing, technical analysis of dyewares, study of the chemical properties of dyestuffs, examination of textile fibres, and calico printing.

In the *Four Years' Course*¹ more time will be devoted to Pure Organic Chemistry and to the chemistry of the colouring matters, their examination and analysis. In the fourth year some research work on colouring matters or dyeing processes may also be undertaken. Students entering for this course are required to have previously passed the Matriculation examination.

Students holding a degree of any University (English or Foreign) or otherwise bringing forward satisfactory evidence of a sufficient previous training in Pure Chemistry and General Science will be admitted at once to the lectures and practical work of the department and become eligible for the diploma. Such previous training will be allowed to count in reducing the length of their course to an extent corresponding to the knowledge they possess.

Students of the Textile Department who are unable for want of time to take a full course of study in Dyeing will not be required to study pure chemistry, but may enter for the lectures on the Chemical Technology of the Textile Fibres and Dyeing together with practical work in the Experimental Dyehouse.

¹ This Course is under consideration as qualifying for the degree of B.Sc. Students who take the first year of this course qualify tor the Intermediate examination for the degree of B.Sc., according to the regulations now in force.

Dyeing

The lectures on the Chemistry of the Artificial and Natural Colouring-Matters will be open to senior students in the department of Pure Chemistry without joining the regular four years' course.

SYLLABUS OF COURSES

I. Three Years' Course qualifying for a Diploma in Dyeing

This course is recommended to all who wish to obtain a good scientific and practical education in the art of Dyeing.

First Year

Lectures on Chemistry (General Course)	 4	hrs.
Chemical Laboratory	 22	,,
Lectures on Physics (Intermediate Course)	 3	,,
German		

Fee for the above course (including Entrance Fee and University Union Fee, but exclusive of German), $\pounds 24$ 19s.

The work in the Chemical laboratory will consist of inorganic preparations and qualitative analysis.

Second Year

		Pera	week.	
Lectures on Chemistry (Organic)	 •••	 3	hrs.	
Chemical Laboratory	 • • •	 II	,,	
Experimental Dyehouse	 	 15	"	
General Engineering Lectures	 	 3	,,	
German	 			

Fee for the above course (including University Union Fee, but exclusive of German), f_{27} 125. 6d.

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.

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Third Year

Experime	ntal	Dvehouse					Per wier.	
Practical	Dye	house					32 hrs.	
Calico Pr	intin	g					0	
Lectures	on	Chemical	Techno	ology	of Te	xtile)		
		Fibres			(Ist To	erm) }	2 ,,	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Dyeing			(and To	erm)		
_								

Fee for the above course (including University Union Fee), $\pounds 22$ 7s. 6d.

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 obtaining 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.

II. Four Years' Course for Colour-Chemists

Suitable for those desiring to become Chemists in Colour Works, Dyers' Chemists, Travelling Chemists for Dye Manufacturers, Experts in Analysis of Dyewares, &c.

First Year

			~ `		Per we	ek.
Lectures on Chemis	stry (C	Jeneral	Course)	 	4 h	rs.
Chemical Laborator	y			 	18 ,	,
Physics (Intermedia	te Co	urse)		 	6,	
Mathematics	14.4	111		 	3 ,	,
German				 		

Fee for the above course (including Entrance Fee and University Union Fee, but exclusive of German), $f_{.28}$ 155. 6d.

The work in the Chemical laboratory will consist of inorganic preparations and qualitative analysis,

Dyeing

Second Year

Lectures on Chemistry	(Organic,	etc.)	 	(5	hrs.
Chemical Laboratory			 	22	2	,,
General Engineering			 • • • •	3	3	,,
German			 			

Fee for the above course (including University Union Fee, but exclusive of German), \pounds_{26} 14s. 6d.

The work in the Chemical laboratory will consist of quantitative analysis, organic analysis, and organic preparations.

Third Year

Per week.

Experimental Dyehouse	1			20	hre
Clothworkers' Laboratory				30	111.5.
Lectures on Chemical To	echnology	of Text	ile)		
Fibres (1st Term) .			}	2	22
Lectures on Dyeing (2nd T	erm)]		
German					
	/* * **	1		~ ~	

Fee for the above course (including University Union Fee, but exclusive of German), f_{21} 6s. 6d.

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, detection of colours on the fibre and in bulk, examination of textile fibres, and technical analysis of dyewares.

Fourth Year

Per week.

Clothworkers' Laboratory	 · · ·)	an hrs
Calico Printing and Practical Dyehouse	 ··· J	50 ms.
Lectures on Artificial Colouring Matters]	

1st and 2nd Terms } 2 ,,

Natural Colouring Matters 3rd Term

Fee for the above course (including Students' Union Fee), \pounds_{22} 55. 6d.

The work in the Clothworkers' 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.

Original Research in the Chemistry of Colouring Matters and upon Dyeing Processes

Special facilities are provided in the Clothworkers' Research laboratory for the conduct of research work in coal-tar and textile chemistry. The laboratory is a very spacious one and is thoroughly equipped for carrying out scientific and technical investigations in these subjects. Students of the Department and also of the Department of Pure Chemistry who have satisfactorily completed their full term of study will be admitted to the Research laboratory upon very advantageous terms, and will find it greatly to their future advantage to spend *an extra year* (5th) upon research work. A cordial invitation is also extended to graduates of other Universities (English or Foreign), and to other fully qualified chemists, who will be admitted direct as research workers for any period desired.

The fee for all research workers will be $\pounds 3$ 3s. a term. Materials, if costly, or when used in large quantities, will be charged for, but at very low prices. Ordinary apparatus will be lent and only charged for if broken or spoilt.

LECTURES AND LABORATORY WORK

I. The Chemical Technology of Textile Fibres

Tuesdays and Thursdays at 9.30 a m. during the first term.

The lectures will deal with the chemical and physical properties of the various animal and vegetable fibres, viz., cotton, flax, hemp, ramie, jute, wool, hair, silk, and artificial silk; and with the processes and machinery employed in the isolation, purification, bleaching, and finishing of the different fibres and of the textile materials prepared from them.

Fee, £1 1s.

II. The Chemistry and Technology of Dyeing

Tuesdays and Thursdays, at 9.30 a.m. during the second term.

The following are among the subjects to be treated in the lectures : Mordants; classification of colouring matters;

Dyeing

methods of application in dyeing and printing of the various classes of colouring matters; theory of dyeing; testing of colours for fastness; machinery for dyeing; colour mixing and colour matching; printing of cotton, wool, and silk.

Fee, £ I IS.

Text Books recommended for Courses I, and II. Hummel, Dyeing of Textile Fabrics. Knecht, Rawson, & Loewenthal, Manual of Dyeing. Georgievics, Chemical Technology of Textile Fibres.

III. Chemistry of the Artificial Colouring Matters

Tuesdays and Thursdays at 4 p.m., during the first and second terms.

The lectures will comprise the following subjects :---

Distillation of coal-tar and preparation of benzene, toluene, naphthalene, anthracene, &c.; preparation of intermediate products of colour manufacture; the manufacture, properties, and constitution of the most important colouring matters belonging to the following groups:— Rosaniline, pyrone, azine, oxyazine, thiazine, acridine, quinoline, thiobenzenyl, nitro, azo, stilbene, anthracene, sulphide colours, and indigo; general methods and plant employed in the preparation of colouring matters and their raw materials.

Fee, £, 2 25.

Text Books recommended

Georgievics' Chemistry of Dye-stuffs, translated by Salter (10/6). Nietzki's Chemistry of the Organic Dye-stuffs, translated by Collin & Richardson.

Books of Reference

Survey of the Organic Colouring Matters, by A. G. Green. Fortschritte der Theerfarbenfabrikation, by Friedländer (5 vols.).

IV. Chemistry of Natural Colouring Matters

Tuesdays and Thursdays at 4 p.m., during the third term. The lectures will deal with the origin, chemistry, and technology of the principal natural dye stuffs :—Madder, logwood, brazilwood, cochineal, barwood, safflower, cudbear, orchil, weld, turmeric, quercitron bark, Persian berries, fustic, catechu.

Fee, £ 1 1s.

Text Book recommended Chemie der Naturlichen Farbstoffe, by H. Rupe,

Courses in Technology

V. Work in the Experimental Dyehouse

The Experimental dyehouse will be 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 Dyehouse is fitted up with modern dyebaths suitable for making comparative dyeing trials, drying stoves, and other appliances.

The work in the Experimental dyehouse will include the following subjects :-- Systematic dyeing trials with the different groups of dyestuffs upon cotton, wool, and silk. Application of various mordants and assistants. Methods of dyeing union materials. Principles of colour mixing and matching. Scouring and bleaching of cotton and wool. Quantitative dyeing of colouring matters for strength and shade. Detection of colouring matters on the fibre. Testing colouring matters for fastness. Preparation of mordants. Analysis of water and removal of impurities, Technical analysis and valuation of dyewares. Detection of different fibres and estimation in mixtures. Examination of newly introduced colouring matters, and determination of their value as dyestuffs. Investigations upon dyeing The use of the colorimeter, tintometer, and processes. spectroscope.

A special Exposure chamber has been erected in a convenient position for the purpose of making tests of the fastness of colours to light.

VI. Work in the Practical Dyehouse

The Practical and Pattern Dyehouses are equipped with the most modern machinery for carrying out experiments on a practical scale. The equipment includes many model machines, all of which are driven by electric motors.

In these Dyehouses advanced students of dyeing receive training in the treatment of all classes of textile materials.

The experiments are not merely confined to the actual dyeing processes, but include bleaching, scouring, stoving, singeing, crabbing, finishing, &c.

VII. Printing Room

The Printing Laboratory is equipped with a model printing machine, steaming chamber, colour pans, and printing blocks, &c.

Dyeing

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.

VIII. Clothworkers' Chemical Laboratory

The Clothworkers' Laboratory is a spacious building 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; (b) Preparation of coal tar products 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.

IX. Special Courses of Study

Experimental classes will also be held in the following specialised subjects if a sufficient number of students present themselves :

- 1. Paper staining.
- 2. Straw dyeing.
- 3. Lake and pigment manufacture.

X. Museum

The museum of natural and artificial dyestuffs and textile fibres is open to students daily.

Examinations of the City and Guilds of London Technical Institute.

The above courses prepare for the technological examinations of the City and Guilds of London Institute in Dyeing and also in Coal Tar Products. Students of the Department are recommended to present themselves for these examinations in the last year of their University course.

In connection with these examinations certificates, also money prizes with silver and bronze medals are awarded to the successful candidates. The examinations are held annually at the University in April or May.
LEATHER INDUSTRIES

Assisted by the Skinners' Company of the City of London and by Members of the Leather Trades

> Professor Procter Mr. Kopecky Mr. Brumwell

Scheme I. Three Years' Course¹

First Year

Usual Intermediate Course. Three subjects must be selected from the following, of which Chemistry must be one:

I.	Chemistry	3. Mathematics	

2. Physics

4. Biology

m 1

Students will also be required to write a short English Essay on one of a series of subjects connected with their studies.

It is also desirable that German or French should be studied, as passages for translation from scientific or technical works will be set in the Final examination.

Second Year

Chemical Lectures	Per 6	hrs
Chemical Laboratory (average)	10	111.5.
Lasterna an Drinsiples of Lasthan Manufasterna	12	"
Lectures on Principles of Leather Manufacture	3	"
Leather Industries Laboratories and Workshops		
(average)	6	
Fee for the above course (including Union Fee)	f_{2}^{2}	5 35.

Third Year

		rer	week.
Lectures on	Organic Chemistry	3	hrs.
"	Chemistry of Leather Manufacture	r	22
22	Leather Dyeing and Staining (1st)		
	term)		
	Currying and Finishing (2nd term)	2	
	Technical Microscopy and Bacteri-		"
.,	ology (ard term)		
	Engineering (Course II A)	2	
77	Engineering (Course II II)	3	>>

This course is under consideration as qualifying for the degree of B.Sc. Attendance on the first year's part of the course qualifies for the Intermediate examination for the degree of B.Sc. under the regulations now in force,

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Per week.

Chemical Laboratory (Organic)... ... 6 hrs. Leather Industries Laboratories and Workshops 12 ,,

Fee for the above course (including Union Fee), \pounds_26 2s. It is intended also to arrange for an Honours course occupying four years.

Scheme II. 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.

First Year

	Per week.
Chemistry Lectures (General Course)	3 hrs.
Chemical Laboratory	18 ,,
Leather Industries Workshops	3 ,,
Mechanical Drawing	3 "
Fee for the above course (including Entrance a	und Union

Fees), £,25 6s. 6d.

Second Year

	Per	week.
Lectures on Principles of Leather Manufacture	3	hrs.
" Organic Chemistry	3	,,
Chemical Laboratories (Organic)	6	
Leather Industries Laboratories and Workshops	15	,,
Fee for the above course (including Union Fee) #	23	IQS.

Third Year

Per week. Lectures on Chemistry and Physics of Leather Manufacture I hr. Currying, Dyeing, and Leather ,, Finishing, 1st and 2nd terms 2 ., Technical Microscopy and ,, Bacteriology, 3rd term Engineering (Course II A) 3 79 Leather Industries Laboratories and Workshops 2 I ... Fee for the above course (including Union Fee) f_{23} 17s. Students who have taken not less than a two years' course in pure chemistry in the University of Leeds (or other Institution approved by the Senate for the purpose) and who take the Third Year course of this scheme with the addition of the Lecture course on the Principles of Leather Manufacture, and pass the prescribed examinations will also be entitled to the Diploma. The Senate has also power to accept courses at other Institutions in place of equivalent ones prescribed in Scheme II.

The International Association of Leather Trades Chemists, which now includes most of the leading chemists of the manufacture, demands as a condition of membership, a three years' course of study of pure chemistry of university standard, or the evidence of an equivalent knowledge, and at least one year's experience in the laboratory of a leather works or leather industries school. Students who desire membership in this Association, are recommended to take the course in Chemistry prescribed for the B.Sc. degree, and at least a final year in the Leather Industries Department.

Shorter courses of study will be arranged for students who cannot afford the necessary time for a degree or diploma course, but in no case can a student be allowed to work in the Leather Industries laboratories, until he has satisfied the Professor of Leather Industries that he has the requisite preliminary training in Chemistry. Some previous acquaintance with actual leather manufacture is very desirable before taking the University courses.

Text Books

Procter's Leather Industries Laboratory Book (E. & F. N. Spon Ltd.).

Procter's Principles of Leather Manufacture (E. & F. N. Spon Ltd.).

Work During Vacation

Students in the Leather Industries Department are referred to page 79. The laboratories of the Department will be open to qualified students for research and private study during a part of the long vacation, but students are strongly recommended to employ the time in gaining practical experience in works wherever such a course is possible. The Professor will be glad to give advice

Leather Industries

before the end of term as to suitable courses of vacation study; and to consider applications from suitable students desiring the use of the laboratories.

LECTURE COURSES

I. The General Principles of Leather Manufacture

Lectures on Mondays, Wednesdays, and Fridays, at 10.30 a.m., throughout the session, comprising the following subjects :- Character and sources of hides and skins used in Leather manufacture, their structure and constituents. Preparation for tannage, including soaking, liming, and other preliminary processes, and the chemistry involved. The vegetable tanning process and its materials, with special reference to the heavier leathers. Mineral and special tanning processes, including chrome tanning and the use of formaldehyde.

Fee, £ 3 138. 6d.

II. The Chemistry and Physics of Leather Manufacture

Lectures on Tuesdays, at 10.30 a.m., throughout the Session, comprising the following subjects :---

The anatomical and chemical structure of skin and its constituents. Physics of evaporation, drying, heating, and ventilation. Bacteriology and fermentation. The physical chemistry of the limeyard and tannery. Theories of the tanning process. Chemistry of the tannins and their derivatives. Dyes and colouring matters. Oils and fats. Leather. Analysis. Examination. Purification of effluents.

Fee £1 115. 6d.

III. Leather Dyeing, Staining, and Finishing

Lectures twice a week, on Thursdays at 10.30 a.m., the other hour to be arranged, during the first term, comprising the following subjects :---

Sketch of colouring matters. Chemistry of dyeing. Nature of light and colour. Laws of colour-mixture. The practical methods of leather dyeing and staining.

Fee, f, I IS.

Students requiring a fuller knowledge of Dyes and Dyeing are advised to attend such lectures in the Dyeing Department as the Professor may recommend. *Practical Leather Dyeing.* Instruction will be given as part of the Laboratory Course.

IV. Currying and Leather Finishing

Lectures twice a week, on Thursdays at 10.30 a.m., the other hour to be arranged, during the second term.

Will treat of practical currying in connection with the work done in the currying shop.

Fee, £,1 15.

V. Technical Microscopy and Bacteriology in Leather Manufacture

Lectures twice a week, on Thursdays at 10.30 a.m., the other hour to be arranged, during the third term.

Fee, £, 1 IS.

The delivery of Courses IV., V., and VI. will be subject to the entry of a sufficient number of students.

Practical Microscopy and Bacteriology

Instruction on these subjects will be given during the session, in the Laboratory of the Leather Industries Department, and for Leather Industries students will be included in the laboratory work.

Microscopes must, as a rule, be provided by the student, but one or two may be hired of the Department. For bacteriological work they must be provided with 1/12th oil immersion objective and substage condenser; but for the study of skin and leather only a simpler microscope will suffice.

LEATHER INDUSTRIES LABORATORIES

The laboratories and workshops will be open during the session from 9.30 a.m. to I p.m., and from 2 to 5 p.m., except on Saturday afternoons.

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.

For Fees, see page 82.

Agriculture

AGRICULTURE

Professor SETON

Mr. HAYDON	Mr. Archibald	Dr. Crowther
VetLieut.	Col. Steel	Mr. Stewart
Mr. KAYE	Mr. Parton	Mr. T. REDINGTON
Mr. GAUT	Miss McKerrow	Mr. Anstey

The Winter Course will begin on Monday, October 10, when the Vice-Chancellor will admit students from 9.30 a.m. to 12.30 p.m., and from 2 to 5 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, 1904; the Second Term begins January 9, and ends March 18, 1905. The fee is \pounds 10.

The Summer Course extends over the Third Term, beginning April 26, and ending June 30, 1905. The fee is $\pounds 5$.

Students taking the full Winter or Summer Course are entitled to the use of the library, common rooms (which are supplied with the daily papers, current periodicals, &c.), to free instruction in the University gymnasium, and to the use of the athletic ground and tennis courts.

Students may reside either in Leeds or in the village of Garforth, which is about three-quarters of a mile from the Farm. The cost of a contract ticket between Garforth and Leeds during the Winter Session (five months) is \pounds_2 7s., and for students under 18 years of age \pounds_1 3s. 6d.

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.

1 and 2. General and Diploma Courses

Winter Session.

Students may obtain a full course during winter, 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 complete course extends over three winters, but students may take a one or two winters' course. The complete course prepares students for the examination for the National Diploma in Agriculture, awarded jointly by the Royal Agricultural Society of England and the Highland 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 approved 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.

A Laboratory for the exclusive use of Agricultural students has been added to the Department, and will be open on special terms to those who wish to devote their whole time to Agricultural Chemical analysis.

Practical instruction in Agriculture is provided for at the Educational Farm at Garforth. In addition to the lectures at the University, students must attend regular classes at the Farm, where class-rooms and laboratories have been erected, in which classes will be conducted according as it is found necessary.

All students taking a full course will be required to follow closely the farm work, including field operations, methods of feeding stock, and progress of experiments.

A Tutor has been provided to supervise the studies of first year students. Tutorial classes will be formed to suit their requirements.

Agriculture

Summer Session

For students who can devote the summer as well as the winter months to study, a special course will be arranged. This will extend from April 26 to June 30, 1905.

The subjects will comprise Agricultural Chemical Analysis, Forestry, Horticulture, Poultry keeping, Farm Bacteriology, Field Surveying and Levelling, Mathematics, and Practical Agriculture.

Students reading for the National Diploma are recommended to take the Summer course in their first year.

For Time-tables and fuller information see the departmental prospectus, to be obtained from the Registrar.

3. Degree Course

Students preparing for the degree of Bachelor of Science who take Agriculture as one of their subjects for the Final examination, do not enter the Department of Agriculture until they have passed the Matriculation and Intermediate examinations and begin the work for the Final examination. The subjects of examination and attendance conditions will be found under the Regulations for the degree of B.Sc., p. 153. The period of study for students who take the course will ordinarily be three years after passing the Matriculation examination; they are therefore recommended, when practicable, to pass the Matriculation examination before entering the University.

SYLLABUSES

For more detailed syllabuses see the prospectus of the Department.

First Year

Agriculture,

Professor Seton

Tuesdays, Wednesdays, and Thursdays, at 9.30 a.m.

The lectures will deal with soils, their nature, functions, origin and wasting; soil temperature; soil water and its

conservation; tillage operations; steam cultivation; farm drainage; irrigation; manures, farm-yard and artificial; the rotation of crops; seeds, grasses, and pastures.

Physics and Chemistry

Mr. KAYE

Tuesdays, Wednesdays, and Thursdays, at 10.30 a.m.

Physics and Chemistry so far as is sufficient to enable students to understand thoroughly the application of these sciences to agricultural practice.

Natural History

This course will be held in the Department of Biology, see p. 188.

Tutorial Classes

Mr. KAYE

Tuesdays, Thursdays, and Fridays, at 11.30 a.m.

Correspondence, calculations, elementary mathematics preparatory to book-keeping, surveying, and engineering.

Chemical Laboratory

Mondays and Wednesdays, from 2 to 5 p.m.

Selected experiments arranged to illustrate the Chemical and Physical principles underlying Agricultural operations. These will include the preparation and properties 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

Tuesday and Friday afternoons, at Garforth.

Subjects.—Stock. Stock-feeding. Estimation of weights of crops and animals. Pastures, pasture plants. Practical examination of seeds, manures, and feeding stuffs.

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 closely follow stock-feeding and other experiments at Garforth. Occasional demonstrations will be given by specialists in certain departments of Practical Agriculture.

Agriculture

Students will be required to pay their railway fares to and from Garforth. For price of contract railway tickets, see page 227.

Second and Third Years

Agriculture

Mr. HAYDON and Mr. ARCHIBALD

Lectures daily, except Saturdays, at 10.30 a.m.

Feeding Stuffs.—Animal nutrition. Process of digestion. Functions of the various constituents of food. Crops and Cropping.—Characteristics, habits, cultural requirements, and management of the various arable land crops. Live Stock.-Origin, history, and description of the different breeds of horses, cattle, sheep, and pigs in the British Isles. Accommodation for farm stock. The buying and selling of stock. Agricultural statistics. Labour and Implements.-Management of farm labour. Manual labour, horse labour, water, wind and steam power. Agricultural implements and Farm buildings and fences. Agricultural machinery. Economics.—Considerations involved in the valuation and taking of farms. Times of entry. Yearly and other tenancies. Leases and agreements. Acts of Parliament affecting landlord and tenant. The tenant's capital and its distribution. Live and dead stock required. Valuation of tenant-right, and live and dead stock. Different systems of farming. Arrangement and cost of labour in connection with stock, cultivation, cropping, harvesting, &c.

Chemistry

Dr. CROWTHER

Mondays, Tuesdays, and Thursdays, at 9.30 a.m.

SUBJECTS.—The chemical elements, their classification, distribution, and functions in nature and the arts. The atomic theory. Methods of determining and controlling atomic weights. Valency. Molecular weights. The periodic system of the elements. Chemical nomenclature. Laws of chemical combination. The chemistry of the more common elements and of their most important compounds. The principles of qualitative and quantitative analysis of inorganic substances and of gases. Typical volumetric processes. Ultimate analysis of organic substances. Fractional distillation. Vapour density determinations. The chemistry of some typical carbon compounds important in agriculture, including alcohol, ether; oxalic, lactic and acetic acids; fats, oils, and soaps; the paraffins; cyanogen, urea, and uric acid, the sugars and starches; turpentine, tannin, albumen, gelatine, &c.

Agricultural Chemistry

Dr. CROWTHER

Wednesdays, Thursdays, and Fridays, at 11.30 a.m.

The Plant.-Elementary constituents of the food of plants. Forms in which these constituents may be absorbed. The atmosphere and its relations to plant life. Assimilation of the various ingredients of plant food. Production of organic substances by the plant. Transport and storage of prepared material. The chief organic constituents of the plant. Respiration. Germination, growth, and maturation. The Soil.-Its constituents, their origin and properties. Analysis-mechanical and chemical. The chief chemical processes at work in soils. Bacteria of the soil. Manures. -Their composition and commercial value. Fermentation of farmyard manure. Sewage manures. Crops. - Characteristic composition of the various farm crops. Animal Nutrition .--Constituents of the animal body. Nature of animal nutrition. Food constituents and their functions. Digestion and excretion. Secretion. Respiration. The composition of foods. Their digestibility and comparative nutritive value. The Dairy.—The chemical composition and properties of milk, cream, skim milk, butter, cheese, and whey. Milk and cheese ferments and their action.

Agricultural Botany

In the Department of Biology, see page 189.

Book-keeping

Mr. KAYE

Mondays at 11.30 a.m., and Fridays at 9.30 a.m. SUBJECTS.—Accounts, Day Book, Cash Book, Ledger, Balance Sheet, Profit and Loss Account, &c. Agriculture

Mathematics

Mr. KAYE

Wednesdays at 9.30 a.m.

This class will be largely tutorial. The subjects taken will be arranged to suit the requirements of the student, and in addition to Mathematics as required for Examination the course will include practice in all calculations that an agriculturist would be required to make in the course of a year.

Chemical Laboratory

Tuesdays, 10.30 to 12.30; Thursdays, 2 to 4; Saturdays, 9.30 to 12.30.

Chemical Analysis, with special reference to Agriculture.

Veterinary Science

Colonel STEEL

Mondays, 9.30 a.m. and 4 p.m.; Tuesdays, 9.30 and 11.30 a.m.

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

Classes at the Farm on the same lines as for first year students, with the addition of practical demonstrations by Colonel Steel on conformation, handling, &c., and generally the application of veterinary hygiene to farm animals.

Economic Entomology

This course will be held in the Department of Biology, see page 188.

Geology

In the Department of Geology, see page 191.

Agricultural Engineering : Surveying

In the Department of Engineering, see page 197.

Summer Course

Dairying

Mr. HAYDON

Commercial aspects. Conditions which favour foreign importation. The factory system. Relative merits of milkselling, butter-making and cheese-making under different conditions. General character of milk. Testing quality. Butter-making. Details of the manufacture of Cheddar, Stilton, Cheshire and Wensleydale cheese. Utilization of by-products. General management of the herd. Live and dead stock and buildings required on cheese-making farms.

Practical Agricultural Chemistry

Dr. CROWTHER.

Qualitative and quantitative analysis.

Forestry

In the Department of Biology, see page 189.

Horticulture

Mr. T. REDINGTON

SUBJECTS.—Preparation of the soil of the garden. The use and application of farm yard manure, artificial manures and lime. Seeds and their treatment. *Garden Crops.*— Their cultivation and management. *Fruit Culture.*—Propagation by seed, cuttings, layering, budding, grafting, &c. ; planting ; root and branch pruning. Produce—gathering, grading, storing, packing, marketing, preserving, bottling, &c. *The Flower Garden.*—Autumn, Spring, and Summer work ; special subjects of the flower garden.

Poultry Keeping

Mr. PARTON

SUBJECTS.—Origin and antiquity of fowls. Breeds and their characteristics. The anatomy of the fowl. Accommodation and sanitation of the house. Embryology of the chicken. Natural incubation. Rearing chickens. Use of Incubators and of Brooders for artificial rearing. Foods—the principles and methods of feeding. Fattening—the different methods adopted. Breeds of ducks, geese, and turkeys.

Agriculture

Marketing poultry produce-preserving eggs. Diseases of poultry. General management.

Field Surveying and Levelling Mr. ARCHIBALD

Students will be required to make a survey of a part of the Manor Farm, Garforth, and to plot the same in the office. In addition to chain, compass, theodolite, and level, students will have an opportunity of using other instruments.

9.30-10.30. 10.30-11.30. 11.30-12.30. Matric. Greek. Final Greek. Final Latin. Intermediate Latin. Matric. Latin. French II. Final German. Literature II. ab Final Mod. Hist. Int. Anct. History. Literature III. Math. IV. and VII. Math. VI. Honours German Int. Phy. Recap. b c Adv. Chem. II. Metals. Chemistry (General Final Physics. Course). Zoology. a b Pract. Botany. c Hist. Chem. a 12.0 Organic Chem. (Honours) *a b* MONDAY. Botany Elem. c. Med. Biol. a b Geography. bc 10. 30--12. 30. Nat. History. a b Agl. Geology. a b Engineering IIA. Elect. Eng. I. Elect. Engineering II 2nd Year Mech.

> Vety. Sci. a b Latin IV. Final Anct. Hist. (Roman) Education (2nd Year). Matric, Physics. Int. Latin Comp. Adv. Chem. III. Non-Matric. History. Metals. Physical Chem. bc Education 9.30-12.30. Practical (ard Year A). Zoology. a 9.30-12.30. Pract. Med. 10.30-12.30. Pract. Med. Biol. b Biol. a 9.30-12.30. Practical ard Year Civil Eng. Botany. b 9.30—11.30. Forestry. c 3rd Year Mech. Engrg. Elect. Eng. III. Leather Chemv., &c. Mining. 2nd Year Agricul. ab 9.30-11.30. Ist Year Text. Ind. Dyeing I. *a* Dyeing II. *b* Ist Year Agricul. *a b* Phys., &c. (Agri.) a b Horticulture c Chem. (Agric.) a b Vety. Sci. a b

Mining.

9.30-11.30. 2nd Year Text. Ind.

Chem. (Agl.) a b

Final Greek. Intermediate Latin. Final German. Final Mod. Hist. Mathematics IV. & VII. Adv. Chem. II. Metals. Hist. Chem. *a* Botany Elem. *c* Geography. *b c* Engineering IIA. 9.30-rz.30. Textile Art. (1st and 3rd Years). 1st Year Agricul. *a b* Matric, Latin, Literature II, a b Literature III. Honours German, Final Physics. Zoology, a b Pract. Botany c Med. Biol. a b 2nd Year Mech. Engineering. • Metallurgy. Tanning Prin, 2nd Year Agri. a b Phys., &c. (Agl.) a b Matric, Greek, Final Latin, French II. Int. Anct. History. Reading (for 1st Year Women K.S.) Math. VI. Chemistry (General Course). 12. Organ. Chem. (Honours) *a b* Natural History. *a b* Mining Mineralogy. Agl. Geology. *a b* 11.30–1. Object Drawing.

Elec. Design.

and Year Textile

Colouring. a b

Agl. Bookkeeping. ab

Poultry. c

Final Latin Comp.

Matric, Literature,

Int. Mod. Hist.

12. Organic Chem.

Elec. Eng. I.

Elec. Design.

1st Year Textile

Colouring. a b

Tutorial Agricul. a b

Vety. Sci. a b

Agl. Chem. a b Poultry. c

a-1st Term. b-2nd Term. c-3rd Term.

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TUESDAY.

WEDNESDAY.

GENERAL TIME TABLE

Engineering.

and Year Agricul. ab

Tanning Prin.

DAY CLASSES.

23.	34.	4—5.	5— <mark>6</mark> .
Final French Elem. German. Economics (1st Year) Mathematics I. and III. 2-5. Practical Zoology. a b 2-5. Pract. Med. Biol. a 2-4. Agl. Botany.ad Geology I. Agl. Engineering.ab 2-5. 2nd Year Text. Ind.	Intermediate Greek. Matric. French. Intermed. German. Mathematics II. Int. Physics (Exercise Class). Mining Maths. <i>a</i> 1st Year Coal Mining. <i>b c</i>	French III. Honours French. Mattic. German. Education (1st Year) Mathematics V. 1st Year Engineering. Mining Engrg. a c Coal Mining I. Mining Maths. b. Vety. Sci. a b English Law.	Geology IX. <i>b c</i> 5. 30—7. Mining Engrg. Lab.
Latin Grammar. Commercial German. Botany Elem. c 2-4. Practical Agri. Geology. a b 2-5. 1st Year Text. Ind. 2-4. Cloth Finishing. Art for 2nd year K.S.	French Literature <i>a b</i> French Revision <i>c</i> 3—5. Practical Botany. <i>c</i> 2nd Year Coal Mining. Commercial Law.	French Elocution (sst Year) a b German Literature Economic Geog. (tst. Year.) Chem. of Mining. a Geology of Coal Mining. b c and Year Civil Engineering. Wool Spinning (and Year). a b Dyeing III. a b Dyeing IV. c	5.30—7. Mining Surveying, &c. a c 5.30—7. Mining Geol. Laby. b
Final French. Elem. German. Logic. Economics (1st Year Mathematics I.& III 2-4. Agric. Bot. a b Geology I. Agricul. Engrg. a b 2-4. Textile Art (1st and 3rd Years).	Intermediate Greek. Matric. French. French Elocution (2nd Year). a b Intermed. German. Accountancy. (2nd Year.) Education (3rd Year B) Mathematics II. Int. Physics. Roman Law	French III. Honours French. Matric. German. Accountancy (1st Year). Education (1st Year). Mathematics V. Int. Physics. 1st Year Engineering. Wool Spinning (1st Year) a b Law-Jurisprudence.	Reading (for 1st Yea Men K.S.)

Classes not marked meet throughout the Session.

-	GENERA	L TIME	TABLE
	9.30-10.30	10.30-11.30.	11.30—12.30.
Thursday.	Latin IV. Final Anct. Hist. (Roman) Education (2nd Year). Matric. Physics. Int. Physics (Exercise Class) Ad. Chm. III. Non-Mets. Physical Chem. bc 9:30-T1:30. Forestry. c 3rd Year Mechanical Engineering. Mining.	Matric. History. Education (3rd Year A.). 3rd Year Civil Engineering. Elec. Design. Metallurgy. Leather Dveing. a	Matric. Latin Comp. Int. Mod. Hist. 12. Organic Chem. Zool. Revision. c Econ. Entomology. a Elec. Eng. I.
-	9.30–11.30. ist Year Text. Ind. 9.30–12.30. Textile Art (2nd and 3rd Years). Dyeing I. <i>a</i> Dyeing II. <i>b</i> ist Year Agricul. <i>a b</i> Chem. (Agl.) <i>a b</i>	Leather Currying, b Leather Microscopy, c 2nd Year Agricul. a b Phys. &c. (Agri.) a b	rst Year Textile Colouring. a b Agl. Chem. a b Tutorial Agricul. a b
Friday.	Final Greek. Intermediate Latin. Final German. Mathematics IV. & VII. Adv. Chem. II. Metals. Hist. Chem. a 9.30-11.30. Pract. Zool. Revision. c 9.30-11.30. Pract. Econ. Entom. a 9.30-11.30. Nat. Hist.adv Geography. b c Geography. b c Legineering IIA. Electrical Design. 9.30-11.30. 2nd Year Text. Ind. Agl. Bookkeeping a b	Matric. Latin. Literature II. a b Literature III. Honours German. Final Physics. Zoology. a Botany Elem. b Med. Biol. a b 2nd Year Mech. Engineering. Tanning Prin. 2nd Year Agricul.	Matric, Greek. Final Latin. French II. Math. VI. Chemistry (General Course). 12. Organic Chem. (Honours) <i>a b</i> Mining Mineralogy. Agl. Geology. <i>a b</i> Elec. Design. Cloth Finishing. <i>a b</i> Agricul. Chem. <i>a b</i> Tutorial Agricul. <i>a b</i>
Saturday.	Elementary Greek. Hons, Latin Comp. Matric. Physics. (Exercise Class), 9:30–12.30. Genl, Elem. Sci. (Phys. and Chem.) Adv. Chem. III. Non- Metals. Physical Chem. b c 9:30–12.30. Botany. 9:30–12.30 Nature Knowledge. 3rd Year Mechanical Engineering. Machine Design.	10.15—12.15. Elementary French Training Class. 10.15—12.15. Ger. Training Class. 11—1. Horticulture (at Garforth).	Latin IV. 12. Organic Chem.

a-1st Term b-2nd Term. c-3rd Term.

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DIII OI	1100100.	continueu.)	
2 - 3,	34-	45.	5— <mark>6.</mark>
Matric. Literature. bc Comcl. German. Reading (for 2nd Year K.S.) Botany Elem. c Agl. Engrg. a b 2-5. 1st Year Text. Ind 2-4. Cloth Finishing. 2-4. Textile Art (2nd and 3rd Years). Art for 1st year K.S.	3: 15-4: 45. Criticism Lesson (Education Course). 3-5. Practical Botany. c Commercial Law.	Economic Geog. (1st Year). 2nd Year Civil Engineering. Worsted Spinning. (2nd Year) a b Dyeing HI. a b Dyeing IV. c English Law.	Music (1st and 2nd Year K.S.)
Final French. Elem. German. Logic. Economics (1st Year) Mathematics I. and III. 2-4. Pract, Med. Biol. b Agric, Botany. a b Geology I. 2-5. 2nd Year Text. Ind.	Intermediate Greek Matric, French. Int, German, Accountancy (2nd Year.) Education (3rd Year B). Mathematics II. Int, Physics, Roman Law,	French III. Honours French. Matric. German, Accountancy (1st Year.) Education (1st Year). Mathematics V. Int. Physics. 1st Year Engineering. Worsted Spinning. (1st Year) a b Constitution Law.	
2—4. Plant Physi- ology (at Garforth).	3—5. Adv. French Training Class.		

DAY CLASSES. (Continued.)

Classes not marked meet throughout the Session.

	9.30.	10.30.	11.30.	2.	3.	4.
MONDAY	Latin.	‡English Literature	Ancient History. French II.	Mathematics.	Greek. German.	French III. Education 1st Yr.
Tuesday	Education 2nd Year.	Latin Comp.	Modern History.			
WEDNESDAY	Latin.	English Literature	Ancient History. French II.	Logic. Mathematics.	Greek. German.	French III. Education 1st Yr.
THURSDAY	Education 2nd Year.	17	Modern History.			
FRIDAY	Latin.	tEnglish Literature	French II.	Logic. Mathematics.	Greek. German.	French III. Education 1st Yr.
SATURDAY		44	34-	1	**	4.s.

TIME TABLE OF INTERMEDIATE ARTS COURSES

The time for the English Language Classes to be arranged with Students. 1 First and Second Terms only.

TIME TABLE OF FINAL ARTS COURSES

Monday	Greek. German English History.	English Literature.	Latin.	French.		
TUESDAY	Roman History.	Education A.	Latin Composition.		French Literature.	German Literature
WEDNESDAY	Greek. German. English History.	English Literature.	Latin.	French	Education B.	
THURSDAY .	Roman History.	Education A.			3.15-4.45. Criticism Lessons.	
FRIDAY	Greek. German.	English Literature.	Latin.	French.	Education B.	
SATURDAY						

Greek Composition, one hour. English Language, three hours.

At times to be arranged :--Greek History, two hours. Constitutional History, two hours. History of Ancient Philosophy, three hours.

Economic History, two hours. Psychology and Ethics, three hours.

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Time Tables of Arts Courses

	9.30.	10.30.	11.30.	2.	3.	4.	
Monday	Chemistry, Metals. Biology, 3rd term.	Biology, 1st and 2nd terms. Engineering VI. <i>Literature</i> , 1st and 2nd terms.	Chemistry, General Course. French 11.	Pure Mathematics.	Physics, Exercise Class A. German III.	Applied Mathematics. French III. Education Ist Yr:	Tin
Tuesday	Chemistry, Non-Metals. Education 2nd Year.			2—5. Physics (Laboratory). Biology, 3rd term.		Engineering III.	ie Tab
Wednesday	Chemistry, Metals. Biology, 3rd term.	Biology, 1st and 2nd terms. Engineering VI. <i>Literature</i> , 1st and 2nd terms.	Chemistry, General Course. French II.	Pure Mathematics. <i>Logic</i> .	Physics, Lecture A. German III.	Applied Mathematics. Physics, Lecture B. French III. Education 1st Yr.	les of S
Thursday	Physics Exercise Class B. Chemistry, Non- Metals. Education 2nd Yr.			2—5. Physics (Laboratory). Biology, 3rd term.	3.15–4.45. Education. Criticism Lesson.	Engineering III.	cience
Friday	Chemistry, Metals.	Biology, 1st and 2nd terms. Engineering VI. <i>Literature</i> , 1st and 2nd terms.	Chemistry, General Course. French II.	Pure Mathematics. <i>Logic</i> .	Physics, Lecture A. German III.	Applied Mathematics. Physics, Lect. B. French III. Education 1st Yr.	Course
SATURDAY	9.30–12.30. Physics (Laboratory). Chemistry, Non- Metals.				T		es

TIME TABLE OF INTERMEDIATE SCIENCE COURSES

The courses for the subjects which may be deferred until the Final examination are in italics. The courses in Physics, marked A and B, are alternative to each other. Laboratory work in Physics to be taken at times selected from those given above. Laboratory work in Chemistry, Biology, and Engineering to be arranged.

	9.30.	10.30.	11.30.	2.	3.	4.
Monday	Applied Math. Chemistry, Metals. Chemistry V. B Electrical Engineering II. Veterinary Science	Physics. Engineering VI. Agriculture.	Pure Mathematics. Electrical Engineering I. Agricultural Geol. 12. Chemistry V. A	Geology. 2—5. Physics Laboratory. 2—4. Agricultural Botany.	44	Veterinary Science.
Tuesday	Chemistry, Non- Metals, Chem.V. c Engineering VII. Veterinary Science 9.30–12.30. Physics Lab.	Engineering IV. Electrical Engineering III. Agriculture.	Electrical Engineering I. Veterinary Science. 12. Organic Chemistry.			
Wednesday .	Applied Mathematics. Chemistry, Metals. Chemistry V. B	Pnysics. Engineering VI. Agriculture.	Pure Mathematics. Agricultural Chem. Agricultural Geology. 12. Chemistry V. A	Geology. 2–5. Physics Laboratory. 2–4. Agricultural Botany.		
Thursday	Chemistry, Non- Metals. Chem.V. C Engineering VII. 9.30—12.30. Physics Laboratory	Engineering IV. Agriculture.	Electrical Engineering I. Agricultural Chem. 12. Organic Chemistry.	44.		
Friday	Applied Mathematics. Chemistry, Metals. Chemistry V. B Electrical Design.	Physics. Engineering VI. Agriculture.	Pure Mathematics. Agricultural Chem. Agricultural Geology. 12. Chemistry V. A	Geology. Agricultural Botany. 2—5. Physics Laboratory.		
Saturday .	Chemistry, Non- Metals. Chem.V. c Engineering VII.		12. Organic Chemistry.			

TIME TABLE OF FINAL SCIENCE COURSES

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Course for the First Examination in Medicine (Leeds), or Preliminary Scientific (M.B.) Examination (London)

Time Table-First and Second Terms

	9.30-10.30.	10.30-11.30.	11.30-12.30	2.0-3.0.	3.0-4.0.	4.0-5.0.
Mon.		Zoology Lect	Chem. Lect. (Gen. C.)	Zoology (L	aboratory W	ork) 2.0 -5.0
TUE.	*Zoology(La †Botany (La	boratory Work boratory Work) 9.30—12.30) 9.30—12.30	Chemic	al Laborator	y, 2.0—5.0
WED.		Zoology Lect.	Chem. Lect. (Gen. C.)	Chem. Tutorial.		Physics Lect.
Тну.	Physics. Lect.	Zoology (Lab. Work)	10.30—12.30	Chemic	al Laborator	y, 2.0-5.0
Fri.		Zoology(Lect.) †Botany(Lect.)	Chem, Lect. (Gen. C.)	Chem.	Lab. 2-4.	Physics Lect.
SAT.	Physic	al Laboratory	9.30-12.30			

* 1st Term. † 2nd Term. Third Term

	9.30-10.30.	10.30—11.30	11.30-12.30	2.0-3.0.	3.04.0,	4.0-5.0.
Mon.	Botany.	Botany Lab.	Chem. Lect.	Chemic	al Laborator	y, 2.0—5.0
TUE.	Chemical	Laboratory,	9.30—12.30	Botany Lect.	Botany Lab	y., 3.0—5.0
WED.	Botany.	Botany Lab.	Chem, Lect.	Chem. Tutorial.	14.6	Phys. Lect.
Тни.	Phys. Lect.	Chem. Tutorial.	Zool. Revn.	Botany Lect.	Botany Lab	y., 3.0—5.0
FRI.	Zool. Revn. 9.30	Laboratory. 11, 30.	Chem. Lect.	Chem.	Lab. 2-4.	Phys. Lect.
SAT.	Physical	Laboratory,	9.30-12.30			

This Course will meet the requirements of students preparing for the First examination in Medicine of the University of Leeds, or the Preliminary Scientific (M.B.) of the University of London. It includes lectures in Chemistry, Physics, Zoology and Botany, with the requisite attendance in the Chemical, Physical, and Biological laboratories.

Composition fee for the course, including Union Fee (excluding Zoological Revision Class) \pounds_{26} 10s. 6d.

Students preparing for the Conjoint Board Examinations (L.R.C.P. and M.R.C.S.) will attend classes in Physics (Lectures and Laboratory as above), Chemistry (Lectures and Laboratory as above), and Biology (see page 186). Composition Fee for the course (including Entrance Fee and Union Fee), \pounds_{22} 17s. od.

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DEGREES, EXAMINATIONS, & COURSES OF STUDY IN THE FACULTY OF MEDICINE

The Degrees in this Faculty are :

Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B).

Doctor of Medicine (M.D.).

Master of Surgery (Ch.M.).

The University also grants a Diploma in Public Health.

N.B.—The following regulations are in force for the Session 1904-5. Changes may be introduced in the following year.

Degree of Bachelor of Medicine and Bachelor of Surgery

All candidates for the degrees of Bachelor of Medicine and of Surgery are required to pass the Matriculation examination¹ in the following subjects :

1. English Language or Literature and English History.

2. Mathematics.

3. Latin.

4. Elementary Mechanics.

5. One of the following :

- i. Greek.
- ii. French.
- iii. German.
- iv. Some other modern language approved by the Senate.

or to have passed such other examination as may from time to time be recognised for this purpose by the University.²

¹ For detailed account of the Matriculation examination see page 90.

² For a list of examinations recognised by the University see footnote, page 90.

Candidates who have passed the Matriculation examination but have not included Latin, Mechanics, and either Greek or a Modern Language, will be considered to have passed the Matriculation examination (Faculty of Medicine), provided, before passing the First M.B. examination, they satisfy the Examiners in the subject or subjects omitted.

Candidates who have taken Mechanics as one of their subjects but have failed in that subject shall be allowed to complete their examination by passing in Mechanics at a subsequent Examination, but such candidates shall not be admitted to graduate in the Faculties of Arts, Science, and Law.

Before admission to the degrees of Bachelor of Medicine and of Surgery, a candidate is required to present certificates that he will have attained the age of twenty-one years on the day of graduation, and that he has pursued the courses of study required by the University Regulations during a period of not less than five years subsequently to the date of his registration as a Medical Student by the General Council of Medical Education, two of such years at least having been passed in the University, and one year at least having been passed in the University subsequently to the date of passing the First examination.

All candidates for the degrees of Bachelor of Medicine and of Surgery are required to satisfy the Examiners in the several subjects of three examinations, entitled respectively :

The First examination;

The Second examination;

The Final examination;

Before admission to any examination, the candidate must pay the examination fee, and must deposit with the Registrar satisfactory certificates of attendance upon the courses prescribed for that examination. A year of medical study is understood to mean a winter session of six months and a summer session of three months. Attendance during a year must, normally, include attendance upon at least *two* of the prescribed courses of lectures or laboratory work, or one such course and hospital practice, in each session, if that year is to count as part of the Degree course. Such attendance must be given at the University or at a College or Medical School recognised by the University.

Degrees in Medicine

First Examination

The First examination consists of two parts—I, *Physics* and *Chemistry*, and II, *Biology*, and candidates will be allowed to pass the two parts separately,

Candidates for the First examination must have attended during at least one year courses both of lectures and of laboratory work, in each of the three above-named subjects.

Candidates who have passed the Intermediate examination in the Faculty of Science in Chemistry, Physics, and Biology, will on payment of the required additional fee, be regarded as having passed the First examination for the degrees of M.B. and Ch.B.

Subjects of examination

- I. PHYSICS :
 - The properties of matter; the chief phenomena of sound, heat, light, electricity, and magnetism, treated in an elementary manner. Practical physics.

CHEMISTRY :

Inorganic Chemistry, with special reference to the non-metals. Introduction to Organic Chemistry. Practical Chemistry, including the qualitative analysis of mixtures of not more than two simple mineral salts; the detection of the more common organic compounds; and exercises in simple preparations.

II. BIOLOGY :

Animal morphology. Vegetable morphology and physiology. Laboratory work.

Second Examination

Candidates for the Second examination are required to have passed the First examination, and to have attended courses of instruction in Anatomy for *one* winter session; in Physiology for *two* winter sessions [*one* session will, however, suffice, provided a full course, approved by the University, has been duly attended]; in Materia Medica and Pharmacy for *one* summer session. The certificates must show (1) that dissection had been practised during two winter sessions and one summer session at least; (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.1

Physiology, including Physiological Chemistry and Histology, with experimental work.

PART II.

Materia Medica and Pharmacy.²

Candidates may pass in each part separately.

Final Examination

Candidates, before presenting themselves for the First part or the Second part of the Final examination, are required to have passed the Second examination, to have completed the fourth winter or the fifth year, as the case may be, of medical study, and to 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 Statute of the University, in the subjects in which they offer themselves for examination.

Candidates are required to furnish certificates as follows :----

- 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 three 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.
- 2. In Pathology and Morbid Anatomy, of having attended during at least twelve months, demonstrations in the *post-mortem* theatre of a hospital.
- 3. In Obstetrics, of having attended during three months the indoor practice of a Lying-in Hospital approved by the University; or of having attended not less than twenty cases of labour, at least five of which shall have been conducted under the direct supervision of a registered practitioner, and of having continued such attendance throughout the puerperal period.

¹ Candidates may, at the discretion of the Examiners, be required to perform actual dissection.

² Candidates will be required to recognise drugs, to examine officinal substances and report on their purity and fitness for use, and to compound medicines,

Degrees in Medicine

- 4. In Diseases of Women, 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 acquired proficiency in vaccination.
- 6. Of having acted as a Dresser for six months in the Surgical wards and as a Clinical clerk for six months in the Medical wards of a Hospital recognised by the University.
- 7. 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 Statute of the University, in the following subjects :--
 - i. Pharmacology and Therapeutics, one winter or one summer session.
 - ii. General Pathology and Morbid Anatomy, one winter and one summer session.
 - iii. Forensic Medicine, one summer session. Public Health, one summer session.
 - iv. Obstetrics and Diseases of Women, two summer sessions or one winter session.
 - v. Systematic Surgery, one winter session; Practical Surgery, one winter session; Clinical Surgery, two years of clinical lectures.
 - vi. Systematic Medicine, two winter sessions; Clinical Medicine, two years of clinical lectures.

The Certificate in Medicine must in all cases testify that the candidate has attended during a summer session, or its equivalent, courses of instruction approved by the University in (a) Mental Diseases, (b) Infectious Diseases.

The Certificate in Obstetrics and Diseases of Women and Children must in all cases testify that the candidate has attended courses of practical instruction approved by the University, in the use of obstetrical and gynæcological instruments.

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Degree of M.B.

The Certificate in General Pathology and Morbid Anatomy must in all cases testify that the candidate has attended a course of laboratory instruction in these subjects, approved by the University.

Subjects of examination

I. Pharmacology and Therapeutics.

- 2. General Pathology and Morbid Anatomy.¹
- 3. Forensic Medicine² and Toxicology and Public Hcalth.
- 4. Obstetrics and Diseases of Women.³
- 5. Surgery, ⁴ Systematic, Clinical⁵ and Practical.
- 6. Medicine, Systematic and Clinical,⁵ including Mental Diseases and Diseases of Children.

Candidates may either present themselves in all the six subjects of examination on the same occasion, or may pass the examination in two parts,⁶ the first part consisting of *two* or *three* of Subjects 1, 2, and 3; the second part of the remaining subjects.

Candidates who fail to satisfy the Examiners in the first part must either present themselves again in the subjects as selected, or in all the three subjects of the first part, or in all the six subjects of examination.

Candidates will be examined on museum preparations and microscopic specimens.
Candidates will be required to conduct a qualitative analysis of poisonous substances selected from the following list i-

CLASS I.	CLASS II.
(In simple solution.)	(In combination with various organic
Carbolic Acid	substances.)
Alcohol	Mineral Acids
Chloroform	Oxalic Acid
Chloral Hydrate	Hydrocyanic Acid and the Cyanides
Strychnine	Caustic Alkalies
Brucine	Phosphorus
Morphine	Compounds of arsenic, antimony, mercur
Meconic Acid	lead, barium, zinc, copper, and silver
	CLASS I. (In simple solution.) Carbolic Acid Alcohol Chloroform Chloral Hydrate Strychnine Brucine Morphine Meconic Acid

They may also be required to determine the character of stains and stained fabrics, microscopically and chemically, and to recognise poisonous articles of the materia medica.

3 Candidates will be required to show their practical acquaintance with obstetrical and gynecological manipulations and instruments by the use of the phantom or otherwise, and will also be examined on museum preparations.

4 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.

5 Candidates, in order to pass, must satisfy the Examiners in the clinical part of the examination.

6 Candidates proposing to present themselves for Part II are required to give notice, in writing, to the Registrar, on or before March x or July x, as the case may be.

Candidates for the first part of the examination must have completed the *fourth winter* of medical study in accordance with the Regulations of the University.

Candidates for the second part of the examination, or for the whole examination, must have completed the *fifth year* of medical study in accordance with the Regulations of the University.

The names of candidates who have satisfied the Examiners (in both parts of the examination) are published as follows :---

1. Those awarded First Class Honours.¹

2. Those awarded Second Class Honours.¹

3. Those who have satisfied the Examiners.

The names are in alphabetical order in each case.

Degree of Doctor of Medicine

No candidate will 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.

Candidates for the degree of Doctor of Medicine are required to present a printed dissertation² embodying the results of personal observations or original research, either in some department of medicine or of some science directly relative 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 degree. No candidate will be admitted to the degree unless his application, after report from the Board of the Faculty of Medicine, shall have been recommended by the Senate to the Council for acceptance. Candidates may be examined on any subject connected with the dissertation or other work submitted.

¹ Account is taken of the results of the Second examination in determining the award of Honours.

² Candidates for the degree of Doctor of Medicine are required to furnish three copies, preferably printed or typewritten of the dissertation or published work which they desire to submit to the University, together with any drawings or specimens which may be necessary for illustration. These copies shall be sent in to the Registrar not later than March 1 in the year of application. They will be retained by the University.

The names of candidates who have been approved for the degree of Doctor of Medicine are published in alphabetical order.

Degree of Master of Surgery

No candidate will be admitted to the degree of Master 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.

Candidates, on presenting themselves for the examination for the degree of Master of Surgery, are required to have graduated as Bachelors of Medicine and of Surgery in the University, and to furnish the following certificates :

- Of having held, for not less than six months, since taking the Degree of Bachelor of Medicine and of Surgery, a Surgical appointment in a public hospital, or other public institution affording full opportunity for the study of Practical Surgery.
- 2. 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.
- 3. Of having attended a systematic course of instruction, including Practical Work, approved by the University, on Bacteriology.
- 4. Of having attended a course on Ophthalmology, and of having received instruction in Ophthalmic Surgery approved by the University.

Subjects of Examination

- 1. Surgical Anatomy
- 2. Surgery
- 3. Operative Surgery
- 4. Clinical Surgery
- 5. Ophthalmology
- 6. Pathology and Bacteriology

The names of candidates who have satisfied the examiners are published in alphabetical order.

DIPLOMA IN PUBLIC HEALTH

The Examination is held yearly, beginning about the middle of July, under the following regulations :

I. The examination is in two parts, and is written, oral, and practical.

2. Candidates, before entering for either 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,

- ¹I. 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.
- ¹2. 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.
 - 3. Of having, after obtaining a registrable qualification, attended during not less than three months the clinical practice of a hospital for infectious diseases approved by the several licensing bodies recognised under the Medical Act.
 - 4. Of having, after obtaining a registrable qualification, during six months (of which at least three months shall be distinct and separate from the period of laboratory instruction required under 2), been diligently engaged in acquiring a knowledge of the duties, routine and special, of Public Health Administration under the supervision of the Medical Officer of Health of a county, or of a single Sanitary district having a population not less than 50,000, or a Medical Officer of Health devoting his whole time to Public Health work, or a Medical Officer of Health who is also a Teacher in the Department of Public Health of a recognised Medical School.

May be modified in the case of practitioners qualified before 1890.

3. Candidates may present themselves for Parts I and II separately or at the same time, provided that no candidate be admitted to 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 $\pounds 5$ 5s., and must be paid on or before July 1 in each year. For any subsequent Examination in the same part the fee will be $\pounds 3$ 3s.

Every candidate who has passed both parts of the Examination, and who is legally registered, will receive a Diploma in Public Health.

Subjects of Examination

Part I

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.

3. 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.

4. MICROSCOPY AS APPLIED TO PUBLIC HEALTH;

Foods, their adulterations, contaminations, and parasites. Air and water, their microscopical impurities.

5. 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.

Part II

I. 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. 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.

- 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.

Order of Examination

Part I

The examination will include :

- I. A two hours' written examination on Chemistry as applied to Public Health.
- 2. A four hours' practical and oral examination on Chemistry as applied to Public Health.
- 3. A three hours' written and oral examination on Physics and Engineering as applied to Public Health.
- 4. A four hours' practical and oral examination on Bacteriology, the Pathology of infectious diseases, diseased meat, and the use of the microscope as applied to the examination of food, air, and water.

Part II

The examination will include :

- I. A three hours' written examination on the Ætiology of Disease.
- 2. A three hours' written examination on Sanitary Law and Administration, and on Vital Statistics.
- 3. Sanitary reporting.
- 4. Oral examination on the above subjects.

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THE SCHOOL OF MEDICINE

The lecture and laboratory courses for students in the Faculty of Medicine, except the courses in Physics, Chemistry, and Biology, belonging to the preliminary scientific year of study, are held in the School of Medicine of the University, in Thoresby Place.

Sessions 1904-5

The University Session or academic year in the School of Medicine is divided into two Sessions, the Winter and the Summer Session. The Winter Session begins Monday, October 3, 1904, and ends Thursday, March 23, 1905, with a Christmas recess, beginning Saturday, December 24, 1904, and ending Monday, January 9, 1905. The Summer Session begins Wednesday, April 26, and ends Saturday, July 22.

The terms for students pursuing the first year's course of study are the ordinary University terms, see p. 77.

Admission of Students

The Dean will enter students in the School of Medicine for their courses of lectures from 9.30 to 10.30 a.m.,' for the Winter Session, from October 3 to 6; and for the Summer Session on May 1 and 3. At the same time, fees will be received by the Registrar. Cheques should be made payable to "The University of Leeds," and crossed "Beckett & Co."

The Dean attends at his office, in the School of Medicine, from 9 to 10 a.m. daily, and can be seen at other times by appointment. Enquiries about medical studies should be addressed to him.

Applications (with fee, $\pounds 2$ 2s.) to attend the instruction on Infectious Diseases at the Leeds City Hospitals, and applications to attend instruction in Vaccination, must be lodged with the Dean in the first week of October, January, or May.

Enquiries relating to attendance at the Infirmary should be addressed to the Secretary of the Infirmary Faculty, Mr. Walter Thompson, 4 Park Square, between the hours of 11 a.m. and 1 p.m.

Regulations

I. All students are required to enrol their names at the Dean's office within five days from the beginning of each

Session. Students who from any unavoidable cause are prevented from personally attending at that time must communicate with the Dean by letter.

2. Should a student change his residence during the Session, he must inform the Dean of the change of his address without delay.

3. Regular, punctual, and orderly attendance at lectures, class-examinations, and demonstrations is required of every student, in order that he may obtain certificates of attendance. In the case of persistent neglect of work, repeated failure at professional examinations, or unreasonable delay in presenting himself for such examinations, a student may be required to withdraw from the University.

4. In case of illness or other unavoidable cause of non-attendance at any lecture, demonstration, or class examination, a written explanation, accompanied by a medical certificate, where necessary, must be sent to the Lecturer, with as little delay as possible, otherwise excuses for absence cannot be accepted. Hospital work is not counted as an excuse for non-attendance upon lectures excepting in the case of the week's Casualty Dressership and for attendance upon actual cases of Midwifery, all of which must be duly certified.

5. Prizes will be granted only when the work and conduct of the student are satisfactory, and certificates or prizes may be refused on the ground of unsatisfactory conduct.

6. Smoking is allowed only in the Students' Common Room, the Refectory after 1 p.m., and under certain restrictions in the Dissecting Room.

7. Students will be required to make good, to the satisfaction of the Council, any loss, wilful damage or injury they may occasion to the property of the University.

8. Students in the School of Medicine are amenable to the discipline and general regulations of the University, as well as to the rules made by the Board of the Faculty of Medicine. Violation of these regulations and rules renders a student liable to immediate dismissal, and to the forfeiture of all fees, certificates, and privileges as a student of the University. (See also page 78.) 9. 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 forfeited by any irregularity or misconduct on my part.

Fees

Fees are payable in advance to the Registrar, and courses of lectures may be paid for separately, or by means of a Composition Fee. An Entrance Fee of $\pounds I$ Is. is charged to those who have not previously pursued studies in the University, and an annual fee of Ios. 6d. for the University Union (see page 352.)

NOTE.—The fees for instruction in Infectious Diseases and for instruction in Vaccination are to be paid to the DEAN, by whom tickets of admission to the classes will be issued; and the fees for Hospital Practice (including Clinical Lectures) to the Treasurer of the Infirmary Faculty, Mr. W. THOMPSON, 4, Park Square.

The fees for each course will be found appended to the syllabus of the course.

Composition Fees

These fees do not include attendance on instruction in Vaccination or in Infectious Diseases.

(A) FOR UNIVERSITY STUDENTS, who have already taken the course of instruction for the first M.B. examination of the Victoria University, or of the University of Leeds or the Preliminary Scientific (M.B.) examination of the London University, the fee is $\pounds 67$ 4s. if paid in one sum on entrance, or $\pounds 34$ 13s. on entrance and $\pounds 34$ 13s. at the end of twelve months, and entitles to attendance upon one course of the subjects in Sections I. and II. The privilege extends over six years from the date of the first instalment.

(B) FOR UNIVERSITY STUDENTS who have passed the Second M.B. examination (Anatomy, Physiology, and Materia Medica), the fee is $\pounds 43$ is., and entitles to attendance upon one course of the subjects in Section II. The privilege extends over *four years* only.

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SECTION I.

Descriptive Anatomy, Juniorand Senior Sections.

Use of Dissecting Room with tutorial instruction, for two Winter and two Summer Sessions.

Physiology, General and Advanced Courses.

Practical Physiology and Histology.

Materia Medica.

SECTION II.

Pharmacology and Therapeutics. Practical Pharmacy. Pathology and Morbid Anatomy. Practical Pathology. Medicine. Do, a Second Course. Surgery. Practical Surgery. Midwifery. Diseases of Women and Children. Forensic Medicine. Practical Toxicology. Mental Diseases. Ophthalmology. Public Health. Applied Anatomy.

(C) FOR STUDENTS taking a Diploma Course and who have taken out the required instruction in Chemistry, Chemical Physics, and Elementary Biology, the fee is $\pounds 67$ 4s. if paid in one sum on entrance; or $\pounds 34$ 13s. on entrance and $\pounds 34$ 13s. at the end of twelve months, and entitles to attendance upon one course of the subjects in Sections III. and IV., covering the courses of study required for the London Conjoint Examining Board, the Society of Apothecaries, or the Edinburgh and Glasgow Conjoint Board. The privilege extends over *six years* only from the date of the first instalment.

(D) FOR NON-UNIVERSITY STUDENTS who have passed a Second Professional Examination (Anatomy, Physiology, and Materia Medica), the fee is ± 38 17s., and entitles to attendance upon one course of each subject in Section IV. The privilege extends over *four years* only.

SECTION III.

Descriptive Anatomy, Junior and Senior Sections.

Use of Dissecting Room with tutorial instruction, for two Winter and two Summer Sessions.

Physiology, Elementary and General Courses.

Practical Physiology and Histology.

Materia Medica

SECTION IV.

Pharmacology and Therapeutics Practical Pharmacy. Pathology and Morbid Anatomy. Practical Pathology. Medicine. Do. a Second Course. Surgery. Practical Surgery. Obstetrics. Gynæcology. Forensic Medicine. Mental Diseases. Ophthalmology. Public Health. Applied Anatomy.

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Library

Additional courses of lectures and practical or tutorial classes which may be rendered necessary by failure to pass any examination, or by the refusal of the Board of the Faculty of Medicine to certify satisfactory attendance on any course will be charged for at the full fee.

Library

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, and is being continually increased. The Library of the Old Infirmary, rich in Medical Classics, became the property of the School of Medicine in 1865.

Rules

1. The Library is open to Students daily, between the hours of 9 a.m. and 5 p.m., except on Saturdays, when it will be closed at 1 p.m. During these hours, books can be obtained for use in the Library on application to the Assistant Librarian.

2. Students wishing to borrow books for home use are allowed to do so under the following regulations :---

(a) Every student wishing to take books away from the Library shall deposit half-a-guinea as caution money; this sum, or the balance of it remaining shall be refunded to the depositor on the return of his Library card.

(δ) The student will, on payment of the deposit, receive a Library card with his name upon it. This card must always be presented to the Assistant Librarian or his substitute whenever the student desires to borrow a book. The name of the book and date of issue will be entered upon the card, which will then be placed on the shelf in the place of the book borrowed. The card will be given back to the student when the book is returned.

(c) Books borrowed for home use must be returned to the Library within two weeks from the date of issue. One volume only can be borrowed at a time. A fine of 2d. a day is incurred for every day that it has been detained beyond the time allowed.

(d) No periodical for the current year may be removed from the library.

(e) In case of loss of or damage to any book, the loss or damage must be made good by the borrower.

(f) Every book must be returned to the Library at the end of the Winter and Summer Sessons respectively.

NOTE.—Practitioners residing in Leeds or its neighbourhood, may be admitted to the use of the Library upon certain conditions, and upon the payment of a subscription.

Museums

The PATHOLOGY MUSEUM is spacious and well-equipped, and 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 attachment, and mounted in revolving cases ; and several series of wax models, illustrating the development of the fœtus.

A collection of OLD INSTRUMENTS, Surgical, Obstetrical, and Medical, of disused type or of historical value, is being formed. Many of considerable interest have already been obtained, and additional contributions will be gladly received by the Hon. Curator, Prof. C. J. Wright.

Lockers

These are provided for the safe keeping of coats, books, &c. The rent is 2s. 6d. per annum (one winter and one summer session), commencing October τ or May τ , with a deposit of τ s., which will be returned when the key is given up, if the locker is undamaged.

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 and of the Students' Representative Council. Tea, coffee, and light refreshments may be obtained from 9 a.m. to 5 p.m.; and dinner is served from 12 to 2 p.m.

Dinners for each separate term may be compounded for by special arrangement.

LECTURES AND CLASSES

I. COURSES HELD IN THE UNIVERSITY BUILDINGS, COLLEGE ROAD

Physics

Professor Stroud Mr. Allen

The course designed to meet the wants of candidates for the First M.B. examination of the University of Leeds or the Preliminary Scientific (M.B.) examination of the University of London, will consist of two experimental lectures and one calculation class, weekly throughout the session, Monday, Wednesday, and Friday, at 3 p.m. Fee, \pounds_3 138. 6d.

The Physical laboratory is open daily. A special course of Practical Physics for medical students will be held on Saturday mornings, from 9.30 to 12.30, throughout the session. Fee, ± 3 35.

For further information see page 175.

Chemistry

Professor Smithells Professor Cohen

and Demonstrators

I. General Course

Part I. Inorganic Chemistry: during the first and second terms. Mondays, Wednesdays, and Fridays, at 11.30 a.m. Tutorial class on Wednesdays, at 2 p.m.

Part II. Organic Chemistry: during the third term. Mondays, Wednesdays, and Fridays, at 11.30 a.m. Tutorial class on Thursdays, at 10.30 a.m.

Fee for the whole course (including tutorial class) \pounds_4 4s.; for part I, \pounds_3 13s. 6d.; for part II, \pounds_1 1s.

See p. 180.

II. Practical Chemistry

Mondays, 2 to 5, and Fridays, 2 to 4, throughout the session. Tuesdays, 2 to 5, in the first term, and Tuesdays, 9.30 to 12.30, in the second term. For details see p. 182, for the fee see p. 82.

Courses in Medicine

III. Organic Chemistry

Lectures at 12 noon on Tuesdays, Thursdays, and Saturdays throughout the session. Fee, \pounds_3 13s. 6d.

See p. 181.

IV. Practical Organic Chemistry

Third term, from 10 to 12 noon on Tuesdays and Thursdays. Fee, \pounds_2 2s.

N.B. Courses III and IV are suitable for students preparing for the Intermediate M.B. examination, London.

V. Sanitary Chemistry

For practitioners who are preparing for a diploma or degree in Public Health.

Mondays and Thursdays, from 2 to 5 p.m., during the second term. For further details, see p. 183.

Fee, £5 5s.

N.B.—For students who wish to take additional practical work of whatever kind, the Chemical laboratories are open daily from October to June inclusive.

Biology

Professor MIALL

Mr. WALKER

Dr. Smith Mr. Taylor

Mr. UNWIN

For full details of the various courses see under the Department of Biology, page 185.

I. For Non-University Students: Course II, Medical Biology, page 186.

During the first term the Lectures will be given on Mondays, Wednesdays, and Fridays, at 10.30 a.m.; demonstrations and practical work on Mondays, from 2 to 5, Tuesdays, from 9.30 to 12.30, and Thursdays, from 10.30 to 12.30. During the second term, lectures as before; laboratory work on Wednesdays and Fridays, from 2 to 4 p.m. Fee, text books, and class regulations as for Elementary Biology for University students.

Each student will be required to provide himself with a microscope, a dissecting case, a biological drawing book, and some simple instruments for microscopic work. The Professor will be glad to advise students on these points.

Biology—Anatomy

2. Students preparing for the first M.B. examination of the Victoria University, or the Preliminary Scientific (M.B.) of London, should take the courses in Zoology and Botany, which form part of a special course qualifying for these examinations. See Course I, Elementary Biology, page 185.

3. Students preparing for the Fellowship examination of the College of Surgeons of England may take a three month's course of Zoology in the first term (October— December), including not less than four hours' practical work per week. Fee, \pounds_3 3s.

4. Where Botany is required for any of the Medical examinations, the ordinary course (Course I, Botany, page 186) should be taken. Fee, $\pounds 5$ 5s.

II. COURSES HELD IN THE SCHOOL OF MEDICINE

Anatomy

Professor Griffith Mr. Jamieson Mr. Thompson Mr. Teale

I. Descriptive Anatomy (Winter Session)

Lectures daily at 9.15 a.m., during the Winter Session.

The systematic course of lectures is, for convenience of teaching, divided into two parts.

The first part is intended for first year's students, and treats especially of Osteology and the Anatomy of the joints and limbs.

The second part deals with the Anatomy of the head and neck, thorax and abdomen; and particular attention is paid to the nervous system and the organs of special sense. Students are required to attend both parts before they are entitled to signature for one full course of Anatomy.

Fee for each part, £5 5s.

Systematic Tutorial classes are held in connection with the October course.

II. Practical Anatomy (Winter and Summer Sessions)

The Dissecting room is open daily from 9 a.m. till 5 p.m., throughout the winter and summer sessions the work of the students being constantly supervised by the Demonstrators, who attend daily. Tutorial classes and examinations are held daily on recent dissections and on preparations from the Anatomical Museum; and 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 the 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.

f. s. d.

Use of Dissecting-room, along with tutorial instruc-			
tion, during attendance on the anatomical			
course, covering two Winter and two Summer			
Sessions	5	5	0
Use of Dissecting-room, along with tutorial instruc-	-	-	
tion, for every three months or portion of three			
months during the two years subsequent to the			
above period	2	2	0
Use of Dissecting-room, along with tutorial instruc-			
tion under all other circumstances, for three			
months, $\pounds 3$ 3s.; for six months	5	5	0

III. Applied Anatomy (Summer Session)

The class meets on Tuesdays and Fridays at 9 a.m., in the Anatomy Theatre. It is intended for senior students and for qualified practitioners. It deals with the application of anatomical facts to Medicine and Surgery, and is fully illustrated by dissections, diagrams, and the living model. Fee, f.2 25.

Physiology and Histology

Professor BIRCH Mr. CLARK

I. General Course (Winter Session)

This course of lectures deals with Physiology generally, and is illustrated by experiments. Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, at 2 p.m., during the Winter Session.

Fee, *f*, 8 8s.

Physiology

II. Additional Lectures for University Students (Winter Session)

About 20 Lectures, to be attended in the Winter Session succeeding that in which they have attended Course I.

Fee, £ 2 25.

III. Elementary Course (Summer Session)

About 20 Lectures, on Mondays and Wednesdays at 2 p.m. during the Summer Session. This course is for Non-University students, to be attended during their first summer of study, whether they enter in May or October.

Fee, £ 2 25.

NOTE: The complete "Course" for University students consists of Courses I and II, and that for Non-University students of I and III.

IV. Microscopical Demonstrations (Summer and Winter Sessions)

are held at 11 a.m. every Saturday throughout both Sessions, and are open to all students attending courses of Physiology.

V. Practical Physiology (Summer and Winter Sessions)

This course is divided into two parts; and students are required to attend both parts before they are entitled to signature for a course of Practical Physiology.

Part I. Practical Histology

During May, June, and July, on Mondays, Wednesdays, and Fridays, for about two hours in the morning.

Students are required to provide themselves with the following: (1) A microscope of good construction, provided with 1 inch and $\frac{1}{6}$ inch objectives, which should be submitted for approval to the Professor on the first day of the Session. The Professor will be glad to assist students in the choice of an instrument. (2) Some accessories, a list of which can be had on application.

Part II.

Held during the Winter session.

(a) For University students, from October to March. This covers the work in chemical and experimental Physiology required for University students. (b) For Non-University students, a three months' course commencing in January. In this part the chemical tests for the chief constituents of food, animal tissues, and secretions are gone through; with experiments on Blood, Digestion, &c.

Fees: for part I, $\pounds 6$ 6s.; for part II, (a) $\pounds 4$ 4s., (b) $\pounds 2$ 2s.

VI. Physiological Demonstrations and Catechetical Classes are held during both Sessions at such times as may be found convenient.

VII. Recapitulatory Class

A short Laboratory course for University students who desire to recapitulate their laboratory work. The class will meet twice a week during the Summer session, and from January into March during the Winter session. Fee, $\pounds_2 2$ s.

VIII. The Physiological Laboratories

are open daily during University hours for practical work; the fees are on the same scale as in the other laboratories of the University; see page 82.

Materia Medica, Pharmacology, and Therapeutics

Professor CHADWICK

Mr. Gough

I. Materia Medica (Summer Session) Tuesdays, Fridays, and Saturdays, at 9 a.m.

This course will treat of the sources, preparation, physical characters, pharmacopœial combinations, tests, doses, and general uses of the principal drugs. In addition to the

tions on specimens. Fee, \pounds_4 4s.

II. Practical Pharmacy (Summer Session)

lectures there will be catechetical teaching and demonstra-

Mondays and Wednesdays, 3.30 to 5 p.m.

The course will include general pharmaceutical processes; prescriptions; weights and measures; the compounding of a large series of typical prescriptions, including mixtures, pills, powders, emulsions, tinctures, lotions, inhalations, plasters, ointments, &c. The best methods of dispensing the principal drugs. Incompatibility. The testing of important drugs for impurities and adulterations is also taught to University students. Fee, \pounds_3 35.

III. Pharmacology and Therapeutics (Winter Session)

Mondays and Thursdays at 12 noon.

This course will be delivered during the months of January, February and March.

The subjects treated of will be the general principles of the treatment of disease; the physiological and therapeutic action of the principal drugs; methods of administering medicines and of using various therapeutic appliances; heat, cold, massage, electricity; dietetics; influence of climate and health resorts.

Fee, £3 3s.

Pathology

Professor GRUNBAUM

Mr. Scott Mr. Gruner Mr. Knaggs

I. Pathology and Morbid Anatomy (Winter Session) Tuesdays and Fridays at 12 o'clock.

General Part :---

The general causes of disease.

Malformations.

Circulatory disturbances :---Anæmia, hyperæmia, œdema, thrombosis, embolism and hæmorrhage.

Inflammation :--- The process and its results, restoration and repair, fever.

Infective granulomata :--- Tubercle, syphilis.

Progressive nutritional changes : — Hypertrophy, tumours.

Regressive nutritional changes :- Atrophy, degenerations, necrosis.

Parasites :-- Animal and vegetable.

Bacteriology :---Morphology and conditions of life of bacteria, including the subjects of disinfection and antisepsis; methods of investigating and cultivating bacteria; micro-organisms and their products as the causes of disease; immunity; bacteriology as applied to the diagnosis and treatment of disease. Special Part :---

- An outline account of the pathology and morbid anatomy of diseases affecting the respiratory, circulatory (including the blood), alimentary, genito-urinary, nervous, locomotor, and cutaneous systems.
- Attention will be given, as occasions arise, to the microscopical and other examination of diseased excretions and secretions.

Fee, £4 45.

Tutorial Classes in Surgical Pathology will be held by the Hon. Demonstrator, Mr. KNAGGS, as may be arranged from time to time.

N.B.—Special arrangements for practical work in the new Bacteriological or Pathological laboratories can be made at any time; the fees are on the same scale as in the other laboratories of the University, see page 82.

II. Practical Pathology (Summer Session)

Tuesdays and Thursdays, 12 to 1.30.

This class will meet twice a week for the purpose of examining specimens of diseased organs, morbid growths, &c. The principal morbid conditions of the various organs will be investigated, and students will make and mount preparations for microscopical examination. The most important facts in pathological chemistry will also be demonstrated. Several meetings of the course will be devoted to Practical Bacteriology, to meet the new requirements of the Conjoint Board.

Students must provide themselves with microscopes and the usual accessories.

Fee, £4 4s.

III. Practical Class in Clinical Pathology (Winter Session)

A post-graduate class of about 12 meetings will be held by the Professor during the earlier part of the Winter session, on Wednesdays, at 4 p.m.

The examination of the blood, gastric contents, fæces, biliary and pancreatic calculi, urine (including casts and calculi), and sputum.

The examination of scraping and snippings of tissue, and of pathological fluids.

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Forensic Medicine

Bacteriological diagnosis as applied to the clinical recognition of enteric fever, diphtheria, tuberculosis, pyogenic diseases, the anthrax infection, and actinomyces.

Fee, £3 3s.

Forensic Medicine and Toxicology

Dr. CAMPBELL

Dr. EURICH

I. Forensic Medicine (Summer Session)

Tuesdays, Wednesdays, Thursdays, and Fridays, at 4 p.m.

The qualifications, duties, and responsibilities of medical witnesses.

Questions concerning age, sex, identity, insanity and life insurance.

Death :—Real and apparent death ; date of death ; causes of sudden and violent death ; post-mortem examinations.

Death by wounds ; by lightning, burns, cold and starvation ; by drowning, hanging, strangling and suffocation.

Rape; pregnancy; delivery; the legitimacy of children; abortion; infanticide.

Toxicology:—general considerations respecting poisoning; toxicological processes and the evidence of poisoning; symptoms of special poisons; treatment and analysis.

Fee, £3 35.

II. Practical Toxicology (Summer Session)

The class meets on Thursdays and Fridays from 3 to 5 p.m. from early in June to the middle of July, and students receive practical instruction in the methods of detecting the commoner poisons, including prussic acid and the cyanides, carbolic acid, oxalic acid, and the oxalates, arsenic and metallic poisons, mineral acids, caustic alkalies, alcohol, chloral and chloroform, alkaloids, &c.

Fee, £ 2 2s.

A fee of 3s. is charged for the use of apparatus and chemicals.

Public Health

Professor HARTLEY

Summer Course

Wednesdays and Saturdays, at 9 a.m.

This course is intended to teach the main facts of sanitary science. The subjects of the course are :—

1. Water, air, and soil in their relation to health and disease; causes and sources of their impurity.

2. The influence of occupation on health; trade diseases.

3. Domestic sanitation, and the principles of house drainage.

4. The methods of dealing with excreta, sewage, and dry refuse.

5. Infectious disease; the principles of disinfection and the mode of action of disinfecting agents.

6. The compulsory notification of infectious diseases. Fee, \pounds_3 3s.

Principles and Practice of Medicine

Professor BARRS.

Mondays, Wednesdays, and Fridays, at 9 a.m.

The complete course extends over two winter sessions. It is divided into the following sections :---

Diseases of the nervous system.

Diseases of the organs of circulation.

Diseases of the organs of respiration.

Diseases of the digestive and blood-forming organs.

Diseases of the kidneys.

Infectious and contagious diseases, fevers, diphtheria, syphilis, hydrophobia, &c.

Parasites.

Diseases of the skin.

Diseases of special trades.

Fee, £6 6s.

Surgery

Professor WARD Mr. LITTLEWOOD

I. Systematic Surgery (Winter Session) Professor WARD

Tuesdays, Thursdays, and Saturdays, at 9 a.m. The course comprises the following subjects :----

The process of repair.

Inflammation; suppuration; ulceration.

The constitutional effects of injury ; shock, fever, delirium, &c.

Injuries and wounds, including special injuries of head, spine, throat, chest, and abdomen.

Special fractures and dislocations.

Surgical diseases; gangrene; erysipelas; septicæmia; pyæmia; tetanus.

Tumours ; tubercle ; venereal diseases.

Surgical diseases of special parts :--skin, lymphatic system, vascular system, nervous system, bones, joints, &c.

Deformities. Plastic and orthopædic surgery.

Abdominal surgery, including hernia.

Diseases of the urinary and generative organs. Fee, $\pounds 6$ 6s.

II. Practical Surgery (Winter Session)

Mr. LITTLEWOOD

Tuesdays and Thursdays at 4 p.m.

In this are comprised :---

I. A course of bandaging and application of splints and other appliances.

2. Demonstrations and descriptions of instruments and surgical appliances used in diagnosis or treatment.

3. The application of anatomical knowlege to the investigation of surgical diseases.

4. Methods of reducing dislocations, setting fractures and dressing wounds.

5. A course of operations performed on the dead body before the class, the members of which will be required to operate.

Fee, £4 4s.

Courses in Medicine

III. Operative Surgery (Summer Session)

Mr. LITTLEWOOD

During the Summer session classes will be formed for the performance of operations on the dead body, under the superintendence of the lecturer. 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. Fee $-\pounds_{12}$ 12s. divided in equal shares among a class of not more than four students.

Obstetrics

Professor WRIGHT

Mr. CROFT

Summer Course

Mondays, Wednesdays, Fridays, and Saturdays, at 12. Demonstrations on Thursdays at 9 a.m.

Pelvis and female organs of generation.

Fœtus and membranes.

Signs, disorders, and complications of Pregnancy. Abortion.

Labour—(1) Natural, its mechanism and management; the puerperal state. (2) Abnormal—Lingering, precipitate and obstructed labour. (3) Preternatural. (4) Instrumental—Forceps, version, craniotomy, and its alternatives. (5) Complications and accidents of labour.

Diseases of the puerperal state.

The various presentations will be demonstrated on the Phantom, and practical instruction given in the use of obstetrical instruments.

A series of demonstrations is given by Dr. CROFT during the summer session, attendance upon which is required from all students taking the course of Obstetrics. Tutorial classes are also held from time to time for students preparing for their final examinations.

The necessary facilities are given by the Maternity department of the Infirmary for students to attend cases of labour.

The Maternity clerkship must not be taken until after the attendance upon this course of lectures and demonstrations has been completed.

Fee, $\pounds 5$ 5s.; together with Gynæcology, $\pounds 6$ 6s.

Gynæcology

Dr. HELLIER

Winter Course

Mondays and Wednesdays at 4 p.m. during October, November, and December: Methods of physical diagnosis in diseases peculiar to women; observations on the surgical anatomy of the female pelvis; functional and organic affections of the female pelvic organs; relation of the above diseases to the body generally.

Dr. Hellier will also give instruction in the diseases of new-born children, and in the management of infancy, including infant feeding.

Fee, \pounds_3 3s.; together with Obstetrics, \pounds_6 6s.

Mental Diseases

Mr. Bevan Lewis

Summer Course

Systematic lectures are given at the School of Medicine on Tuesdays at 4 p.m., and Clinical lectures and demonstrations at the West Riding Asylum on Fridays at 3.30 p.m.

In the systematic lectures, the pathology, symptoms, medico-legal relations and treatment of Insanity will be discussed.

The Clinical course will embrace: Illustrations of the various forms of mental disease; instruction in the method of examining insane persons; practical demonstration on the moral and therapeutic treatment of the insane; compulsory feeding, &c.; filling up certificates of insanity.

The pathological aspects of insanity will be freely illustrated by morbid specimens and microscopic preparations from the Asylum Museum.

Fee, £3 3s.

Text Book Blandford's Insanity and its Treatment

Ophthalmology and Otology

Mr. SECKER WALKER

Summer Course

Tuesdays and Fridays, 9 a.m.

Ophthalmology: Surgical anatomy of the eye, theory of the ophthalmoscope, retinoscopy; emmetropia, hypermetropia, myopia, astigmatism; theory of accommodation; diseases of the conjunctiva and cornea, of the iris, ciliary body and choroid; cataract; glaucoma; diseases of the retina and optic nerve; functional diseases of the eye; affections of the ocular muscles and lacrymal apparatus; diseases of the orbit and eyelids.

Otology: Diseases of the external ear; diseases of the middle ear, their connection with naso-pharyngeal disorders; disease in the mastoid process, its extension to the cranial cavity; diseases of the internal ear.

Fee, £3 3s.

III. COURSES OF INSTRUCTION FOR CANDIDATES PREPARING FOR PUBLIC HEALTH DIPLOMAS.

By the regulations of the General Medical Council candidates for these Diplomas cannot be examined unless they have held a registrable qualification in Medicine, Surgery, and Midwifery for not less than twelve months, during which period they must have attended, for at least six months, courses of practical Laboratory instruction, and have studied sanitary work under a Medical Officer of Health.

The regulations of the University for the Diploma in Public Health are in accordance with the above requirements.

The following courses of instruction are arranged to prepare for the University Diploma, and for those of other examining bodies :—

I. Sanitary Chemistry. This will be held in the Chemical laboratory, College Road, on Tuesdays and Thursdays, from 2 to 5 p.m., from the beginning of January

to the end of March. The hours are subject to rearrangement. It will include practical instruction or demonstrations in the examination of water, air and foods; and in the properties of gases, the laws of heat and the use of meteorological instruments.

Fee, £5 5s.

For detailed syllabus see page 183.

2. Bacteriology. This course will be held at the School of Medicine at 4 p.m. on Mondays and Thursdays during the Summer session, and will include practical instruction in the pathology of those diseases of animals which are communicable from animals to man.

Fee, £,5 5s.

Syllabus

General sketch of bacteria.

Preparation of nutrient media. Sterilisation.

Methods of cultivation. Inoculation.

Microscopical examination and methods of staining.

Examination of the chief pathogenic bacteria—anthrax, tubercle, typhoid, cholera, diphtheria, &c.

Methods of bacteriological examination of air, water, food.

Each student must be provided with a microscope approved by the Professor.

3. Attendance at a Hospital for Infectious Diseases. A Special course is given in the Leeds City Hospitals in accordance with the requirements of the General Medical Council; this includes instruction in administration.

Fee, £5 5s.

4. Practical Work in Sanitation. With the sanction of the Sanitary Authority for Leeds, the Medical Officer of Health arranges courses of six months' instruction in out-door and office sanitary work, as required by the General Medical Council and the examining Boards. Fee for the course, ten guineas, which is payable in advance to Dr. Spottiswoode Cameron, at his office, 41, Park Square, between 10 and 11 a.m.

The fees for bacteriology and infectious disease hospital practice are to be paid to the Dean.

The University entrance fee of \mathcal{L}_{I} is charged to those who have not previously been students of the University.

HOSPITAL PRACTICE

1. For certain degrees (e.g., Leeds) three years' hospital practice is necessary, and one of these may be taken before the 2nd M.B. 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.

2. In order to be entered upon the Infirmary register a student must first pay his fees to the Treasurer of the Faculty (Dr. Barrs), at 25A, Park Square, and then interview the Secretary of the Faculty (Mr. W. Thompson), at 4, Park Square, from whom advice can be obtained in arranging his work at the Infirmary.

3. An introductory class for students who are commencing their attendance at the Infirmary is held twice a year, viz., in April and October. It consists of 15 demonstrations or lectures on elementary subjects, and is conducted by the resident, medical, surgical, and ophthalmic officers. Students are required to attend this class as soon as possible after passing the second M.B. or a corresponding examination, and before holding any Infirmary appointment.

4. 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 is contained in the prospectus of the Faculty of Medicine.

Leeds General Infirmary.—The medical and surgical practice required by Medical Students are 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 and children's diseases in one hospital leads to much economy in time and labour.

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. A full account of the arrangements for clinical teaching, and of the appointments offered to students, will be found in the special prospectus of the Faculty of Medicine.

The Leeds Public Dispensary.—About 30,000 Medical and Surgical cases are treated annually, partly as out-patients, and partly at their own homes. There are three Resident Medical Officers, to each of whom a separate district of the city is assigned.

The practice of the Dispensary is open to any student on application to one of the Honorary staff, whose hours for seeing out-patients are as follows :—

Consulting Physician.

Dr. C. M. CHADWICK.

Physicians.

Dr. WARDROP GRIFFITH (Tuesday), at 3 p.m.

Dr. TREVELVAN (Thursday), at 3 p.m.

Dr. TELLING (Wednesday), at 3 p.m.

Surgeons.

Mr. ROWE (Wednesday), at 3 p.m.

Mr. D. SEATON (Thursday), at 2 p.m.

Mr. LEE WELLS (Tuesday), at 2 p.m.

Ophthalmic Surgeon.

Mr. MICHAEL A. TEALE (Monday), at 2 p.m.

Leeds City Fever and Small Pox Hospitals

Students are admitted at the Leeds City Hospitals (Medical Superintendent, Dr. E. A. 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.

Attendance at a Fever hospital is compulsory upon students registered since January, 1892, who are preparing for the degrees of the Leeds or London Universities, or for the diploma of the London Colleges of Physicians and Surgeons. It is also required by some of the other examining bodies.

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 Small Pox by vaccination

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 periods of attendance, each of three months, will commence on January I, May I, and October I, the hospitals not being open to students during April, August, or September. Names must be entered, and the fee paid to the Dean, during the first week of the term. Clinical lectures 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, Dr. J. S. Cameron, at his office in 41, Park Square, between the hours of 10 and 11 a.m.

Fees for the three months' course attendance on two days a week, \pounds_2 2s.

Hospital for Women and Children. A limited number of senior students can here receive instruction in the practical treatment of diseases of women. The hospital is recognised for this purpose by the University of Leeds. Application to be made to one of the Honorary Staff: Mr. C. J. Wright, Dr. E. O. Croft, Mr. Walter Thompson, or to the Hon. Assistant Physician, Dr. Telling. A new building for 55 beds has lately been erected, including a maternity department for five lying-in cases.

West Riding Lunatic Asylum, Wakefield. This institution which accommodates 1,860 patients, offers unusual advantages to those who desire to make themselves conversant with the treatment and management of the

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Hospital Practice

insane. Further accommodation in connection with the Asylum for 280 patients has been provided by the erection of a Hospital 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 in connection with the systematic lectures on insanity delivered at the Medical School, by Mr. W. Bevan Lewis, Medical Director of the Asylum.

Instruction in Vaccination is given under the Local Government Board at the General Infirmary on Thursdays at 3 p.m., by Mr. A. T. Bacon, 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.

Fee, \pounds_{1115} . 6d. Application to be made, and fees paid to the Dean.

EVENING CLASSES¹

The Session is divided into Two Terms, which respectively begin on Wednesday, October 5, 1904, and Tuesday, January 10, 1905.

Opening Lectures

EVENING TEXTILE INDUSTRIES.—Introductory Lecture by Prof. Beaumont, on Wednesday, October 5 at 7-30 p.m.

EVENING LEATHER INDUSTRIES.—Introductory Lecture by Prof. Procter, on Wednesday, October 5 at 7 p.m.

ADMISSION FREE to the above Lectures.

Scholarships and Exhibitions

The Scholarships and Exhibitions tenable by Evening students are the Leeds City Council Evening Class Exhibitions, the Baines Free Scholarships, and the Clothworkers Evening Scholarships for the Department of Textile Industries. For particulars see in the list of University Scholarships, page 311.

The examinations for the Leeds City Council Exhibitions will take place on Saturday, September 9, 1905, for the Textile Scholarships on April 26, 1905.

GERMAN LANGUAGE AND LITERATURE

Mr. Gough

A Class will be held on Mondays from 7 to 9 p.m., during the first and second terms, beginning October 10. It should be joined only by students who possess at least an elementary knowledge of the language. Grammar, composition, translation, and pronunciation will be studied, and much attention will be given to conversation. N.B.—The hours of this class may be altered to suit the convenience of students.

Fee, \pounds , 1 10s. for two terms, or 15s. for one term.

Text Books

Kuno Meyer, German Grammar, Parts i and ii (Sonnenschein). Second German Reader and Writer (Sonnenschein). Bernhardt, Kleine Geschichten von Richard von Volkmann (Heath).

¹ A more detailed syllabus of the classes in the Engineering and Textile Industries Departments is contained in the special prospectus of Evening Classes.

ECONOMICS

PROFESSOR CLAPHAM

A course on Railway Economics will be given in the first term and a course on the Economic History of the United States in the second term. Details and times will be announced later.

MATHEMATICS

Mr. WATSON

A class will be held during the first and second terms on Thursdays, beginning on October 13. In this class each student will work independently, under the superintendence of the Lecturer.

If there are a sufficient number of students who wish to study some particular branch of Higher Mathematics, a lecture class will be formed for that purpose.

A meeting to make arrangements with regard to the time &c., will be held on Thursday, October 6, at 7 p.m.

Fee 15s.; for one term 7s. 6d.

PHYSICS

Mr. Allen

The Physical laboratory will be open on Thursday evenings during the first and second terms, from 7 to 9.30 p.m., beginning October 6.

Two classes will be formed; the first is designed to prepare teachers and others for the Intermediate examination of the University of London, the second course will prepare for the Final B.Sc. examination.

Fee, £ 2 25.

CIVIL AND MECHANICAL ENGINEERING

Professor GOODMAN Dr. WILSON Mr. MacLachlan Mr. Duncan

The evening courses are arranged to cover the work required for the examination for Associate membership of the Institution of Civil Engineers.

Lectures Course A

On Tuesdays during the first and second terms at 8 p.m. A course of about twenty lectures will be given by Mr. MacLachlan on Applied Mechanics.¹ Fee, 10s. 6d.

Course B

On Fridays during the first and second terms at 7.45 p.m. A course of about twenty lectures will be given by Dr. Wilson on Civil Engineering.¹ Fee, 10s. 6d.

Laboratory Work

The following courses of instruction will be given in the Engineering laboratory during the first and second terms, on Wednesdays, from 7.30 to 9.30 p.m.

Course A. Testing of Materials

The testing of iron, steel, alloys, &c., in tension, torsion, compression, bending, and punching. 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. On special appliances for torsion testing.

Course B. Steam, Gas, and Oil Engines

Testing pulsometer, indicating and testing steam, gas, and oil engines, testing a De Laval steam turbine. Steam boiler and engine trials. The indicating and testing work is done on a 70 h.p. compound Willans engine; a 30 h.p. Fowler compound engine; a small fan engine; two gas engines, one of 60 h.p. and one of 15 h.p.; and on a Campbell 13 h.p. oil engine.

Course C. Hydraulics

Experiments on the flow of water over weirs and through orifices, the friction of water in pipes, 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.

¹ For further details see Evening Class Prospectus

Each student must confine himself to one of the three courses detailed above. Only those students will be admitted who can give evidence of possessing an elementary knowledge of testing for course A., of steam and heat for course B., of hydraulics for course C. If intending students cannot produce certificates or other evidence of possessing such knowledge an examination paper will be set in the several subjects.

Fee, £1 115. 6d.

The Laboratory will open on Wednesday, October 5.

ELECTRICAL ENGINEERING

Mr. Parr

Two separate Evening Courses of instruction (A & B) are given in Electrical Engineering, each consisting of a course of lectures together with a corresponding course of practical work in the laboratories. Course B forms a continuation of Course A. The laboratory work in each course is specially designed with the view of assisting students in understanding the lectures. Lectures and laboratory work may be taken separately, but students are advised to take both together. The two complete courses A & B practically cover the ground for the Preliminary, Ordinary, and Honours Grades of the Electro-technological Examinations in Electric Lighting and Transmission of Power of the City and Guilds of London Institute.

Each lecture or laboratory course comprises 20 attendances. A course of instruction in jointing electrical cables and wires is also given which may be taken either as a separate course or in lieu of part of the above experimental courses. The jointing course is held on one of the two evenings allotted to laboratory practice in the Electrical Engineering laboratories.

More complete information will be found in the special prospectus of the Engineering Departments, to be obtained from the Registrar.

Course A

Lectures on Thursdays from 7 to 8 p.m. during the first and second terms, beginning October 6.

Fee, 105, 6d.

Text books recommended

Elementary Lessons in Electricity and Magnetism, S. P. Thompson (Macmillan, 4s. 6d.); Ayrton's Practical Electricity (Cassell, 10s. 6d.); Slingo & Brooker's Electrical Engineering (Longmans, 12s.); Maycock's Electric Lighting and Power Distribution, vol. i (Whittaker & Co., 6s.); Parr's Electrical Engineering in Theory and Practice (Macmillan, about 12s.); Parr's Electrical Engineering Measuring Instruments (Blackie, os. net.)

Laboratory work on Mondays from 7 to 9.30 p.m. during the first and second terms, beginning October 10.

Fee, £, 1 115. 6d.

For the laboratory course students are strongly recommended to get Parr's Practical Electrical Testing (Longmans, 6s. 6d. net.)

Course B.

Lectures on Thursdays from 8.5 to 9.5 p.m. during the first and second terms, beginning October 6.

Fee, 105. 6d.

The following books may be consulted with advantage-Dynamo-Electric Machinery, S. P. Thompson (Spon, 24s.); Electric Transmission of Energy, Kapp (Whittaker, 10s. 6d.); Alternate Current Transformers, vols. i and ii, J. A. Fleming (Electrician Office, 18s.); Munro & Jameson's Pocket Book of Electrical Rules and Tables (Griffin & Co.), about 10s. 6d. Rhodes's Alternating Currents (Longmans); Electricity as applied to Mining, by Lupton, Parr, & Perkin (Crosby Lockwood, 9s. net).

Laboratory work on Tuesdays, from 7 to 9.30 p.m., during the first and second terms, beginning October 11.

Fee, f_{11} IIS. 6d.

Text Book

Parr's Advanced Electrical Engineering Testing (Chapman & Hall, 9s. net).

Jointing Course

Practical work on Mondays and Tuesdays, from 7 to 9.30 p.m., beginning October 11. Fee, £1 1s.

TEXTILE INDUSTRIES

Professor BEAUMONT Mr. Hollis Mr. Yewdall Mr. WHOWELL

Experimental Weaving on hand and power looms forms an important part of the Evening courses of instruction in

this Department. Each student is supplied with a pattern loom on which he receives practical instructions in cloth structure, the composition of patterns, and the methods of colouring designs with fancy yarns in wool, worsted, cotton, silk, mohair, and other materials. All cloths produced in the Weaving course are scoured, milled, raised, &c., in the Finishing Room of the Department, and afterwards entered by the students into pattern books, accompanied by all particulars of production. The lecture courses are devoted to the principles of textile design, the structure of cloths, the calculation of goods, the construction of looms and machinery, and the various processes of woollen and worsted cloth manufacture.

I. First Year Course in Weaving

Lectures and Instructions on Tuesdays and Fridays from 7.30 to 9 p.m., during the first and second terms, beginning October 7th.

Fee, \pounds_1 1s. per Term, or \pounds_2 2s. per session. Students paying in advance for the whole session receive a design book free of charge.

II. Second Year Course in Weaving

Members of this class are expected to take the course of lectures on Textile Colouring. See page 286.

The class meets during the first and second terms on Wednesdays from 7.15 to 9.15, the first hour being devoted to Designing and Pattern Analysis, and the second hour to lectures. Experimental Weaving on alternate Fridays, 7 to 9 p.m.

Fee, \pounds_1 1s. per Term, or \pounds_1 11s. 6d. per Session, if paid in advance.

III. Third Year Course in Weaving

Lectures on Wednesdays, from 7.15 to 8.15 p.m., followed by Designing and Pattern Analysis from 8.15 to 9.15. Practical Weaving on alternate Fridays, from 7 to 9 p.m., during the first and second terms, beginning October 12.

In designing, the students may devote their attention to any special branch of manufacture in which they are principally interested. The looms for the use of third year students are mounted to weave backed and double-made textures for trouserings, suitings, mantlings, &c.; also for Jacquard patterns in dress, vestings, rugs, and shawls. Students have the privilege of making experiments on any of the looms, and every facility is afforded them in original work.

Fee, \pounds_1 15. per Term, or \pounds_1 115. 6d. per Session, if paid in advance.

IV. First Year Course in Textile Colouring

A course of Twenty Lectures on Colour in relation to Textile Design will be given on Mondays from 7.15 to 8.15 p.m., followed by demonstrations in preparing Colour Sketches, from 8.15 to 9.15 p.m., beginning October 10.

Fee for the course, $\pounds 1$ 1s.

V. Second Year Course in Textile Colouring

A course of Twenty Lectures on the Colouring of Backed and Compound Fabrics will be given on Mondays from 8.15 to 9.15 p.m., preceded by Pattern Sketches and Exercises in Colouring from 7.15 to 8.15 p.m., beginning October 10.

Fee for the course, \pounds_1 is.

Text Books

Beaumont's Woollen and Worsted Cloth Manufacture (Bell, 7s. 6d). Beaumont's Colour in Woven Design.

DYEING

PROFESSOR GREEN Mr. STEVEN

The courses of instruction will consist of Lectures and Experimental Dyeing either of which can be attended separately.

Lecture Course

A Course of Twenty Lectures on the Technology of the Textile Fibres, Dyeing and Dyeing Materials, will be given during the first and second terms on Mondays from 7 to 8 p.m., beginning October 10.

The Lectures will be of a practical character, and treat only of important points connected with the subject of dyeing. Although a knowledge of Chemistry is very desirable, it will not be required from those attending this class, which

is intended to meet the requirements of practical men such as merchants, scourers, dyers, finishers, &c.

The following subjects will be treated of :---

Brief History of Dyeing.—Theories of the dyeing process. Various textile fibres.

The Wool Fibre and its properties.—The cause of the felting of wool; action of various acids and alkalis on wool; cotton, and silk, the nature of wool-grease (yolk); the method of distinguishing wool from other fibres, &c.

The Scouring of Wool.—Yarn scouring; cloth scouring; crabbing; chemicals and machinery employed; defects caused by imperfect scouring; the recovery of grease from waste scouring liquors, &c.

The Bleaching of Wool and Cotton.—Gas bleaching; wet bleaching; bleaching with hydrogen dioxide; the blueing of wool; lime bowking of cotton; bleaching with hypochlorite, &c.

The influence of water during scouring and dyeing; the detection of lime, iron, &c., in water; Clarke's soap test; the methods of softening hard water, &c.

The Mordanting of Wool and Cotton.—The method of mordanting with bichromates, chromium fluoride, copperas, tin spirits, &c.; the use and abuse of mordants; the utility of tartar, oxalic acid, &c., along with mordants; cotton mordants for mixed goods, &c.

The Dyeing of Wool and Cotton.-The one dip, two bath, and saddening methods.

Machinery used in Dyeing.

Colouring Matters.—Natural and artificial dyestuffs. Coal-tar distillation. Classification of natural and artificial dyestuffs according to their dyeing properties ; acid colours ; basic colours ; salt or substantive colours ; mordant colours ; developed colours ; vat colours ; sulphide colours, &c, The general methods of application of the above classes of dyestuffs. Consideration of individual colours with respect to their fastness to various agents. Defects in dyeing and methods of rectifying the same. Dyestuffs suitable for various classes of goods. Burl dyeing. Union dyeing. Stripping and dyeing of shoddy.

Fee 10s. 6d.

Experimental Dyeing Course

This class is held on Mondays, between 8 and 10 p.m., during the first and second terms. It is intended for apprentice and foreman 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. No previous knowledge of dyeing is required from those attending.

Students in this class will make systematic dyeing trials with the different groups of natural and artificial dyestuffs.

Fee for the Session (if paid in advance), £1 115. 6d.; for one Term, 175. 6d.

LEATHER INDUSTRIES

Professor PROCTER

Mr. KOPECKY Mr. BRUMWELL

First Term

During the first term a course of about ten lectures and practical demonstrations will be given by Mr. Kopecky on "Chrome and Combination Tannages." The introductory lecture will be given by Professor Procter at 7 p.m., on Wednesday, October 5, and will be free, and the department will be open after the lecture for inspection. The subsequent lectures of the course will be given by Mr. Kopecky on succeeding Wednesdays during the term, at 7 p.m., followed by an hour's practical demonstration of the processes described. These lectures are intended to form the third section of a complete course on the principles of Leather Manufacture, extending over several sessions, and as nearly as possible of the same completeness as the day lectures on the subject.

Fee for lectures and demonstrations, 17s. 6d.

Second Term.

During the second term a course of short lectures on Leather Dyeing followed by practical dyeing in the laboratory will be given. The lectures will begin at 7 p m., and the practical work will be continued to 9.30 p.m. on Wednesdays during the term.

Fee for the Leather Dyeing course 17s. 6d.; for both courses if paid at the beginning of the first term, $\pounds 1$ 11s. 6d.

EXTENSION LECTURES

The University is prepared to provide Extension lectures in various branches of Literature, Science and Art, and in Technical subjects.

Courses of County lectures in Coal Mining are also delivered in various coal mining districts, consisting of twelve lectures each, and comprising four lectures on the Chemistry and four on the Geology of Coal Mining, with four lectures on the Theory and Practice of Mining.

Application for courses of Lectures should be made to the Registrar, at the University, Leeds.

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 in the case of the West Riding, to give practical instruction also in Dairy work at various centres.

The members of the staff engaged in this work are :--Prof. R. S. Seton, Mr. R. W. Haydon, Mr. Charles F. Archibald, Colonel Charles Steel, Mr. J. G. Stewart, Mr. F. Parton, Mr. T. Redington, Mr. A. Gaut, Miss McKerrow, and Mr. W. Jones Anstey.

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 subjects treated in the several courses embrace: Results of Garforth experiments, soils and their properties, manures, farm crops, insect pests and diseases of crops, the management of grass land, live stock and feeding stuffs, dairying and poultry keeping, horticulture and fruit culture, small farming and gardening, management of allotments, veterinary subjects, such as prevention of common diseases, hygiene, &c., the foot of the horse, and the principles of horse shoeing.

Dairy Instruction

The new Dairy School at Garforth is open for practical instruction during the summer months. Courses of six weeks' duration are given in Butter and Soft Cheese making.

The Fee for the Course is \pounds_3 .

Single demonstrations on Butter-making are given at centres in the East and West Ridings, in the interval between the courses held at Garforth.

Field Experiments

The Agricultural Department of 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 West Riding

The Agricultural Department of the University supervises the instruction in Horticulture given in school gardens connected with various Evening Continuation Schools in the West Riding.

Instruction in Horticulture at Garforth

A course of Horticulture and Experimental Plant Physiology will be conducted on Saturdays at the Manor Farm, Garforth, beginning on October 8, 1904, and ending about the end of the following June. The class is for teachers of Horticulture and those intending to teach this subject. The mornings will be given to the discussion of the principal horticultural processes and their actual practice in the garden, and the afternoons to Botany.

The fee for the course is \pounds_1 125. 6d.

County Lectures in Agriculture

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 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.

SCHOLARSHIPS, EXHIBITIONS, BURSARIES, FREE STUDENTSHIPS, AND PRIZES

The Salt Scholarship, founded by the late Sir Titus Salt, Bart., in 1875, is instituted for the encouragement of students who intend to avail themselves thoroughly of the teaching offered by the University. It is awarded for proficiency in Language and Literature.

The Clothworkers' Scholarships, founded in 1875, are maintained by the Worshipful Company of Clothworkers of the City of London, and are for students attending the departments of Textile Industries and Art in the University.

The Akroyd Scholarships, founded in 1875, are maintained by funds accruing from the Akroyd Trust, and are intended for the encouragement of the study of Natural Science. Candidates for these Scholarships must be of the male sex.

The Brown 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 case of equality of candidates a preference is to be given to residents in Bradford or natives of Bradford.

The 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 to candidates who have attended a Public Elementary School within the City of Leeds; the other half to such candidates as the Yorkshire Union of Mechanics' Institutes shall, after examination, select. Particulars of the latter Scholarships may be obtained from the Secretary of the Yorkshire Union of Mechanics' Institutes, South Parade, Leeds.

Scholarships

The Emsley Scholarship was endowed in 1885 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.

The Craven 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, Esq., to the Mechanical Engineering Trades of the District.

The Medical Scholarship was instituted by the Leeds School of Medicine in 1888, and the Infirmary Scholarship in the same year by the Faculty of the Leeds General Infirmary.

The Leeds City Council Scholarship, Free Studentships, and Evening Class Exhibitions were founded by the Council, in 1892, out of the sum voted by the Leeds City Council. The Scholarship and Free Studentships are tenable in the Day Classes of the University, and the Exhibitions in the Saturday or Evening Classes.

The Leighton Trustees' Scholarships were instituted in 1894 by the Trustees of the late Mrs. Isabel Leighton of Leeds, for the assistance of Scholars of the University who have attended a public elementary school in the City of Leeds.

The Tannett-Walker Bursaries were instituted in 1900 by F. W. Tannett-Walker, Esq., of Leeds, for the assistance of Scholars and Free Students of the University in the department of Engineering. They are limited to students who have attended a public elementary school in Hunslet.

The Wheatley 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.

Dates of Examination, 1905

The examinations for the Akroyd, Brown, Leeds City Council, Baines, Emsley, Craven, and Clothworkers' Day (Textile Industries) Scholarships and the Leeds City Council
Scholarships

Free Studentships will begin on *Tuesday*, *May* 16, 1905. Forms of application for examination may be obtained from the Registrar, to whom they must be returned, properly filled in, not later than *May* 1, 1905.

The examination for the Infirmary Scholarship will begin on *Tuesday*, *May* 16, 1905. Candidates must send their names to the Secretary of the Faculty, General Infirmary, Leeds, stating in which of the optional studies they wish to be examined, on or before *May* 1, 1905.

The examination for the Clothworkers' Evening (Textile Industries) Scholarships will be held on *Wednesday, April* 26, 1905. Entry forms must be sent in to the Registrar not later than *April* 1, 1905.

The examination for the Medical Scholarship will be held in the last week in *September*, 1905. Names of candidates will be received by the Registrar up to September 1.

The examination for the Leeds City Council Evening Class Exhibitions will be held at the University, on Saturday, September 9, 1905. Entry forms must be sent in to the Registrar not later than Saturday, September 2, 1905.

GENERAL REGULATIONS

Applicable to all Scholarships

1. No Election to a Scholarship will take place unless the candidate has attained a sufficient standard of merit.

2. All Scholarships are held subject to the good behaviour of the Scholar. The Council 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 recommended by the Senate.

3. Scholars are required to devote the whole of their time to their studies. Except in special cases, 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 reserve 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 acquired another Scholarship.

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 *viva voce* examination, in addition to the examination by written papers.

Applicable to Senior Scholarships

7. A student holding a Senior Scholarship open only to registered Students of the University, will not be allowed to compete a second time for a Scholarship without the express permission of the Senate.

I. ENTRANCE SCHOLARSHIPS

1. Tenable in the Faculties of Arts, Science, and Technology

Leeds City Council Scholarship

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination. The Scholarship can be held only by students living with their parents or guardians resident in the City of Leeds. The Scholarship is of the annual value of \pounds 50, and will be tenable, subject to the continuance of an adequate grant by the City Council, for three years.

The scholar will be required to pursue such a course of study in the University, as shall, in the opinion of the Senate, constitute an effective preparation for a degree in Arts or Science, or for the pursuit of some branch of industry, instruction in the principles of which is given in the University.

Leeds City Council 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 for the B.Sc. degree of the University of Leeds.

Candidates will be examined in

- 1. English Language, including an essay.
- 2. The outlines of English History.
- 3. One of the following: French, German, Greek, Latin. In the Modern languages an oral test may be given.
- Mathematics (a) Arithmetic; (b) ¹The elementary geometry of triangles, parallelograms, and circles, and of similar rectilinear figures; (c) Algebra, to quadratic equations (inclusive) with arithmetical and geometrical progressions.
- 5. One of the following :
 - (a) Mathematics (a higher paper).
 - (b) Physics.
 - (c) Chemistry.
 - (d) Botany.
- 1892 Hefford, Charles Nelson
- 1893 Watson, Herbert Wood
- 1894 Cooper, Albert Henry
- 1895 Findlay, Mary Grace
- 1896 Whiteley, Charles Edward
- 1897 Chapman, Fitzroy Tozer
- 1898 Gray, Arthur Lambert
- 1899 Grant, Frederick Ernest
- 1900 Cunningham, Jean Orme
- 1901 Phillipson, Abram
- 1902 Mellor, Fred
- 1903 Klein, Harris
- 1904 Crowther, William Edmund

Leeds City Council Free Studentships

Candidates for these Studentships who are not already registered students of the University, must be under the age of nineteen years on the 30th of September following the date of examination.

1 These subjects are covered by Euclid i, ii, iii, and vi, 1-19, 33.

The Studentships can be held only by students living with their parents or guardians, resident in the City of Leeds.

The Studentships are tenable for one year, but may be extended. Applications for extension must be made by letter addressed to the Registrar before the end of the second term.

The Free Students will be required to pursue such a course of study in the University, as shall, in the opinion of the Senate, constitute an effective preparation for a degree in Arts or Science or for the pursuit of some branch of industry, instruction in the principles of which is given in the University.

Free Studentships are tenable by students during the preliminary scientific year of study in the Faculty of Medicine, but are not tenable in the School of Medicine unless the student is reading for the B.Sc. degree of the University of Leeds.

The examination is similar to that for the Leeds City Council Scholarship.

1904 Cross, William Ernest

Emsley Scholarship

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of nineteen years on the 30th of September following the date of examination.

There will, as a rule, be offered one Scholarship annually, of the value of \pounds_{20} , tenable for two years.

The Scholar will be required to pursue a course of study prescribed for a degree in Arts or Science of the University, or an alternative course in the Faculties of Arts, Science, and Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

Candidates will be examined in-

- I. English language, including an essay.
- 2. The outlines of English history.
- 3. Latin,

Entrance Scholarships

- 4. One of the following languages : French, German, Greek. In the Modern languages an oral test may be given.
- Mathematics : (a) Arithmetic ; (b) ¹The elementary geometry of triangles, parallelograms, and circles, and of similar rectilinear figures ; (c) Algebra to quadratic equations (inclusive), with arithmetical and geometrical progressions.
- 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 Conyers, Hilda
 1903 Bibby, Edward Ernest
 1904 Brook, Annie

Baines Scholarship

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of 19 years on the 30th of September following the date of examination. They must have attended a Public Elementary School in the City of Leeds.

There will be offered in each year one Baines Scholarship, of the value of \pounds_{20} a year, tenable for two years.

The Baines Scholars will be required to pursue a course of study prescribed for a degree in Arts or Science of the University, or an alternative course in the Faculties of Arts, Science, and Technology, expressly approved by the Senate.

The Scholarship is not tenable in the Department of Textile Industries.

The examination will be similar to that for the Emsley Scholarship.

1886	Hutchinson, Herbert	1897	Westerman, Ethel
1888	Legg, Thomas Percy	1898	Stevenson, Ethel Mary
1891	Dawson, Harry Medforth	1899	Savage, Hilda
1892	Parker, George Robert	1900	McKeand, MaggieWoodrow
1894	Hampshire, Florence	1901	Calam, Harold
	Elizabeth	1902	Robinson, Lilian Dorothea
1895	Warmington, Edith	1903	Wilson, Florence Grey
1896	Scholes, Thomas Wilfrid	1904	Hargreaves, Edith

¹ These subjects are covered by Euclid i, ii, iii, and vi, 1-19 and 33.

2. Tenable in the Faculty of Arts

Wheatley Scholarship

(No vacancy this year)

Candidates for this Scholarship must not have been previously registered students of the University, and must be under the age of 19 years on the 30th of September following the date of examination.

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 admits.

The Examination will be similar to that for the Emsley Scholarship.

The Scholar elected will be required to pursue a course of study at the University preparatory for the B.A. degree of the University.

1904 Scholes, Katherine Louise

3. Tenable in the Faculties of Science and Technology

Brown Entrance Scholarships

Candidates for these Scholarships must not have been previously registered students of the University, and must be under the age of 19 years on the 30th of September following the date of examination.

In general there will be offered in each year one or two Scholarships of \pounds_{40} a year, each tenable for two years, with power of extension. Applications for extension must be sent to the Registrar before the end of the second term.

A preference will be given, *cateris 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.

Brown 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. Entrance Scholarships

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 for the B.Sc. degree of the University of Leeds.

The examination will be similar to that for the Leeds City Council Scholarship.

- 1880 Senior, William Otte Skirrow, Benjamin Beck Overend, Wilkinson 1881 Easterfield, Thomas Hill
- 1882 Courtice, George Robert Aulton
- 1883 Teanby, George William Alvey
- Marriner, William Wright 1885
- Jennison, Francis Herbert 1886
- 1887 Hartley, Thomas
- 1888 Mann, Harold Hart Parkin. Ernest
- Smith, James Cowlishaw 1889 Cobb, John William
- 1890 Crouch, John Peachey Norman, Frank Meade Peatfield, Albert Edward
- 1891 Dewhirst, Wilfrid Arthur Liversidge, Will French, James Wilson Duncan, John 1892 White, Arthur Lee

- 1892 Barber, John Watson Conyers, James Reeve 1893 Chapman, Harold Percy
- 1894
- Dalton, John Edwin
- 1895 Leach, Elsie
- Robinson, Elizabeth Clare 1896 Blackburn, William
- Broughton Hinchcliff, Joseph Henry
- 1897 Forsyth, Christina Brand Hunt, Francis William
- 1898 Hummel, Alfred Roland Ure
- Lodge, Harry Livingstone 1899 Goodson, Ethel Elizabeth
 - Grimshaw, Norman
- 1900 Gough, Alfred
- 1901 Booth, Meyrick
- 1902 Armes, Henry Percy Crosland, Percy Field Lord, William Ernest
- 1903 Hodsman, Henry James
- 1904 McGill, Ernest Arthur

Akroyd Entrance Scholarships

Candidates for these Scholarships must not have been previously registered students of the University, and must be under the age of 19 years on the 30th of September following the date of examination.

In general there will be offered in each year one or two Scholarships of f_{40} a year, each tenable for two years, with power of extension. Applications for extension must be sent to the Registrar before the end of the second term.

Women are not eligible to the Akroyd Scholarship.

Akroyd Scholars will be required to pursue such a course of study in the Faculties of Arts, 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.

Entrance Scholarships

Candidates for the Akroyd Scholarships will be examined in (a) English Dictation and Composition; (b) Arithmetic; Algebra (including Quadratic Equations); and the Elementary Geometry of Triangles, Parallelograms, and Circles. They will be further examined in the elements of any two of the following subjects which they may select, viz.: (1) Mathematics (a higher paper); (2) Physics; (3) Chemistry; (4) Botany. Candidates who offer Subject (1) Mathematics will be excused the Examination under (b).

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.

1877	Bothamley, Charles Herbert	1888	Nicholls, Percy
1878	Briggs, William		Myers, John Ellis
	Ingle, Herbert		Sowry, George Herbert
1879	Wilson, Albert Edward	1889	Porter, John Fletcher
	Atkinson, Thomas Francis	-	Sunderland, Arthur
1880	Stables, William Herbert		Acott, Richard Harry
1881	Taylor, Arthur		Midgley, Harry
1882	Wright, Joseph	1890	Mitchell, Clifford
	Allen, Harold Newman	-	Archdeacon, William
	Hurtley, William Holdsworth		Henry
	Wright, George Ward	1891	Holt, John Lupton
1883	Dibb, John Hustwick	-	Halliwell, Edward
5	Speak, Savannah Johnson	1892	Turton, Édward
	Tucker, Clara	-	Brown, James Herbert
	Hick. Herbert Edward	1893	Gough, William
	Wilson, Edwin	1894	Calvert, Harry Thornton
1884	Fry, Ernest Bickersteth	1895	Groocock, Henry Lloyd
	Moore, Ira	20	Robinson, Harold
	Wheelwright, Edwin	1896	Shepherd, Arthur Burton
	Whitfield	1897	Middlemiss, James Ernest
	Pocklington, Henry Cabourn	1898	Livesey, Charles Edwin
	Thompson, George Robert		Leonard
	Booth, Robert Davis	1899	White, Herbert Leslie
1885	Duncan, William	1000	Scholefield, Fred
	Watmough, Benjamin	-)	Willey, Edward
	Dains, Herbert Henry	1001	Radcliffe, Norman Brooke
1886	Hunt, Tom Harold	-)	Zortman, Israel Hyman
1000	Ives James Percy	1002	Brown, John Duncan
	Sykes Ernest	1904	Hollins, Cecil
1887	Holmes Harry Slater	1002	Harris Marks Solomon
1007	Booth Frederick William	19.3	Horsfall Ronald Smith
	Horrell Ernest Charles	1004	Davies Hamilton
1889	Miall Stephen	.904	Sinson Israel Lewis
1000	man, stephen		Ginson, Islaci Lewis

4. Tenable in the Faculty of Technology Craven Scholarship

Candidates for this Scholarship must not have been previously registered students of the University and must be under the age of nineteen years on the 30th of September following the date of examination.

The Scholarship is of the annual value of $\pounds 25$, and is tenable by Engineering students for two years, subject to the conditions as to conduct and attendance laid down in the University Calendar. Not less than three-fourths 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.

Candidates will be examined in (1) English Dictation and Composition; (2) English Language and General Geography; (3) Mechanics; (4) Mathematics (Arithmetic; Algebra, including quadratic equations; Euclid, books i to iii; Elementary Trigonometry).

1888	Banks, Arthur	1900	Sturgeon, Robt. Alexander
1890	Perkin, Herbert		Anderson, Robert
1892	Hammond, Joseph Wetheril	1901	Frazer, Edgar Hamilton
1894	Millard, Frederick Stanley	1903	Maddison, Wilfred Guy

Tannett-Walker Bursaries

Mr. F. W. Tannett-Walker offers a Bursary of ± 25 per annum, tenable for three years, to holders of Scholarships or Free Studentships at the Leeds University, who are preparing to follow the profession of an Engineer, under the following conditions :—

(1) The recipient must have attended a Public Elementary School in Hunslet at some period of his school career, although he need not have taken his University Scholarship directly from such school.

(2) He must at the time of his election to the Bursary declare his intention of attending an approved course of education in the University for a period of not less than three complete Sessions. This course will, as a rule, be that set out in the University Calendar as required for the Degree of B.Sc. in Engineering of the University, either for an Ordinary or an Honours degree.

Mr. Tannett-Walker offers one such Bursary in each year, so that if an election were made each year, there might be three recipients of these Bursaries in the University at the same time.

In addition to these Bursaries, Mr. Tannett-Walker offers to take into the works of Messrs. Tannett Walker & Co. Limited, Engineers, Hunslet, the scholar who has passed successfully through his University course, on the same footing as a premium apprentice, without requiring any premium from him, but giving to him the same amount of wages as would be earned by an ordinary apprentice.

These Bursaries will not be awarded on the result of a Special examination, but holders of Scholarships and Free Studentships, who have complied with the above conditions, are required to make application for them, by letter addressed to the Vice-Chancellor, as soon as possible after the elections to the Scholarships have been announced.

1900 Anderson, Robert 1904 McGill, Ernest Arthur

5. Tenable in the Faculty of Medicine

Infirmary Scholarship

The Faculty of the Leeds Infirmary offer an Entrance Scholarship of the value of 40 guineas. Candidates must be under the age of twenty-three years on the 30th of September following the date of examination. The Scholarship consists of a free ticket to the clinical teaching of the Leeds Infirmary, and the holder will be required to enter as a student for the whole medical curriculum at the University in the session following the date of examination.

The subjects for examination are as follows-

1. Latin.

- 2. English Language, including an essay.
- 3. Outlines of English History.
- 4. One of the following languages : French, German, Greek. In the Modern languages an oral test may be given.

Entrance or Senior Scholarships

5. Mathematics—(a) Arithmetic. (b) ¹The elementary geometry of triangles, parallelograms and circles, and of similar rectilinear figures. (c) Algebra to quadratic equations (inclusive) with arithmetical and geometrical progressions.

Further particulars may be obtained from the Secretary of the Faculty, General Infirmary, Leeds.

Candidates must send their names to the Secretary of the Faculty, General Infirmary, Leeds, stating in which of the three optional subjects they wish to be examined, on or before May 1 in each year.

- 1889 Fearnsides, Philip Henry 1890 Gross, Phineas 1891 Greenwood, Henry Harold
- 1892 Field, Richard Cullingworth
- 1893 Dewhirst, Wilfrid Arthur

1897 Middlemiss, James Ernest

- 1898 Heald, Samuel Linley
- 1899 Smailes, William Herbert
- 1900 Gough, Alfred
- 1901 Rawlings, Harry Richard-1894Andrews, Joseph Dalbyson1895Pegler, William Vernon19021896Matthews, Crawford Tait1903Carlton, George Westerdale

II. SCHOLARSHIPS OPEN BOTH AS ENTRANCE SCHOLARSHIPS AND TO STUDENTS OF THE UNIVERSITY

Tenable in the Faculty of Technology I.

Clothworkers' Company Day Scholarships for the Textile Industries Department

The Worshipful Company of Clothworkers of the City of London offer, in connection with the Department of Textile Industries in the University of Leeds, four Day Scholarships, each of the value of \pounds_{15} 15s.

Each Scholarship is tenable for one year. Students holding Day Scholarships will be required to attend an Advanced Course in Textile Industries, and the Senior Class in Applied Art. The Day 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.

¹ These subjects are covered by Euclid i, ii, iii, and vi, 1-19 and 33.

Entrance or Senior Scholarships

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, (b) Cotton, (c) Linen, (d) Silk.

Candidates for Day Scholarships will be required to undergo a preliminary examination in English Dictation and Composition, Arithmetic and Algebra, as far as simple equations, and a further competitive examination in Designing of Single and Backed Cloths, Loom Construction, and the Processes of Manufacturing, and in Freehand Drawing and Elementary Decorative Design.

Students are not allowed to hold a Clothworkers' University Scholarship concurrently with any other Scholarship offered by the Clothworkers' Company.

1900	Bradbury, Taylor	1903	Smith, Lister
	McQuaid, Samuel Arthur		Rayner, Harold Kingsbury
	Stevens, Tyler Abbott		Hodgson
1901	Grimshaw, Norman		Horsham, Wilfred Robert
	Wilson, Stanley Ewart Ashley		Beaumont, Frank
	Brigg, Lawrence Heriot	1904	Whitworth, Abraham
	O'Flynn, James		Hart, Harry Leatham
190 2	Mellor, Cecil Smith		Horsham, Wilfred Robert
	Duncan, Harold		Holloway, Joseph
	Gaunt, Frederick William		

2. Tenable in the Department of Medicine

Munro, William Thow

Medical Scholarship

A Scholarship is offered, consisting of a free admission to the courses of lectures and practical instruction covered by the composition fee of sixty-four guineas. The Scholarship will be awarded upon the result of a competitive examination beginning September 26, 1905. Names of candidates will be received by the Registrar of the University up to September 1.

In the event of no outside candidate presenting himself the Examiners have power to award the Scholarship on the result of the ordinary class examinations.

Candidates must be under the age of twenty years on the 30th of September following the date of examination, and

must have passed either the First examination in Medicine of the Victoria University or the Preliminary Scientific (M.B.) examination of the University of London, not more than nine months previously.

They will be examined in the subjects of which a synopsis is appended.

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, or the University of London; 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 his holding of the Scholarship to be postponed for one year only, during which time he shall pursue such course of study at the University as the Senate may authorise.

Synopsis

CHEMISTRY:

- Preparation, classification, and chemical behaviour of the chief elements and their compounds, with special reference to the Non-Metals. Chemical theory. General principles of Chemical analysis.
- Candidates will also be required to undergo a practical examination corresponding to the above syllabus.

EXPERIMENTAL PHYSICS :

The chief phenomena of Heat, Sound, Light, Electricity, and Magnetism, and the fundamental properties of Matter treated descriptively.

Candidates will also be required to undergo a practical examination.

BIOLOGY:

Elementary Morphology, Physiology, and Histology, as illustrated by the following types :--

- Saccharomyces, Penicillium, a Fern, Pinus, an Angiospermous Flowering Plant.
- Amœba, Vorticella, Hydra, Lumbricus, Astacus, Anodon, Rana, Lepus.

The chief stages of development of the frog and of the fowl.

Candidates must be prepared to dissect, describe, and examine microscopically any of the above-named,

1889	Houfton, Ernest Henry	189
1890	Callum, Harold Sidney Hill	189
1891	Greenwood, Henry Harold	189
1892	Towse, Walter	190
1893	Field, Richard Cullingworth	190
1894	Turton, Edward	190
1895	Gough, William	-
1896	Radcliffe, Fercy Alexander	
-	Hurst	190

1897 Coupland, James Alane 1898 Middlemiss, James Ernest 1899 Boyle, Alan 1900 Edmondson, Watts 1901 Gough, Alfred 1902 Booth, Sydney Herbert

Rawlings, Harry Richardson

903 Hamilton, William Douglas

III. SCHOLARSHIPS OPEN TO THE COMPETITION OF STUDENTS OF THE UNIVERSITY ONLY

I. Tenable in the Faculties of Arts, Science and Technology

Leeds City Council Free Studentships

Students of the University competing for these Free Studentships will be required to present themselves for the examination appointed for the Akroyd and Brown Senior Scholarships; the Studentships are tenable for one year, but may be extended. Applications for extension must be made by letter addressed to the Registrar before the end of the second term. The conditions of tenure are the same as for the Entrance Free Studentships, see page 297.

1904 Daykin, John Bertram

Leighton Trustees Scholarships *

Candidates for these Scholarships 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 Scholarships are ordinarily offered each year, each of the annual value of \mathcal{L}_{10} , and tenable for two years, subject to the reports on the student's work during the first year of tenure being satisfactory.

The Scholarships 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 Registrar not later than May τ in each year.

In recommending candidates for appointment, the Senate will be guided by the position held by the candidates in 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 Scholarships 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
- 1895 Hampshire, Florence Elizabeth
- 1896 Shacksnovis, Reuben
- 1897 Porritt, Florence Mary Scholes, Thomas Wilfrid Gawler, Robert
- 1898
- 1899 Crosfill, John
- Phillipson, Coleman 1900 Savage, Hilda
- Robinson, Ethel Margaret 1901 Burgess, Lillie

Scholefield, Fred

- 1902 Calam, Harold Landman, Samuel Stead, Frank Cawthron
- 1903 Appleyard, John Ernest Robinson, Lilian Dorothea Waite, Joseph Henry
- 1904 Carlton, George Westerdale Maddison, Wilfred Guy Thorp, George

2. Tenable in the Faculty of Arts

Salt Scholarship

Candidates for this Scholarship must be scholars or registered students of the University in at least their second term.

The value of the Scholarship is \pounds_{20} a year, and it is tenable for two years.

Candidates will be required to present themselves for examination in-

- 1 English Essay.
- 2 Latin.
- 3 Two of the following subjects :---

Greek, French, German, Ancient History, Modern History, English Language, English Literature, Logic, Psychology and Ethics.

Candidates must have attended registered courses in the University in each of the subjects offered for 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.

1882	Wright, Benjamin
1885	Barker, Arthur Henry
1887	Jackson, Thomas Chalice
1891	Hurst, Thomas Ockerby
1893	Cleasby, Mabel
1895	Hornby, George Goodall

1897	Robinson, Elizabeth Clare
1899	Melville, Ellen Louisa
1901	Stevenson, Ethel Mary
	The STATIST TT I

1903 Davis, William Hathaway

1904 Landman, Samuel

3. Tenable in the Faculties of Science and Technology

Brown Senior Scholarships

Candidates for these Scholarships must be scholars or registered students of the University in at least their second term.

In general there will be offered for competition annually one Brown Scholarship of $\pounds 40$ a year, tenable for one year, with power of extension. Applications for extension must be sent to the Registrar before the end of the second term.

In the case of the Brown Scholarships, 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.

Brown Scholars will be required to pursue a course of scientific or technical study which will qualify for a Degree in Science, or for a Certificate of Proficiency, 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.

A Brown Senior Scholarship cannot be held together with an Entrance Scholarship.

Candidates will be required to present themselves for examination in two of the following subjects, viz. :---Mathematics, Physics, Chemistry (Inorganic and Organic), Geology, Biology (Botany or Zoology), Engineering.

Candidates must have attended courses in the University in each of the subjects offered for examination.

Senior Scholarships

1880	Ingle, Herbert	1892	Davis, Frederick William
	Passavant, Laura Maude		Daniel
1881	Wilson, Albert Edward		Marsland, Roland
	Armstrong, Wilhelmina	1893	Dawson, Harry Medforth
	Maria	25	Motley, Parker
1882	Senior, William Otte	1894	Eurich, Hermann Oskar
	Stables, William Herbert	1895	Guthrie, Thomas
1883	Allen, Edgar Johnson	1896	Dalton, John Edwin
U	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
U	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		

Akroyd Senior Scholarships

Candidates for these Scholarships must be scholars or registered students of the University in at least their second term.

In general there will be offered for competition, annually, at least one Akroyd Scholarship of \pounds_{40} a year, tenable for two years.

Women are not eligible to 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.

An Akroyd Senior Scholarship cannot be held together with an Entrance Scholarship.

The examination will be similar to that for the Brown Senior Scholarships.

Candidates must have attended classes in the University in each of the subjects offered for examination.

1882	Park	in.	Alfred
x	A LLA AN	****	A A 4 1 4 4 4

1883 Taylor, Arthur

1886 Wilks, Stephen Longmore Butterworth

1884 Wright, Joseph 1885 Speak, Savannah Johnson

Wheelwright, Edwin Whitfield

Evening Scholarships

1885	Courtice, George Robert	1896	Calvert, Harry Thornton
	Aulton		Jowett, Albert
1887	Hastings, Hugh		Tansley, George Edward
1888	Stoney, William Walter	1897	Storr, Bertram Vincent
1889	Ingle, Harry		Cooper, Albert Henry
1890	Miall, Stephen	1898	Groocock, Henry Lloyd
	Mann, Harold Hart		Shepherd, Arthur Burton
1891	Cobb, John William	1899	Hunt, Francis William
1892	Archdeacon, William Henry		Gawler, Robert
1893	Wise, Julian Stanton	1900	Grant, Charles Henry
	Welpton, William Parker		Thompson, John Thomas
	Guthrie, Thomas	1901	Denton, Ernest
1894	Wilson, Harold Albert		Gray, Arthur Lambert
	Haworth, Frederic	1902	Raper, Henry Stanley
1895	Rigby, William	1903	Zortman, Israel Hyman
	King, Herbert	1904	Phillipson, Abram

IV. EVENING SCHOLARSHIPS AND EXHIBITIONS

Leeds City Council Evening Class Exhibitions

Seventy-five Exhibitions of two guineas each, tenable in Evening or Saturday Classes, will be offered for tenure during next session.

If the fees of the Exhibitioner do not exhaust the whole of the value of the exhibition, an allowance for the purchase of such books and instruments as are certified by the teacher of the class as needful for purposes of class instruction will be made by the University. Such allowance will under no circumstances exceed one guinea, nor will any portion of such sum be paid to the Exhibitioner until the end of the first term, and then it will be subject to a satisfactory report from the teacher of the class as to the regularity of his attendance, and satisfactoriness of his attention to his studies.

The Examination is held at the University of Leeds, on the second Saturday in September in each year, at 2.30 p.m.

Subjects of Examination :—(r) English (Dictation and Composition); (2) Arithmetic, Elementary Algebra and Geometry; and (3) Freehand or Mechanical Drawing. Excellence in the first two subjects may be taken as compensation for the absence of Drawing.

In awarding these Exhibitions, good results gained in previous examinations (such as those of South Kensington)

will be taken into account. Candidates are therefore desired to produce, on the day of examination, certificates or other evidence of having passed any such examinations.

Students who do not attend satisfactorily will not be permitted to become candidates for Exhibitions again. In the case of illness or other unavoidable cause of non-attendance, a written explanation must be sent to the Vice-Chancellor.

Forms of application for admission to the examination may be obtained from the Registrar of the University to whom they must be returned, properly filled up, by the morning of the first Saturday in September in each year. Candidates must state whether they propose to be examined in Freehand or in Mechanical Drawing.

Candidates must be resident in the City of Leeds.

Exhibitioners who have attended regularly, and worked well, may, on the recommendation of the Head of the department in which they are attending, have their exhibitions renewed for a further period. Exhibitions will only be exceptionally renewed beyond three years, and in no case will they be renewed beyond five years from the time they were first held.

Application for renewal should be made in writing to the Registrar not later than May 31 in each year, and students should apply for recommendations from the Heads of departments towards the end of the second term.

Edward Baines Free Scholarships

Ten Scholarships (of an aggregate annual value of $\pounds 40$) are given in teaching and text books. Candidates' names must be sent to the Secretary of the Yorkshire Union of Mechanics' Institutes, South Parade, Leeds, by the last day in August in each year.

The candidates for these Scholarships must have been members of some institution in the Union three months previous to the date of their candidature. They may be of either sex, but no Teachers or Assistant Teachers are admissible. The Candidates must be in circumstances to require free Scholarships.

The successful candidates will receive free instruction for one year, and will be provided with necessary text books.

Scholarships

Clothworkers Company Scholarships for the Textile Industries Department

The Worshipful Company of Clothworkers of the City of London offer in connection with the Department of Textile Industries in the University of Leeds, six Evening Scholarships, each of the value of \pounds_2 2s.

Each Scholarship is tenable for one year. Students holding Evening Scholarships will be required to attend one of the Advanced Evening Classes in the Department of Textile Industries.

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, (b) Cotton, (c) Linen, (d) Silk.

Candidates for Evening Scholarships will be examined in the Processes of Textile Manufacturing and in Elementary Designing.

V. 1851 EXHIBITION SCIENCE SCHOLARSHIP

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 Scholarship is limited to those branches of science (such as Physics, Mechanics, and Chemistry), the extension of which is specially important for our national industries.

Candidates must (a) be British subjects; (b) bona 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 Registrar of the University up to the last day of February in each year.

1891-4 Ingle, Harry, B.Sc.
1892-4 Mann, Harold Hart, B.Sc.
1893-6 Myers, John Ellis, B.Sc.
1894-6 Dent, Frankland, B.Sc.
1896-9 Dawson, Harry Medforth, B.Sc.
1897-1900 Wilson, Harold Albert, B.Sc.
1898-1901 Calvert, Harry Thornton, B.Sc.
1899-1902 Skirrow, Frederick William, B.Sc.
1900-03 Varley, William Mansergh, B.Sc.
1901-4 Denison, Robert Beckett, B.Sc.
1902-5 Dakin, Henry Drysdale, B.Sc.
1904-5 Raper, Henry Stanley, B.Sc.

VI. COUNTY COUNCIL SCHOLARSHIPS

Scholarships are offered by the County Councils of the North, East, and West Ridings of Yorkshire, tenable at the University of Leeds in common with other Institutions, in scientific and technical subjects, including Agriculture. In the West Riding exhibitions are also offered in Coal Mining, and Free Studentships tenable at the University.

For further information apply as follows :----

For North Riding Scholarships—The Secretary, County Education Offices, Northallerton.

For East Riding Scholarships—The Clerk, East Riding County Council, Beverley.

For West Riding Scholarships and Free Studentships— The Director, Education Department, County Hall, Wakefield.

VII. PRIZES

Gladstone Memorial Prize

The Committee of the Gladstone Liberal Memorial Prize Fund have established Gladstone Memorial Prizes to be given in books at various Universities and Colleges for special proficiency in Political Science and Economics. An annual prize of $\pounds 5$ has been offered to and accepted by the Council of the University, and will be awarded under the following conditions :—

I. The prize will be awarded for an Essay on some subject connected with History or Political Science or Economics.

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. The Essays sent in are to be anonymous, and are to bear a motto.

3. No student who has once obtained the Prize may compete a second time.

The Essay must be sent in to the Professor of History not later than the end of September.

1902 Savage, Hilda, B.A. 1903 Davis, William Hathaway, B.A.

Thorp Prizes in Forensic Medicine and Hygiene

These prizes, amounting altogether in value to the sum of fifteen pounds, were instituted by the late Dr. Disney L. Thorp, one of the original founders of the Leeds School of Medicine, and are awarded at the close of every Summer Session, in accordance with such regulations as may be made from time to time.

	In Forensic	Media	ine
1899	Saville, Edwin	1901	Cundall, Edward
1900	Gough, William, B.Sc.	1902	Boyle, Alan
	In Public	Healt	h
1899	Saville, Edwin	1902	Tomlin, Herbert
1900	Radcliffe, Adolphus Harold	1903	Legge, James Huntly
1901	Braithwaite, Leonard Ralph		

Prizes

Thorp Prize Essay

A sum of fifteen pounds is offered every three years for an essay or original research on some subject connected with Forensic Medicine or Public Health. The competitors must have received all their medical education at the University of Leeds, and must have completed it and received their degree or diploma not more than three years before the competition. The scope and nature of the essay or research may be either physical, chemical, microscopical, physiological, clinical or statistical, but its subject must have received the approval of the Board of the Faculty of Medicine one year before the award is made. The successful essay or paper with the drawings and specimens by which it may be illustrated will become the property of the University. The Prize will next be awarded in October, 1907.

Hardwick Prize in Clinical Medicine

This prize, of the value of ten pounds, is given annually on a competition which begins on the third Monday in May. Candidates must have been students in the School of Medicine of the University of Leeds for not less than three winter and two summer sessions; 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	1903	Matthews, Crawford Tait
1901	Saville, Edwin	1904	Tomlin, Herbert
1902	Coupland, James Alane		

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 winter session, and who have held at the Leeds Infirmary the following appointments:—Casualty dresser, out-patient and in-patient dresser, ophthalmic dresser, in-patient and out-patient medical clerk, post-mortem clerk, and gynæcological clerk.

1900 Gough, William1901 Keeling, Hugh Neville1902 Coupland, James Alane

1903 Braithwaite, Leonard Ralph 1904 Brierley, Wilfred Edward

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Scattergood Prize

This prize, instituted in memory of the first Dean of the Medical Department, Yorkshire College, is awarded annually to the most distinguished student in the class of Obstetrics. The value of the prize is five pounds.

1899	Radcliffe, Adolphus Harold	1902	Tomlin, Herbert
1900	Acomb, John	1903	Smailes, William Herbert
1901	Coates, Richard		

Gold Medal

A Gold Medal of the value of ten pounds, formerly presented by the Treasurer, and since 1901 by the Faculty of the Infirmary, is awarded on the collated results of the prize examinations in the following subjects :--(1) Surgery; (2) Medicine : (3) Pathology : (4) Obstetrics (Scattergood Prize); (5) Forensic Medicine (Thorp Prize); (6) Clinical Medicine (Hardwick Prize); (7) Clinical Surgery (McGill Prize); (8) Gynæcology; (9) Public Health (Thorp Prize); (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. Should a student desire to spend an additional year antecedent to the study of the subjects in part ii in preparing for a Science degree, Honours, or the Primary Fellowship R.C.S. Eng., such time need not be counted as one of the five years. Of these prizes one must be either the Surgery or the McGill Prize, and another either the Medicine or the Hardwick Prize.

1899	Anderson, William Jenkins	1901	Saville, Edwin
	Webb	1902	Coupland, James Alane
1900	Gough, William, B.Sc.	1903	No award

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

Prizes

second Winter, second Summer, and third Winter in the "Normal Course." To qualify, the candidate must obtain two prizes or their equivalent.

1899 Coupland, James Alane 1901 Boyle, Alan 1900 Braithwaite, Leonard Ralph 1903 Gough, Alfred

Class Prizes

The following prizes will ordinarily be awarded at the end of each session :

	Conditions of awara
Greek, Latin, English, French, German, Ancient History, Modern History, one	Classexaminationsorspecial examination.
prize in each Department	
Education, one prize	(a) Work throughout the course :
	(b) Essay sent in during third term
Mathematics, one prize	Class examinations or special examination.
Physics, Senior prize for third year course and Junior prize for second year course	Class examinations and special practical exam- ination
<i>Biology</i> , one prize in Zoology and one in Botany	Terminal examinations and class exercises.
Geology, one prize	Class examinations or special examination.
Engineering, one prize in Mechanical, one in Civil Engineering	Class examinations, drawing throughout session, drawing examination,
Mining, one prize in Senior class	and laboratory work. Terminal examinations and
	weekly lecture notes.
Textile Industries, second and third year Designing, one prize; Senior Colour- ing and Cloth Finishing, one prize	Terminal examinations and class work.
Dyeing and Tinctorial Chemistry, a Senior and a Junior prize	Terminal examinations, practical work, and lecture notes.
Art, a Senior and a Junior prize	Class examinations and annual competition in
	Decorative Textile De- sign.
Leather Industries, one prize	Terminal examinations, practical work, and lecture notes.
Agriculture, one prize in second year course	Terminal examinations and class work.

Any of the above prizes may be withheld on the ground of the smallness of the class concerned or the inadequacy of the work.

Prizes-Scholars, 1904

School of Medicine

Book prizes and Certificates of Honour are given in the various classes at the end of each session.

SCHOLARS, 1904

				Date of Election	
1851	Exhil	bition		1902	Dakin, Henry Drysdale,
0				-	B.Sc.
				1903	Gaunt, Rufus, B.Sc.
		,		1904	Raper, Henry Stanley, B.Sc.
//	,	,		, ,	1 , 5 ,,
Salt				1904	Landman, Samuel
Akro	vd Sen	ior	• • • •	1903	Zortman, Israel Hyman
,		,		1904	Phillipson, Abram
Leigh	ton			1903	Appleyard, John Ernest
,	,		••	1903	Robinson, Lilian Dorothea
,	,			1904	Carlton, George Westerdale
,	,			1904	Maddison, Wilfred Guy
,	,		•••	1904	Thorp, George
Cloth	worker	rs' Textil	le	1904	Whitworth, Abraham
,		,,		1904	Hart, Harry Leatham
,	,	,,	• • •	1904	Horsham, Wilfred Robert
,	,	"	•••	1904	Holloway, Joseph
Leeds	City	Council	• • •	1902	Mellor, Fred
,	,	33	• • •	1903	Klein, Harris
,	,		• • •	1904	Crowther, William Edmund
Whee	ıtley_		•••	1904	Scholes, Katherine L.
Brow	in En	trance	•••	1901	Booth, Meyrick
33		**		1902	Armes, Henry Percy
23		**	•••	1902	Crosland, Percy Field
		,,	•••	1902	Lord, William Ernest
,,		33	• • •	1903	Hodsman, Henry James
,,		,,		1904	McGill, Ernest Arthur
Akro	yd En	ntrance	•••	1902	Hollins, Cecil
""		33	•••	1903	Harris, Marks Solomon
,,		29	• • •	1903	Horsfall, Ronald Smith
		2.2	•••	1904	Davies, Hamilton
,,		3.9	•••	1904	Sinson, Israel Lewis
Emsi	'ey			1903	Bibby, Edward Ernest
33				1904	Brook, Annie

Scholars, 1904

Baines			1903	Wilson, Florence Grey
22	***		1904	Hargreaves, Edith
Craven	1444		1903	Maddison, Wilfred Guy
Tannett-Wa	lker Bu	irsary	1904	McGill, Ernest Arthur
Leeds C.C. I	Free Stu	dents	1902	Little, Harry Edgell
77 37			1903	Carlton, George Westerdale
, ,,			1903	Findlay, Sarah Kennedy
>> >>			1903	Illingworth, Maria Emma
>> >>			1904	Cross, William Ernest
>> >>			1904	Daykin, John Bertram
Medical			1900	Edmondson, Watts
"			1901	Gough, Alfred
3.5			1902	Booth, Sydney Herbert
,,,			1902	Rawlings, Harry Richardson
>>			1903	Hamilton, William Douglas
Infirmary			1899	Smailes, William Herbert
,,			1900	Gough, Alfred
53			1901	Rawlings, Harry Richardson
"			1902	Pickles, William Norman
73			1903	Carlton, George Westerdale
Clothworkers	s' Even	ing		
First	year	***	1904	Garbutt, E. E.
,,	>>	• • •	1904	North, C. C.
"	"		1904	Best, J. W.
Secon	d year	1.8.4	1904	Appleyard, F.
,,	77		1904	Hainsworth, F.
,,	>>		1904	Sykes, H.

LEEDS GRADUATES OF VICTORIA **UNIVERSITY**¹

Faculty of Arts

Master of Arts

1899	Cleasby, Mabel	1900	Priestley, Albert Weston,
1900	² Hartley, Harold		B.Sc.
1903	Hodgson, Charles Edward	1902	Scholes, Thomas Wilfrid
1900	Hornby, George Goodall	1894	Stables, William Herbert
1902	Horsfall, Francis Rodgers	1904	Stevenson, Ethel Mary
1899	James, Joseph Henry,	1898	Stuart, Wilson, B.Sc.
	LL.B.	1896	Taylor, Frank Edward,
1902	Marshall, Lizzie Backhouse		M.Sc., M.B.
1903	Melville, Ellen Louisa	1904	Wynne, Arnold

Bachelor of Arts

1904	Airey, Millicent	1899	Hield, Esther Margaret
1896	Anderson, John	1903	Hill, Mabel
1898	Ashworth, Norman	1898	Holdsworth, Jennie
1904	Atkinson, Janet	1904	Holgate, Jane
1903	Barras, Elsie Clara	1902	Holmes, Ethel
1896	Bishop, Sarah Ellen	1896	Howarth, Fred
1902	Bradley, Florence Margaret	1901	Hudson, Margaret Ell
1901	Briggs, Maude	-	(Mrs. Parnaby)
1902	Burgess, Lillie	1892	Hurst, Thomas Ockerby
1897	Burley, Leo Le Gay	1903	Johnson, Florence Anni
1897	Chard, Edith Annie	1904	Kitchener, Ernest Edwa
1903	Davis, William Hathaway	1904	Landman, Samuel
1904	Denby, Maurice	1904	Linforth, Edith Mary
1900	Dixon, Annie		Elizabeth
1899	Dobson, Constance	1899	Lister, Martha
1904	Dodgson, Sarah Alice	1903	Mann, William Edward
1904	Elliott, Spencer Hayward	1903	McKeand, MaggieWood
1903	Fairbrother, Jessie	1892	Miall, Winifred (Mrs.
1903	Findlay, George Hindson	-	W. T. Wager)
1904	Fisher, Frederick Broughton	1904	Mitchell, Myra
1902	Garside, Bertha	1902	North, Fanny Caroline
1897	Gray, Arabella Hyde Janet	1899	Oliver, Lottie (Mrs.
	Ethel		Sunman)
1904	Gray, Catherine Isabella	1903	Owen, Florence
1898	Hainsworth, Frederick	1800	Parnaby, Harry
1893	Harvey, Thomas Edmund	1001	Phillipson, Coleman
1904	Hepworth, Frank	1899	Porritt, Florence Mary
1902	Hepworth, Minnie	1902	Porteous, Geraldine Alb

1904	rioigate, Jane
1902	Holmes, Ethel
1896	Howarth, Fred
1901	Hudson, Margaret Ellen
	(Mrs. Parnaby)
1892	Hurst, Thomas Ockerby
1903	Johnson, Florence Annie
1904	Kitchener, Ernest Edward
1904	Landman, Samuel
1904	Linforth, Edith Mary
	Elizabeth
1899	Lister, Martha
1903	Mann, William Edward
1903	McKeand, MaggieWoodrow
1892	Miall, Winifred (Mrs. H.
-	W. T. Wager)
1904	Mitchell, Myra
1902	North, Fanny Caroline
1800	Oliver, Lottie (Mrs.

- ence
- arry
- Coleman
- ence Mary
- eraldine Alberta

1 Degrees obtained in 1904 were conferred by the Victoria University o Manchester. ² Inspector of Schools to the East Riding Education Committee.

 \mathbf{L}

Leeds Graduates of Victoria University

1900	Precious, Julia Hopper	1902	Steele, Lily Henly
1904	Raven, Hilda Mary	1901	Swaine, George Arthur
1897	Ridge, William Sheldon	1900	Walker, Ada
1902	Rigby, William, B.Sc.	1902	Walker, Julia Beatrice
1896	Rigg, Fred	1903	Wallhead, Elsie Adeline
1898	Robinson, Elizabeth Clare	1904	Waterhouse, Osborn
1902	Robinson, Ethel Margaret	1895	Webb, Walter Herbert
1902	Savage, Hilda	1903	White, Ethel
1903	Scruton, Hacriet Annie	1904	Whitlock, Percy Oddie
1904	Scruton, Kate Ellen	1903	Whitlow, John Penrose
1899	Sheard, Mary Beatrice	1901	Wilson, Florence
1904	Skinner, Mabel	1898	Wilson, George William
1898	Smith, Lillie	1904	Wilson, Mary Gertrude
1904	Stapleton, Arthur Leonard	1903	Wood, Jessie Graham
	A P		

Faculty of Science

Doctor of Science.

1904 Varley, William Mansergh

Master of Science

Toog	Arer Herbert William
1902	Agar, merbert william
1904	Andrews, witham Allen
1899	Bake, Henry John Tyack
1904	Ballardie, George de
	Caynoth
1901	Beeley, Arthur
1903	Briggs, Samuel Henry
	Clifford
1899	Brittain, Charles Edward
1902	Chapman, Thomas William
1904	Charlesworth, Arthur
1900	Cooper, Albert Henry
1904	Copley, Frederick
1900	Coulson, Alfred
1899	Davis, Frederick William
	Daniel
1897	Dent, Frankland
1902	Dwerryhouse, Arthur
-	Richard
1901	Findlay, Mary Grace
1900	Forsyth, John Andrew
-	Cairns, M.B.
1902	Frankland, John Naylor
1901	Fry, George Cecil
1903	Gawler, Robert
1904	² Gill, Edwin Leonard
1904	Grant, Charles Henry

1002	Groocock, Henry Lloyd
1000	Harrison William Hudson
1808	Haworth Frederic
1800	Hefford Charles Nelson
1099	Hummel John James
1904	Hutton William Austin
1902	Tackson Harry Parainal
1901	allowert Albert
1900	Ving Herbert
1901	King, fierdert
1902	Linskill, william Arthur
1902	Mann, Harold Hart
1896	Milner, Harold Wood
1898	Motley, Parker
1903	Norminton, Harold
1904	Pearson, Robert John
	Addison
1001	Priestman, Harold
1902	Ramshaw, Walter
1003	Russell, John Marshall
1002	Shepherd, Arthur Burton
1000	Skirrow Frederick William
1900	Storr Bertram Vincent
1901	Taylor Frank Edward
1093	MA MD
	WI.A., WI.D.
1902	whiteley, Charles Edward
1900	* Wilson, Harold Albert

- Headmaster of the Knaresborough Grammar School.
 Curator of the Museum, Newcastle-on-Tyne.
 Principal of the Central Pupil Teachers' Classes, Bury.
 Fellow of Trinity College, Cambridge.

Bachelor of Science

1899	Aitken, William	1903	Ellis, James John
1899	Allison, John Raymond	1902	Embleton, John William
1904	Anson, Emily	1901	Everett, James Herbert
1897	Appleyard, John Henry	1903	Fearnley, Lewis William
	Ross		Knapton
1893	Archdeacon, William Henry	1901	Finn, Cornelius Philip
1902	Armes, Jane Prue	1898	Firth, Annie
1897	Armitage, George Herbert	1900	Firth, Charles Turner
1902	Aveyard, Ethel Ann	1900	Flower, George William
1896	Balmforth, Edgar Nichols	1900	Forsyth, Christina Brand
1897	Barlow, Percy Smith	1903	Gatecliff, John
1904	Barton, Edith Beatrice	1903	Gaunt, Louis Harry
1895	Boyd, Harold de Haven		Armitstead
1903	Boyd, Simeon	1902	Gaunt, Rufus
1895	¹ Braithwaite William Dalston	1904	Gaut, Robert Charles
1903	Brayshay, Maurice William	1897	Gill. John Frederic
1902	Brier, Albert	1902	Gill, Percy Smith
1904	Broadhead, James Arthur	1898	Gledhill, Luther
1898	Broadley, William	1904	Gomersall, Ernest Edward
1902	Brook, Harry	1902	Goodson, Ethel Elizabeth
1901	Bruce, Mary Walbrand		(Mrs. Osborne)
- /	(Mrs. McCrae)	1902	Grant, Frederick Ernest
1904	Bulman, John Arthur	1896	Grove, Thomas
1902	Burgess, William Ernest	1001	Gunter, John Henry
1904	Bywater, William	1894	Guthrie, Thomas
1904	Calam, Harold	1901	Haler, Percy James
1897	Calvert, Harry Thornton	1895	Halstead, John Edward
1904	Chadwick, Percival Wager	1900	Hamer, Ernest Fenton
1896	Chapman, Harold Percy	1896	Hammerton, Jonas
1901	Clark, James	1898	Hardaker, Walter Henry
1903	Cooper, William Arthur	1903	Hartley, Percival
1898	Corrie, William Edward	1899	Hatch, Herbert Andrew
1902	Coxon, Laurence Adams	1893	Hefford, George
1903	Crawshaw, Annie	1901	Heptinstall, Richard
1901	Crosfill, John	1900	Hield, Mary Elsie
1900	Crowther, Herbert	1899	Hilliam, George
1902	Cryer, Edward	1900	Hirst, Henry Reginald
1903	Cunningham, Jean Orme	1896	Hobart, John William
1897	Cussons, John	1898	Hobley, Robert Arthur
1001	Dakin, Henry Drysdale	1001	Hummel, Alfred Roland Ure
1904	Davkin, John Bertram	1903	Hummel, Ernest Lonsdale
1903	Dell, John Alexander	1900	Hunt, Francis William
1899	Denison, Robert Beckett	1903	Hunter, Herbert
1002	Dennis, Herbert	1003	Hutchinson, Florrie
1902	Denton, Ernest	1891	Ingle, Harry
1001	Dickinson, Cyril	1002	Isle, William Collinson
1895	Duncan, John	1890	Jackson, Arthur
IQOI	Edwards, Ernest John	1904	Jenkins, Richard Owen
/			

¹ Headmaster of Ulster Provincial School, Lisburn.

Leeds Graduates of Victoria University

1896	Johnson, John William Haigh	1902 1896	Rigby, Albert Rigby, William, B.A.
1900	Jonas, Leslie	1903	Rydall, George Herbert
1903	Kahan, Zelda	1903	Scholefield, Fred
1904	Kay, Douglas John	1899	Scouller, Walter Daly
1900	Kaye, Edward Percy	1899	Shorter, Sydney Alfred
1902	Kirby, Frederick Oscar	1897	Slater, Alfred
1898	Knight, John Arthur	1903	Slater, John Henry
1903	Langstaff, Bilton	1899	Sloan, Robert John Joseph
1898	Leach, Elsie (Mrs. Thomas	1904	Smith, Arthur Clifford
-	Guthrie)	1898	Smith, Henry Lambert
1903	Lee, Haydn	1901	Smith, John Edgar
1901	Livesey, Charles Edwin	1901	Sowerbutts, Edith Utley
-	Leonard	1903	Spiegelhalter, Cecil
1901	Lodge, Harry Livingstone	1901	Standing, Herbert Fox
1900	Mann, Ernest Edwin	1904	Standing, Margaret
1897	Marsden, Ernest Vane	1903	Stead, Frank Cawthron
1902	Marshall, Herbert	1903	Steinthal, Paul Telford
1904	Marshall, Joseph	1902	Stelfox, Sydney Herbert
1901	Martin, Ethel Mary	1901	Stephenson, Isabel
1894	Milner, John Edward	1904	Stewart, Tom
1902	Morris, Florence Annie	1900	Stocks, Arthur
1898	Moss, Charles Edward	1902	Stoddard, Arthur Askwith
1897	Moys, Herbert	1897	Stuart, Wilson, M.A.
1903	Murphy, Harold Newton	1897	Studley, Charles Wilcock
1902	Myers, France	1895	Sugden, John Henry
1891	Nicholls, Percy	1903	Summers, Herbert Henry
1902	Oates, James Holroyd	1900	Svensson, Gillis
1898	O'Brien, Henry Eoghan	1897	Tansley, George Edward
1900	Oddy, Annie Maude	1902	Taylor, Francis
1897	Oddy, James	1903	Tennant, Norman
1891	Parkin, Ernest		Scholefield
1899	Parkin, Jessie	1901	Thompson, John Thomas
1899	Peacock, Arthur	1903	³ Thompson, William Benson
1894	Peatfield, Albert Edward	1903	Thorp, Samuel
1904	Phillipson, Abram	1899	Tiffany, Joseph Edgar
1902	Pickering, Arthur	1898	Todd, Reginald Austen
1904	Pickersgill, Samuel Edwin	1903	Turton, Edward, M.D.
1897	Plugge, Arthur	1901	Unwin, Ernest Ewart
1900	Potter, Charles Etty	1904	Waite, Joseph Harold
1897	Priestley, Albert Weston,	1897	Walbank, Wilfrid Stephen
	M.A.	1894	Walker, Augustus John
1904	Radcliffe, Norman Brooke	1904	Walker, Joshua
1902	¹ Raper, Henry Stanley	1896	Watson, Herbert Wood
1895	² Rayner, Herbert Emmett	1903	Wetherall, Arthur
1902	Redfern, Herbert Stanley	1895	Whaley, James
1903	Rhodes, Edwin	1898	Whitaker, John Stanley

Principal of the Pupil Teachers' Centre, Batley.
 Principal U.M.F.C. College, Ningpo, China.
 Head of the Agricultural School, Downpatrick

1897	White, Ernest Clark	1901	Willis, Fred
1904	White, Robert George	1900	Wilson, Charles
1895	White, William Henry	1904	Wilson, Frances Annie
1899	Whittaker, Croyden	1904	Zortman, Israel Hyman
	Meredith		

Faculty of Law

Bachelor of Laws

1903	Jessop, F	rederick	Hubert	1902	Sykes,	James	
1903	Robson,	William I	Newby	1903	Wade,	James	Mervyn

Faculty of Medicine

Doctor of Medicine

1897	Ligertwood, Charles Edward	1901	Trotter, Robert Hale
1895	Stoney, William Walter	1903	Turton, Edward, B.Sc.

Bachelor of Medicine and Bachelor of Surgery

1899	Anderson, William Jenkins
	Webb
1900	Anderton, Edward William
1903	Appleton, Roy
1904	Ashmore, Patricius Wallace
1903	Birkett, Harold Metcalle
1904	Birtwhistle, Frederick Percy
- 0	Hewetson
1897	Bollans, Robert Wilfred
1904	Boyle, Alan
1903	Braithwalle, Leonard Kalph
1904	Brierley, whited Edward
1900	Broughton, Alfred Galen
	Scheele
1901	Brown, Henry
1901	Brown, James William
	Henry
1903	Brown, Thomas
1902	Burkhard, Alexander
1902	Butterworth, Robert
0	Neilson
1897	Callum, Harold Sidney Hill
1899	Campbell-Horsfall, Charles
	Edward
1903	Canter, William Hathin
1868	Carter, Godfrey
1903	Coates, Richard
1904	Cundall, Edward

1897	Darl	low,	Fra	anci	s
			-		

- 1904 Deane, Arthur Maslen
- Dunk, Harry Firth, Arthur 1898
- 1898
- Fletcher, Albert Herbert 1901 Bateson
- 1901 Forster, Robert Thomas
- Forsyth, John Andrew 1901
- Cairns, M.Sc. Goodall, Joseph
- 1899
- Greaves, Frederick William 1904 Marshall
- 1899 Greenwood, Charles Henry
- 1894 Hainsworth, John William
- Harrowell, Francis William 1901
- 1904 Hayes, Frederick William
- 1904 Heald, Samuel Linley 1898 Hime, Edward Maurice
- 1899 Hime, Henry Charles Rupert
- 1900 Horsfall, Arthur Edward
- 1899 Illingworth, William Arthur
- 1899 Johnson, Frederick William
- Jones, Clement Royds 1893
- 1902 Ladell, Robert George Macdonald
- 1897 Lambert, John Reginald
- 1899 Lett, Hugh
- 1902 Longley, Joseph Alan

Leeds Graduates of Victoria University

1902	Maccormac, William
-	Leonard
1904	Macvean, Herbert James
1903	Maffin, Harry
1901	Martin, Arthur Francis
1897	Mason, John Harold
1903	Matthews, Crawfurd Tait
1897	Moorhouse, Charles Herbert
1900	Morrison, William Harold
1899	Morton, Armitage
1903	Mosley, Robert Vyvian
	Acton
1898	Oyston, William Fletcher
1900	Parkinson, Arthur Stanley
1902	Platts, Sydney
1903	Pollard, Percival
1903	Radcliffe, Adolphus Harold
1901	Radcliffe, Percy Alexander
	Hurst
1800	Pood John Arthur

- 1896 Rowling, Samuel Thompson
- Saville, Edwin 1901
- 1899 Scott, John Edmund Haigh
- 1894 Seaton, Douglas

Teachers' Diploma William, 1897

- 1899 Agar, Herbert M.Sc. Aveyard, Ethel Ann, B.Sc. 1903
- 1902 Brier, Albert, B.Sc.
- 1898 Chapman, Thomas William,
- M.Sc. Crawshaw, Annie, B.Sc. 1904
- 1904 Cunningham, Jean Orme
- Hartley, Harold, M.A. 1897
- Haworth, Frederic, M.Sc. 1895
- 1904 Hirst, Miriam, B.A. Lond.

- Shaw, John Vincent Spink, Walter Lee 1895 1895 1898 Spong, Ambrose 1898 Stansfield, Harry Steele, Percy Kingsley 1903 Stott, William Atkinson 1901 1903 Sugden, Frank Suggitt, Bertram 1904 1001 Sutcliffe, Joseph Herbert Taylor, Frank Edward, M.A., M.Sc. 1897 1903 Teasdale, John Camidge 1001 Thompson, Arthur Ralph 1902 Tinker, Ernest 1904 Tomlin, Herbert Trotter, Edward 1898
- Trumper, Oscar Bagster 1894
- 1903 Wilkinson, Sidney Carter
- 1900 Willans, Charles Rudolph
- 1899 Williams, David Owen
- 1898 Williamson, Joshua
- Young, Frederick William 1904 Baker
- Hobart, John William, B. Sc.
- 1898 Jackson, Harry Percival,
- M.Sc.
- 1904 Linforth, Edith Mary Elizabeth, B.A.
- 1902 Martin, Ethel Mary, B.Sc.
- 1901 Oddy, Annie Maude, B.Sc.
- 1897 Priestley, Albert Weston, M.A., B.Sc.
- 1903 Stevenson, Ethel Mary, B.A.

CERTIFICATES OF PROFICIENCY (YORKSHIRE COLLEGE)

Engineering

1887	Marriner, William Wright	1890	Sykes, Ernest (c, m)
	(m)	1891	Nicholls, Percy (c, m)
	Parkin, Frederick William		Watson, Frank Leslie (c, m)
	(c, m)	1893	Marsland, Roland (m)

- c Certificate in Civil Engineering.
- m Certificate in Mechanical Engineering.

Certificates of Proficiency

1894	Firth, Harold William (e)	1898	Wales, William Arthur (m)
	Tillotson, Fred (e)	1901	Chapman, Fitzroy Tozer (e)
1895	Eurich, Herman Oskar (m,		McBretney, Walter (e)
	e)		Wood, William Wellesley (e)
1897	Child, Francis (m, e)	1902	Pearson, Robert John Addi-
1898	Broadbent, Francis James		son(e)
	(c, m)	1903	Ingleby, Henry Stockdale
	Day, George James (m)		(e)
	Certificate in Ci m Certificate in M	vil Engine echanical	ering. Engineering.

Certificate in Electrical Engineering.

Textile Industries

1894 Sawyer, Edgar

1896 Barker, Alfred Edward

Dyeing

1888	Booth, Robert Davis	1898	Pilgrim, Julius Aldred
	Briggs, Harold Midwood		Wood, Percival John
1892	Sunderland, Arthur	1899	Newbury, Frederick George
1893	Carruthers, Walter Scott	1900	Horsfall, Louis Hubert
1894	Cope, Frank		Wilkinson, Edward John
1895	Pate, Lewis		

Leather Industries and Chemistry

1900 Alan Guthrie

Leather Manufacture

1900	Holmes, Harold Edwin	1902	Borghstijn, Adrianus
-	Broadhead, William Edward		Jacobus '
			Greatrex, Gilbert

Agriculture

1896	Popple, Lawrence
1897	Cowling, Ralph

1898 Hinchcliff, Joseph Henry

Diplomas (University of Leeds)

Commerce

1904 Whiting, John Roland

Leather Manufacture

1904 Casaburi, Vittorio Doikawa, Saichiro Prevôt, Jules Mathieu

Coal Mining

1904 Frazer, Edgar Hamilton Paterson, George Stewart Willey, Edward

ASSOCIATES OF THE YORKSHIRE COLLEGE

1877-John Muir (by College Examination).

- 1880-Herbert Ingle (1) do.
 - Charles Arthur Watson do.
- 1884-Alfred Parkin do.
- 1885-Edgar Johnson Allen (2) do. Arthur Edward Potter (3) do.
- 1886—Harold Newman Allen, B.Sc. London, 1884. Herman Emil Schmitz (by College Examination). Benjamin Beck Skirrow, B.A. Oxford, 1886. Isaac Wrigley, B.A. London, 1885.
- 1887-William Wright Marriner (by College Examination).
- 1888--Thomas Hill Easterfield (4), B.A. Cambridge, 1888. Herbert Hutchinson (by College Examination). George Lee Wells, M.B., B.S. London, 1887.
- 1889-Benjamin Wright, B.A. Oxford, 1888. William Holdsworth Hurtley, B.Sc. London, 1888. George Robert Thompson (5), (by College Examination).
- 1891—John Henry Armitage, B.A. London, 1890. Arthur Cunliffe Fox, B.A. London, 1890. Alfred Featherstone Kellett, B.A., M.B. Cambridge, 1890. Edward Branch Mahon, B.A. London, 1890. Berkeley George Andrew Moynihan (6), M.B., B.S. Lond. 1889 William Herbert Stables, B.A. Victoria, 1891. Herbert Marmaduke White, B.A. London, 1890. Harry Ingle, B.Sc. Victoria, 1891.
- 1892-Ernest Parkin, B.Sc. Victoria, 1891. Walter Thorp, B.Sc. London, 1890. Charles Herbert Bothamley, (7), (Honoris Causá). Harold Hart Mann, B.Sc. Victoria, 1892. Winifred Miall, B.A. Victoria, 1892. Henry Cabourn Pocklington (8), B.A. Cambridge, 1892. Thomas Ockerby Hurst, B.A. Victoria, 1892. Percy Nicholls, B.Sc. Victoria, 1891. Stephen Miall, B.Sc. London, 1892.
- 1893-Aldred Farrer Barker (9), (Honoris Causá). Julian Stanton Wise (by College Examination). William Henry Archdeacon, B.Sc. Victoria, 1893. Frankland Dent, B.Sc. Victoria, 1893. George Hefford (10), B.Sc. Victoria, 1893.

- (6) Assistant Surgeon to the Leeds General Infirmary.
- (7) Organising Secretary to the Education Committee of the County of Somerset.
 (8) Fellow of St. John's College, Cambridge.
- (9) Head Master Textile Department of Bradford Technical College.
- (10) County Science Master to the Staffordshire County Council.

Agricultural Chemist to the Transvaal Government.
 Director of Marine Biological Laboratory, Plymouth.

 ⁽³⁾ Inspect of Schools in Burmah.
 (4) Professor of Chemistry and Physical Science in the Victoria College, Wellington, N.Z.

⁽⁵⁾ Professor of Mining in the University of Leeds.

1893-Harold Wood Milner, B.Sc. Victoria, 1893. William Mercer Wade, B.A., LL.B. Cambridge, 1893. John William Cobb, B.Sc. London, 1892. Arthur Manknell, M.B. London, 1891. George Robert Aulton Courtice, B.Sc. London, 1893. William Briggs, M.A., LL.B. Cambridge. 1894-Stephen Longmore Butterworth Wilks, M.B., B.S. Lond. 1892. Arthur Henry Barker, B.A. 1889, B.Sc. London, 1891. Joseph Leonard Iredale, M.B. London, 1893. Henry John Tyack Bake (1) B.A. Camb., B.Sc. Vict., 1894. Mabel Cleasby, B.A. Victoria, 1894. George Cecil Fry, B.Sc. Victoria, 1894. Thomas Guthrie, B.Sc. Victoria, 1894. Augustus John Walker, B.Sc. Victoria, 1894. 1895 - John Duncan, B.Sc. Victoria, 1894. Charles Matthew Rider, B.Sc. London, 1894. Henry Reginald Hirst, B.Sc. Victoria, 1895. John William Hainsworth, M.B., Ch.B. Victoria, 1894. John Basil Hall, M.A., M.B., B.C. Cambridge. Robert Hardwick Hall, M.A., M.B., B.C. Cambridge, 1891. Ernest Henry Houfton, M.B. London, 1894. Carlton Oldfield, M.B. London, 1895. Douglas Seaton, M.B., Ch.B. Victoria, 1894. Ernest William Spink, M.B. London, 1894. Walter Lee Spink, M.B., Ch.B. Victoria, 1895. William Walter Stoney, M.B., Ch.B. Victoria, 1893, M.D. Victoria, 1895. Oscar Bagster Trumper, M.B., Ch.B. Victoria, 1894. Arthur Longley Whitehead, M.B. 1892, B.S. London, 1893. Harry Medforth Dawson (2), (by College Examination). Walter Myers Gardner (3), (Honoris Causá). William Dalston Braithwaite, B.Sc. Victoria, 1895. Parker Motley, B.Sc. Victoria, 1895. Albert Edward Peatfield, B.Sc. Victoria, 1894. Herbert Emmett Rayner, B.Sc. Victoria, 1895. James Whaley, B.Sc. Victoria, 1895. William Henry White, B.Sc. Victoria, 1895. Herbert King, B.Sc. Victoria, 1895. 1896--Ralph Hopton, M.B., B.S. London, 1895. Frederick Haworth, B.Sc. Victoria, 1894. John William Hobart, B.Sc. Victoria, 1896. Harold de Haven Boyd, B.Sc. Victoria, 1895. Charles Edward Brittain, B.Sc. Victoria, 1896. Charles William Eames, M.B., C.M. Edinburgh, 1896. Charles Nelson Hefford, B.Sc. Victoria, 1896. Samuel Thompson Rowling, M.B., Ch.B. Victoria, 1896. John Henry Sugden, B.Sc. Victoria, 1896. Herbert Wood Watson, B.Sc. Victoria, 1896.

⁽¹⁾ Head Master of Knaresborough Grammar School.

 ⁽a) Assistant Lecturer in Chemistry in the University of Leeds.
 (3) Head Master Chemistry and Dyeing Department of Bradford Technical College.
1897—George Goodall Hornby, B.A. Victoria, 1896. Antonius Joseph Manasseh, L.R.C.P., M.R.C.S. John Anderson, B.A. Victoria, 1896. Robert Wilfred Bollans, M.B., Ch.B. Victoria, 1897. Albert Henry Cooper, B.A. Lond., 1896, B.Sc. Vict., 1897. Francis Darlow, M.B., Ch.B. Victoria, 1897. John Andrew Cairns Forsyth, B.Sc. Victoria, 1897. Jonas Hammerton, B.Sc. Victoria, 1897. Harold Hartley (1), B.A. Victoria, 1897. Thomas Edmund Harvey, B.A. Victoria, 1893, B.A. Oxford, 1897. Ernest Vane Marsden, B.Sc. Victoria, 1897. Charles Herbert Moorhouse, M.B., Ch.B. Victoria, 1897. Herbert Moys, B.Sc. Victoria, 1897. James Oddy, B.Sc. Victoria, 1897. Frederick William Skirrow, B.Sc. Victoria, 1897. Alfred Slater, B.Sc. Victoria, 1897. Wilson Stuart (2), B.Sc. Victoria, 1897. George Edward Tansley, B.Sc. Victoria, 1897. Frank Edward Taylor, B.Sc. Victoria, 1895, M.A. Victoria 1896, M.B., Ch.B. Victoria, 1897. Wilfrid Stephen Walbank, B.Sc. Victoria, 1897. Ernest Clark White, B.Sc. Victoria, 1897. 1898-John Henry Ross Appleyard, B.Sc. Victoria, 1897. John Broadley, M.B. London, 1897. Godfrey Carter, M.B., Ch.B. Victoria, 1898. Thomas William Chapman, B.Sc. Victoria, 1898. William Edward Corrie, B.Sc. Victoria, 1898. John Edwin Dalton, B.Sc. London, 1896. Harry Dunk, M.B., Ch.B. Victoria, 1898. Florence Elizabeth Hampshire, B.Sc. London, 1897. Robert Arthur Hobley, B.Sc. Victoria, 1898. Jennie Holdsworth, B.A. Victoria, 1898. Harry Percival Jackson, B.Sc. Victoria, 1898. John Arthur Knight, B.Sc. Victoria, 1898. Elsie Leach, B.Sc. Victoria, 1898. Alister Mackenzie, M.A., M.B., B.C. Cambridge. Charles Edward Moss, B.Sc. Victoria, 1898. Henry Eoghan O'Brien, B.Sc. Victoria, 1898. Albert Weston Priestley (3), B.Sc., B.A. Victoria, 1897. William Sheldon Ridge, B.A. Victoria, 1897. Elizabeth Clare Robinson, B.A. Victoria, 1898. Reuben Shacksnovis (by Examination) Lillie Smith, B.A. Victoria, 1898. Bertram Vincent Storr, B.Sc. Victoria, 1898. Charles Wilcock Studley, B.Sc. Victoria, 1897. Edward Trotter, M.B., Ch.B. Victoria, 1898. Edward R. Turton, M.B., Ch.B. Victoria, 1898.

(2) Late Fellow of the Victoria University.

⁽¹⁾ Inspector of Schools to the East Riding Education Committee.

⁽³⁾ Master of Method in Oxford University Day Training College,

1898-William Mansergh Varley (1), B.Sc. Victoria, 1898. John Stanley Whitaker, B.Sc. Victoria, 1898. Arthur Lee White, B.Sc. London, 1897. Joshua Williamson, M.B., Ch.B. Victoria, 1898. 1899-William Broadley, B.Sc. Victoria, 1898. Herbert William Agar, B.Sc. Victoria, 1899. William Jenkins Webb Anderson, M.B., Ch.B. Victoria, 1898. Constance Dobson, B.A. Victoria, 1898. Arthur Richard Dwerryhouse (2), B.Sc. Victoria, 1899. Luther Gledhill, B.Sc. Victoria, 1898. Henry Lloyd Groocock, B.Sc. Victoria, 1899. Esther Margaret Hield, B.A. Victoria, 1899. George Hilliam, B.Sc. Victoria, 1899. Edward Maurice Hime, M.B., Ch.B. Victoria, 1898. Henry Charles Rupert Hime, M.B., Ch.B. Victoria, 1899. Charles Edward Horsfall, M.B., Ch.B. Victoria, 1899. William Austin Hutton, B.Sc. Victoria, 1899. Arthur Jackson, B.Sc. Victoria, 1899. Frederick William Johnson, M.B., Ch.B. Victoria, 1899. William Arthur Linskill, B.Sc. Victoria, 1899. Martha Lister, B.A. Victoria, 1899. Lizzie Backhouse Marshall, B.A. Victoria, 1899. Lottie Oliver, B.A. Victoria, 1899. Jessie Parkin, B.Sc. Victoria, 1899. Harry Parnaby, B.A. Victoria, 1899. Arthur Peacock, B.Sc. Victoria, 1899. Florence Mary Porritt, B.A. Victoria, 1899. Walter Ramshaw, B.Sc. Victoria, 1899. Thomas Wilfrid Scholes, B.A. Victoria, 1899. Mary Beatrice Sheard, B.A. Victoria, 1899. Arthur Burton Shepherd, B.Sc. Victoria, 1899. Joseph Edgar Tiffany, B.Sc. Victoria, 1899. Harry Thornton Calvert, B.Sc. Victoria, 1899. John Naylor Frankland, B.Sc. Victoria, 1899. 1900– Samuel Henry Clifford Briggs, B.Sc. Victoria, 1900. Alfred Coulson, M.Sc. Victoria, 1900. Annie Dixon, B.A. Victoria, 1900. Mary Grace Findlay, B.Sc. Victoria, 1898. Mary Elsie Hield, B.Sc. Victoria, 1900. Charles Edward Hodgson, B.A. Victoria, 1900. Francis William Hunt, B.Sc. Victoria, 1900. Edward Percy Kaye (3), B.Sc. Victoria, 1900. Ernest Edwin Mann, B.Sc. Victoria, 1900. Ellen Louisa Melville (4), B.A. Victoria, 1900. Ernest William Mundy, B.A. Oxford, 1894. Harold Norminton, B.Sc. Victoria, 1900. Annie Maude Oddy, B.Sc. Victoria, 1900. Julia Hopper Precious, B.A. Victoria, 1900.

(1) Assistant Professor of Physics in the Heriot Watt College, Edinburgh.

(2) Assistant Lecturer in Geology in the University of Leeds.

(3) Assistant Lecturer in Agricultural Department of the University of Leeds.

(4) Assistant Mistress of Method in the University of Leeds.

1900-Sydney Alfred Shorter, B.Sc. Victoria, 1899. Henry Archbold Smith, M.R.C.S. Eng., 1886, L.R.C.P. Lond., 1889. Arthur Stocks, B.Sc. Victoria, 1900. Ada Walker, B.A. Victoria, 1900. Charles Richard Wilson, B.Sc. Victoria, 1900. 1901-John Prest Ackroyd, B.Sc. London, 1900. William Allen Andrews, B.Sc. Victoria, 1901. Maude Briggs, B.A. Victoria, 1901. Mary Walbrand Bruce, B.Sc. Victoria, 1901. Frederick Copley, B.Sc. Victoria, 1901. Henry Drysdale Dakin, B.Sc. Victoria, 1901. Cyril Dickinson, B.Sc. Victoria, 1901. James Herbert Everett, B.Sc. Victoria, 1901. Cornelius Philip Finn, B.Sc. Victoria, 1900. Charles Henry Grant, B.Sc. Victoria, 1901. Arabella Hyde Janet Ethel Gray, B.A. Victoria, 1897. Percy James Haler, B.Sc. Victoria, 1901. Richard Heptinstall, B.Sc. Victoria, 1901. Margaret Ellen Hudson, B.A. Victoria, 1901. Alfred Roland Ure Hummel, B.Sc. Victoria, 1901. John James Hummel, B.Sc. Victoria, 1901. Albert Jowett, M.Sc. Victoria, 1900. James Huntly Legge, B.Sc. London, 1900. Charles Edwin Leonard Livesey, B.Sc. Victoria, 1901. Harry Livingstone Lodge, B.Sc. Victoria, 1901. Robert John Addison Pearson, B.Sc. Victoria, 1901. William Munn Rankin, B.Sc. London, 1900. Henry Lambert Smith, B.Sc. Victoria, 1898. John Edgar Smith, B.Sc. Victoria, 1901. Edith Utley Sowerbutts, B.Sc. Victoria, 1901. John Thomas Thompson, B.Sc. Victoria, 1901. Ernest Ewart Unwin, B.Sc. Victoria, 1901. Charles Edward Whiteley, B.Sc. Victoria, 1899. Fred Willis, B.Sc. Victoria, 1901. Florence Wilson, B.A. Victoria, 1901. 1902-William Aitken, B.Sc. Victoria, 1899. Ethel Ann Aveyard, B.Sc. Victoria, 1902. Florence Margaret Bradley, B.A. Victoria, 1902. Harry Brook, B.Sc. Victoria, 1902. Lily Burgess, B.A. Victoria, 1902. William Ernest Burgess, B.Sc. Victoria, 1902. Lawrence Adams Coxon, B.Sc. Victoria, 1902. Ernest Denton, B.Sc. Victoria, 1902. Ernest John Edwards, B.Sc. Victoria, 1901. Bertha Garside, B.A. Victoria, 1902. Rufus Gaunt, B.Sc. Victoria, 1902. Ethel Elizabeth Goodson, B.Sc. Victoria, 1902. Frederick Ernest Grant, B.Sc. Victoria, 1902. Minnie Hepworth, B.A. Victoria, 1902.

Ethel Holmes, B.A. Victoria, 1902.

1902-Frederick Oscar Kirby, B.Sc. Victoria, 1902. Herbert Marshall, B.Sc. Victoria, 1902. Florence Annie Morris, B.Sc. Victoria, 1902. Fanny Caroline North, B.A. Victoria, 1902. Geraldine Alberta Porteous, B.A. Victoria, 1902. Henry Stanley Raper, B.Sc. Victoria, 1902. Hilda Savage, B.A. Victoria, 1902. Lily Henly Steele, B.A. Victoria, 1902. Francis Taylor, B.Sc. Victoria, 1902. Julia Beatrice Walker, B.A. Victoria, 1902. Herbert Leslie White, B.Sc. London, 1901. 1903—Elsie Clara Barras, B.A. Victoria, 1903. Annie Crawshaw, B.Sc. Victoria, 1903. Jean Orme Cunningham, B.Sc. Victoria, 1902. Jessie Fairbrother, B.A. Victoria, 1903. Lewis William Knapton Fearnley, B.Sc. Victoria, 1903. John Gatecliff, B.Sc. Victoria, 1903. Arthur Greenwood, B.Sc. Victoria, 1902. Mabel Hill, B.A. Victoria, 1903. Miriam Hirst, B.A. London, 1903. Florence Annie Johnson, B.A. Victoria, 1903. Zelda Kahan, B.Sc. Victoria, 1903. George William Knowles, M.A. Royal University of Ireland, 1902 Bilton Langstaff, B.Sc. Victoria, 1903. William Lowson, B.Sc. London, 1903. Maggie Woodrow McKeand, B.A. Victoria, 1903. Dora Morton, B.Sc. Victoria, 1902. James Holroyd Oates, B.Sc. Victoria. 1902. George Herbert Rydall, B.Sc. Victoria, 1903. Harold Adams Scruton, B.Sc. London, 1902. Harriett Annie Scruton, B.A. Victoria, 1903. Hubert Thompson, B.Sc. Victoria, 1902. Elsie Adeline Wallhead, B.A. Victoria, 1903. Edith Warmington, B.Sc. Victoria, 1902.

Ethel White, B.A. Victoria, 1903.

FELLOWS, SCHOLARS, AND PRIZEMEN (VICTORIA UNIVERSITY)

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	

Philosophy Physics Geology Physics

Associates of the Yorkshire College

1900	Braithwaite, Leonard Ralph	Medicine
	Denison, Robert Beckett	Chemistry
1902	Stelfox, Sydney Herbert	Engineering
	Stoddard, Arthur Askwith	Engineering
1903	Raper, Henry Stanley	Chemistry
19041	Waterhouse, Osborn	English
	Zortman, Israel Hyman	Physics

Derby Scholarship

1899 Frankland, John Naylor

John Bright Scholarship

1897	Stuart,	Wilson	
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1899 Hartley, Harold (prizeman)

Mercer Scholarship

1901 Dakin, Henry Drysdale

Leblanc Prize

- 1891 Ingle, Harry 1892 Mann, Harold Hart
- 1898 Skirrow, Frederick William

VICTORIA UNIVERSITY HONOURS SCHOOLS YORKSHIRE COLLEGE STUDENTS

History

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et

Victoria University of Manchester.

Philosophy

1898 CI	lass I	Stuart,	Wilson
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Mathematics

1899	Class	I	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	I	Shorter, Sydney Alfred
1901	Class	1	Grant, Charles Henry
-	Class	2	Copley, Frederick
	Class	3	Andrews, William Allen
1902	Class	2	Denton, Ernest
2			Oates, James Holroyd
	Class	3	Goodson, Ethel Elizabeth
1903	Class	2	Thorp, Samuel
100/1	Class	т	Phillipson Abram

Chemistry

1891	Class I	Ingle, Harry
1892	Class I	Mann, Harold Hart
1893	Class I	Dent, Frankland
))	Class 3	Archdeacon, William Henry
1805	Class 2	Fry, George Cecil
/ 5		Guthrie, Thomas
	Class 3	Hirst, Henry Reginald
		King, Herbert
1896	Class I	Sugden, John Henry
	Class 2	Brittain, Charles Edward
		King, Arthur
	Class 3	Watson, Herbert Wood
1897	Class I	Wilson, Harold Albert
	Class 2	Harrison, William Hudson
1898	Class I	Skirrow, Frederick William
-	Class 2	Calvert, Harry Thornton
		Storr, Bertram Vincent
1899	Class 2	Dobson, William Henry Noel
1900	Class I	Denison, Robert Beckett
-	Class 2	Shepherd, Arthur Burton
1001	Class I	Dakin, Henry Drysdale
-		Whiteley, Charles Edward
	Class 2	Gawler, Robert
1902	Class I	Briggs, Samuel Henry Clifford
		Grant, Frederick Ernest
		Taylor, Francis

¹ Victoria University of Manchester.

1902	Class 2	Gaunt, Rufus
	• •	Norminton, Harold
	12	Redfern, Herbert Stanley
	1.1	Thompson, John Thomas
	Class 3	Coxon, Lawrence Adams
1903	Class I	Raper, Henry Stanley
		Scholefield, Fred
	Class 2	Ellis, James John
	Class 3	Rhodes, Edwin
1904 ¹	Class I	Gatecliff, John
	.,	Hartley, Percival
		Marshall, Joseph
		Zortman, İsrael Hyman
	Class 2	Calam, Harold
	11	Chadwick, Percival Wager
		Radcliffe, Norman Brooke
	Class 3	Barton, Édith Beatrice
	0	

Geology

1898	Class	I	lowett, Alber	t i i	
1899	Class	1	Dwerryhouse,	Arthur	Richard

Zoology

1901	Class 1	Standing,	Herbert Fox
1903	Class 2	Dell, John	n Alexander

Physiology

1897	Class 2	Forsyth, John Andrew Cairns
1901	Class 3	Hummel, John James

Engineering

1891	Class I	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	Corrie, William Edward
	Class 3	Priestman, Harold
1899	Class I	Linskill, William Arthur
	Class 2	Groocock, Henry Lloyd
	Class 3	Hutton, William Austin
1900	Class I	Mann, Ernest Edward
1901	Class 2	Ballardie, George de Caynoth
	27	Pearson, Robert John Addison
1902	Class I	Stelfox, Sydney Herbert
	,,	Stoddard, Arthur Askwith
	Class 2	Cryer, Edward
	Class 3	Kirby, Frederick Oscar

¹Victoria University of Manchester.

Victoria University Honours Schools 337

1903	Class 3	Brayshay, Maurice William
	3 *	Slater, John Henry
	1 7	Tennant, Norman Scholefield
	,,	Wetherall, Arthur

Honours at M.B. and Ch.B. Examinations

1894	Class 2	Seaton, Douglas
		Trumper, Oscar Bagster
1895	Class I	Ligertwood, Charles Edward
	Class 2	Shaw, John Vincent
		Trotter, Robert Hale
1896	Class 2	Rowling, Samuel Thompson
1897	Class 2	Moorhouse, Charles Herbert
		Taylor, Frank Edward
1898	Class 1	Trotter, Edward
-	Class 2	Spong, Ambrose
		Turton, Edward
1800	Class 2	Hime, Henry Charles Rupert
		Illingworth, William Arthur
		Morton, Armitage
1901	Class 2	Saville, Edwin
1903	Class I	Braithwaite, Leonard Ralph
	Class 2	Steele, Percy Kingsley
1904	Class 2	Boyle, Alan
		Tomlin, Herbert

First Classes at Final LL.B. Examination

1902 Sykes, James

1903 Jessop, Frederick Hubert

EXAMINATION LISTS, 1904

(UNIVERSITY OF LEEDS)

Intermediate B.A. Examination

Ashburner, Frederick Butterworth, George William Gill, William Conrad Matthews, Felix Hackett

Tenbruggenkate, George Herbert Turner, Harriet Marie White, Arthur Ernest

Diploma Examinations

In	Commerce -	-	-	-		Whiting, John Roland
In	Leather Industries	-		-	°.	Casaburi, Vittorio
						Doikawa, Saichiro
						Prevôt, Jules Mathieu
In	Coal Mining -		-	-	-	Frazer, Edgar Hamilton
						Paterson, George Stewart
						Willey, Edward

Examination Lists, 1904

(VICTORIA UNIVERSITY OF MANCHESTER)

UNIVERSITY SCHOLARSHIPS

University Scholarship in English	
Language and Literature	Waterhouse, Osborn
University Scholarship in Chemistry -	Zortman, Israel Hyman

FACULTIES OF ARTS, SCIENCE AND LAW

I. Doctor of Science

Varley, William Mansergh

II. Examinations for Degrees with Honours

B.A. Honours in History -	Class 2.	Davis, William Hathaway
B.A. Honours in English		
Language and Literature -	Class 1.	Waterhouse, Osborn
	Class 2.	Denby, Maurice
	,,	Elliott, Spencer Hayward
	,,	Hepworth, Frank
B.A. Honours in Modern		
Languages and Literatures -	Class I.	Airey, Millicent
	Class 2.	Dodgson Sarah Alice
	Class 3.	Raven, Hilda Mary
B.Sc. Honours in Physics -	Class I.	Phillipson, Abram
B.Sc. Honours in Chemistry -	Class 1.	Gatecliff, John
	,,	Hartley, Percival
	,,	Marshall, Joseph
	,, -	Zortman, İsrael Hyman
	Class 2.	Calam, Harold
		Chadwick, Percival Wager
	11	Radcliffe, Norman Brooke
	Class 3.	Barton, Edith Beatrice
	0	

III. Examinations for Ordinary Degrees

M.A. and M.Sc.

M.A.	(Latin and French)	-	-	McKeand, Maggie Woodrow
M.Sc.	(Zoology) -	-	-	Gill, Edwin Leonard

Final B.A.

Div. I.	Div. 2.
Dickinson, Frederick Walter	Atkinson, Janet
Holgate, Jane	Gray, Catherine Isabella

Div. 1. Kitchener, Ernest Edward Skinner, Mabel

Div. 2.

Landman, Samuel Mitchell, Myra Owen, Florence (Dec. 1903) Scruton, Kate Ellen Stapleton, Arthur Leonard ¹Wallace, Harry Bruce Whitlock, Percy Oddie Wilson, Mary Gertrude

Final B.Sc.

Div. I. Anson, Emily Broadhead, James Arthur Bywater, William Gaut, Robert Charles Smith, Arthur Clifford White, Robert George

Div. 2. Lee, Edmund

Bibby, Edward Ernest Brown, Charlotte Victoria Chapman, Harry Garfield Dickinson, Margaret Frank, Sarah Gale, Florence Higgins, Emily Jackman, Elizabeth Jowett, Jessie Maccoby, Sarah Judith Martin, Alice Walford Molland, Theodora Mary

Nicholson, Ethel Rider, Martha Hannah Robinson, Lilian Dorothea Rogers, Violetta Sheard, Jora Sheard, Jessie Elizabeth Smith, Egerton Spencer, Frances Mary Elvira

Townsend, Florence Émma Warnes, Sarah Catherine Watson, George Alston Wilson, Florence Grey

Intermediate B.Sc.

Carlton, George Westerdale Claridge, Margaret Elsie Cooper, John George Cooper, William Claude Craig, David Davies, Ivor Parry Dudley, Nora

1 Passed at end of second year.

Hodsman, Henry James Hutton, Wilfred Jordan, Albert Klein, Harris Lister, Mary Florence Grace Myers, Mary Alice Rawlins, Percy James

Standing, Margaret Stewart, Tom Turton, Edward (Dec. 1903) Waite, Joseph Harold Walker, Joshua Wilson, Frances Annie

Final LL.B.

Div. 3. Sutcliffe, Harry Peveril

Intermediate B.A.

lson, Mary Gertrude

Boyd, Simeon (Dec. 1903)

Gomersall, Ernest Edward

Murphy, Harold Newton (Dec. 1903) Pickersgill, Samuel Edwin

Daykin, John Bertram

Kay, Douglas John

Div. 2.

Bulman, John Arthur (Dec. 1903)

Ross, William Oatey Smailes, Alan Thorp, George Townsend, Robert

Intermediate LL.B.

Div. 2. McConnell, John William Scott, Hubert Edward

FACULTY OF MEDICINE

Final M.B. and Ch.B.

March, 1904

Part I. Dixon, John Dixon, Robert Garside Fearnley, Harold Gough, Alfred Harling, Harry Simpson Hill, William Bertram Hummel, John James Landman, Abraham Judah Smith, Charles Nixon Whalley, Frederick Young, Frederick William Baker Part 2. Ashmore, Patricius Wallace Hayes, Frederick William Heald, Samuel Linley Suggitt, Bertram

July, 1904

Part I. Crawford, James Stirling Dobson, Francis George Gloyne, Stephen Roodhouse Hustler, George Herbert Lister, Thomas Edmund Longley, Walter Radcliffe, Roland Brooke Walker, Albert Latimer Whitehead, Thomas Part 2. Birtwhistle, Frederick Percy Hewetson Boyle, Alan Brierley, Wilfred Edward Cundall, Edward Deane, Arthur Maslen Greaves, Frederick William Marshall Macvean, Herbert James Tomlin, Herbert Young, Frederick William Baker

Second M.B. and Ch.B.

March, 1904

A. Anatomy and Physiology Hardy, Digby Wrangham McKane, William Oliphant

July, 1904

A. Anatomy and Physiology Bibby, James Paley Hackworth, Vivian Cuthbert Hessel, William Thomas B. Materia Medica and Pharmacy Dibb, William Land Hamilton, William Douglas Richardson, Gerald Sidney

First M.B.

Part I. Chemistry and Physics Keswick, John Barton Thompson Mitchell, Guy Annesley Carter Nicol, George Colin Henderson Richardson, Cyril Brian Part 2. Biology Frobisher, James Hebblethwaite Martin

Hepworth, Sidney Milverton Keswick, John Barton Thompson Mitchell, Guy Annesley Carter Nicol, George Colin Henderson Piercy, Bernard Charles Richardson, Cyril Brian Vallow, Harold

Teachers' Diploma

Crawshaw, Annie, B.Sc. Cunningham, Jean Orme, B.Sc. Hirst, Miriam, B.A. (London) Linforth, Edith Mary Elizabeth, B.A.

REGISTERED STUDENTS

Session 1903-4

Faculties of Arts (including Law), Science and Technology

Airey, Millicent Alexander, Walter William Alexander, William Paterson Alkin, Frederic Herbert Allen, Lilian Allott, Cecil Bertram Scott Ament, Robert Anderson, Edward William Paley Andrews, William Allen, B.Sc. Anson, Emily Appleby, Thomas Appleyard, John Ernest, Leighton Scholar Armes, Henry Percy, Brown Scholar Armin, Frederick George Hayward Armitage, John Edward Armstrong, George Henry Armstrong, Lilias Eveline Armstrong Robert Henry Arrowsmith, Elsie Atkinson, Janet Auld, Robert Forbes Auty, Joseph Speight

Baddiley, James Baines, Margaret Barker, Alfred Edward Barker, Arthur Stanley Barron, Mary Jane Bartle, Ida Bartolazzi, Giovanni Barton, Edith Beatrice Bashforth, William Pepper Bateson, Vivian Blanshard Batley, Richard Clarkson Batman, Elsie Battle, Frederick Alwyn Beaumont, Frank, Textile Scholar Bedford, George Smith

Behrens, Edgar Charles Bell, Herbert Nutter Bennett, Hugh Garner Bentley, Reginald William Berry, Harold Bibby, Edward Ernest, Emsley Scholar Bilbrough, William Edward Billington, Francis Howard Birch, John Charters Bishop, Sarah Ellen, B.A. Black, Joseph Blackburn, Elizabeth Maria Blackburn, Harry Fowler Blackburn, Robert Blackwood, Bertie Blakeman, Thomas William Blamires, Charles Stephen Boardman, Ernest Edmund Bolton, Edward John Bonnier, Abel Booth, Ernest Atkinson Booth, Meyrick, Brown Scholar Booth, Peter Borchardt, Helene Marie Bowman, Thomas Savile Boyd, Simeon Bradley, John Francis Bray, Edwin Brdlik, Vladislav Breeze, Monica Gabrielle Mary Brennan, Thomas Bruno Bridges, John Edward Brier, Albert, B.Sc. Briggs, Margery Haining Brigham, Fanny Muriel Broadhead, James Arthur Brooke-Wynne, Reginald Charles Brown, Alfred Evans Brown, Charlotte Victoria Brown, Herbert Manson

Brown, John Edward Brown, John Perrin Brown, Wallace Buckle, Alice Butler, Arthur Butler, Charles Butler, Herbert Butler, William Harold Byass, Robert Ernest Bywater, William Calam, Harold, Brown and Leighton Scholar Cameron, James Nield Capewell, Joseph John Cardozo, Sophia Carlton, George Westerdale Carrington, Walter Casaburi, Vittorio .Catherall, John Chadwick, Jesse Chadwick, Percival Wager Chapman, Hannah Mabel Chapman, Harry Garfield Charles, Henry Ernest Cheadle, Hugh Wentworth Childe, John Thomas Chippendale, Isaac Murray Chrispin, Lucy Christie, Robert Arthur Claridge, Margaret Elsie Clarke, Walter Scott Clarkson, Alfred Bairstow Clayton, John Murray Clough, John William Sibly Cockshott, Eliza Conyers, Hilda, Emsley Scholar Cooper, John George Cooper, William Claude Cope, Harry Douglas Corner, Arthur Edward Corner, Bailey Cory, Lilian Florence Power Cragg, Edith Annie Craig, David Crawshaw, Annie, B.Sc., L.C.C. Free Student Crawshaw, John Charlesworth Crosland, Percy Field, Brown Scholar Crowther, Jane Elizabeth

Cunningham, Jean Orme, B.Sc. Dale, Charles Herbert Danzer, Caius Marcel Darycott, Ernest Jenkinson Davies, Arthur Hugh Davies, Ivor Parry Davies, Powys Davis, William Hathaway, B.A. Day, Alexander McKechnie Day, Henry Daykin, John Bertram Dean, Hannah Dearden, Agnes Gertrude Denbigh, George James Denby, Maurice Dickinson, Frederick Walter Dickinson, Margaret Dixon, Elizabeth Dixon, Frederick John Dobson, Ernest Dodgson, Sarah Alice Doi, Kokichiro Doikawa, Saichiro Dommett, William Downend, George Frederick Draper, Alick Darby Dudley, James Dudley, Nora Dunbar, Dean Duncan, Harold Durrant, Aubrey Percy Dyson, Charles

Eagar, George Fraser Fitzgerald Earle, James Kendall Earle, John Earnshaw, David Oliver Eden, John William Edwards, Maud Mary Elam, George Henry Elgey, James Elliott, Bertram Warren Elliott, Spencer Hayward Ellis, James John, B.Sc. Ellis, John Newman Elmhirst, Richard Evans, Hugh Birkett Everard, Thomas Benjamin Everett, James Herbert, B.Sc. Eyres, William

Farrar, Ernest Farrer, Robert Noel Fenwick, Lilian Heath Ferguson, James Field, Margaret Fielding, Arthur Edward Bruce Finch, William Arthur Findlay, John Firth, Luther Firth, William Fisher, Frederick Broughton Fitzpatrick, Mary Fletcher, William Flint, Frederic Samuel Flint, Horace Lance Flint, William Flynn, Bridie Foggitt, Emma Ford, Gervase Lawson Foster, Janet Fottrell, Edward Joseph Foulds, Frank Oswald Foulds, George Croft Foulds, John Rhodes Fowler, Edwin Samuel George Fowler, George Fox, Thomas Alfred France, Helen Frank, George Herbert Frank, Sarah Frankham, Roland Henry Fraser, Margaret Frazer, Edgar Hamilton Frith, (Mrs.) Louisa Frobisher, James Hebblethwaite Martin

Gale, Florence Gana, Vicenti Garforth, William Godfrey Willoughby Garner, John Henry Gascoigne, Evelyn May Gatecliff, John, B.Sc. Gaunt, Thomas Henry Gaunt, Thomas Henry Gaunt, Thomas Huggan Gaut, Robert Charles George, Charles Harry Leather George, Charles Harry Leather George, Edward Claudius Scotney Gill, William Briggs Gill, William Conrad Gloeckner, Erich Goddard, Clara Annie Golding, Mary Muriel Gomersall, Ernest Edward Goodall, Eric William Aldrich Goodman, Walter Neville Gordon, Stephen Jefferson Gray, Catherine Isabella Green, Digby Green, Reginald Edward Greenall, Frank Greenhalgh, John Greenwood, Arthur William Gregg, Herbert Atkinson Gregory, Frederick Maurice Griffin, Walter Griffiths, Edward Rees Gunnell, Doris

Hadwen, John Walter Hall, Harold Alexander Hamilton, James Hammill, Alan Hammond, Ethel Hampshire, George Ernest Hansell, Alan Waites Hansell, John Bentley Harding, Oswald Jackson Hardy, George Wrangham Hardy, Joseph Hargreaves, Dennis Walter Harper, Stephen Clement Drew Harris, Marks Solomon, Akroyd Scholar Harrison, Charles Westerman Harrop, Arthur Hart, Harry Leatham Hartley, John Thomas Hartley, Percival, B.Sc. Hastings, Margaret Hawkins, Joshua Heald, Harry Mair Helps, George Hepworth, Frank Hepworth, Sidney Milverton Higgins, Emily Hilary, Daisy Hiley, Thomas William Hill, William Basil Hills, Minnie Hinchliffe, Robert

Hinsley, Francis Thomas Hird, Henry Gordon Hirst, Miriam Hodgson, Arthur Hammond Francis Hodgson, Harry Hodsman, Henry James, Brown Scholar Holgate, Edward Holgate, Jane Hollins, Cecil, Akroyd Scholar Holloway, Harold Pierce Holloway, Joseph Holmes, Carrie Holmes, Mary Holmes, Joseph Holmes, Samuel Hartley Holmes, William Ewart Holroyd, Herbert Holt, George Horn, Fred Horne, John Vincent Horner, M. Kate Horsfall, Ronald Smith, Akroyd Scholar Horsham, Wilfred Robert, Textile Scholar Howarth, Thomas Henry Howe, John Lomas Howroyd, Richard Rylands Hoyles, Percy Humble, John Proudfoot Humble, William Franklin Humpidge Frankis Beryl Hutchinson, Charles Thomas Hutchinson, Edith Hutchinson, George Hanley Hutchinson, John Thomas Hutchinson, Raymond Whitworth Hutchinson, Teasdale Hilton Hutton, Charles Hutton, Wilfred

Illingworth, Maria Emma Irvin, Willie Isaacson, Leila Mary Ives, Herbert Arnold

Jackman, Elizabeth Jackson, Colin Gyrth Jackson, Dorothy Jackson, Frederic Jackson, Mabel Jarrold, Samuel Thompson Jenkins, Richard Owen Jessop, Ethel Johnson, Thomas Paget Fielding Jones, Gilbert Key Jones, John Rees Jordan, Albert Jowett, Constance Edith Jowett, Jessie Jowett, Madeline Blackburn

Kay, Douglas John Kaye, James Hardwick Kaye, Robert Keith, William Ewing Kendall, Evelyne Kenworthy, Harry Ernest Kershaw, William Henry Keswick, John Barton Thompson Kilner, Frank Maitland Kinder, Mary Elizabeth King, Charles Arthur King, Percival Edgar King, William Henry Kirk, John William Kitchener, Ernest Edward Klein, Harris, L.C.C. Scholar Knight, (Mrs.) Lillian Knowles, Henry Shervington Kruse, Friedrich Wilhelm

Lamb, Harold Victor Lamb, John Singleton Lambert, Margaret Elizabeth Landman, Samuel, Leighton Scholar Landon, Henry Langrick, Benjamin Laverack, Marjory Lawton, Herbert Lax, Gilbert Leake, Lily Lee, Edmund Levy, Henry Lidbetter, James Staples Lightfoot, Kenneth Lindley, John William Linforth, Edith Mary Elizabeth Lishman, Florence May

Lister, Alice Ann Lister, John Edward Lister, Mary Florence Grace Little, Harry Edgell Livermore, Scott Page Liversedge, Samuel Gordon Longsdon, Henry Serlo Lord, William Ernest, Brown Scholar Lucey, Walter Francis Lyth, John Christopher Maccoby, Sarah Judith Mackay, Donald Paley Mackenzie, Thomas Gordon Maddison, Wilfred Guy, Craven Scholar Maitland, John Pelham Blanchard Mallinson, Dorothy Mallinson, Gertrude Elizabeth Mallinson, Philip Scholes Marchant, Benjamin William Marley, Wilfrid Marr, Henry Norrison Marriner, Kenneth Dalrymple Marsden, Fred, M.Sc. Victoria, Ph.D. Heidelberg Marshall, Joseph Martin, Alice Walford Maud, Ida Marian Maude, Robert Cecil McBretney, Florence Ellen McCandlish, Douglas McConnell, John William McGowan, Ellen McGraw, Annie Louisa McKeand, Maggie Woodrow, B.A. McLaren, Henry McLaren, Henry James McPhail, Ernest McQueen, Norman McVann, John Thomas McVeigh, Patrick Lawrence Mellor, Fred, L.C.C. Scholar Mende, Stephan Midwinter, Frank Mills Millar, Margaret Miller, James Mitchell, Guy Annesley Carter Mitchell, Margaret Mitchell, Myra

Mitchell, Percy Molland, Theodora Mary Montgomery, Raymond Moore, Kate Ellen Morrell, (Mrs.) Bertha Morris, Helen Louise Morrison, Adam Murray Morrison, James Alexander Shepherd Moss, Emily Mountain, Eliza Mulcahy, Julia Murgatroyd, Louis Murphy, Bertha Mary Murphy, Harold Newton Musson, John Percy Myers, Mary Alice Myers, Oliver

- Naylor, Nellie Noble Neville, Ethel May Nichol, Jessie Helen Nicholson, Ethel Nicol, George Colin Henderson Nixon, Harry Horsley Noble, Arthur Edward Nolan, Bessie Norfolk, John Percy North, Fanny Caroline, B.A. North, Jessie North, John
- O'Connor, George Reid Olivari, Aristide Oliver, Edward Ormerod, Beatrice Osborne, Edward Bertram Outram, Nora Aline Jane Owen, Eleanor Kenworthy Owen, Samuel Joseph Owston, Frances Jane

Pape, Cecil George Pape, Leonard Stanley Parker, Catherine Parker, Mary Alice Parker, Rose Parkinson, James Parks, Joan E.

Parry, Pierce Paterson, Alexander McCulloch Paterson, Annie Theresa Paterson, George Stuart Pawley, Frank Lurcott Pawson, Harry Peacock, Finlay Pearce, Cyril Thomas Perfect, Douglas Petit, Jean Peto, Gertrude May Petree, Cuthbert George Petty, Alfred Green Petty, Joshua Phillipson, Abram, L.C.C. Scholar Picard, Andre Pickard, Kate Pickersgill, Samuel Edwin Pickles, Clifford Crawshaw Pickles, Edward Llewellyn Pickles, Herbert Pieper, Agatha Pitts, William Edward Platts, Walter Leslie Plews, (Mrs.) Emily Pohl, Otto Carl Herbert Pontefract, Bertram Porritt, Clara Powell, Frank Newstead Prevôt, Jules Mathieu Priestman, Howard Procter, Herbert Pulleyn, James Pullon, John William Pum, Joseph Purdon, Sarah

Raabe, Otto Hermann Radcliffe, Joseph Arnold Hurst Radcliffe, Norman Brooke, Akroyd Scholar Ramsden, Agnes Raper, Henry Stanley, B.Sc., Akroyd Scholar Raven, Hilda Mary Rawlins, Percy James Rawson, Henry Foster Reader, Norbert Leo Maxwell Redfern, Kaye Reeve, Walter Renton, Harold Ferdinand Reynolds, Leetham Rhodes, Edwin, B.Sc. Rhodes, James Richardson, Cyril Brian Richardson, George Richardson, John Stocks Richardson, Stuart Richardson, Thomas Brook Rideal, John George Edmund Rider, Martha Hannah Ridley, William Woodman Riesz, Ernst Riley, Arthur Rippon, Elsie Roberts, John Battye Robinson, Elma Robinson, Lilian Dorothea, Baines and Leighton Scholar Robinson, Thomas James Robson, Thomas Rogers, Hannah Rogers, Violetta Rollisson, Edgar Rosenthall, John Sigmund Ross, William Oatey Rowe, Annie Jane Rüppel, Gottfried Rushton, William Ryder, Albert

Saito, Shunkichi Scales, Middleton Scargill, Henry Edwin Scheibler, Siegfried Bernhard Scholefield, Fred, B.Sc. Scholefield, Maurice Theodore Scotney, Charles Edward Scott, Henry Cooper Scott, Hubert Edward Scriven, Felix Scruton, Harriett Annie, B.A. Scruton, Kate Ellen Severs, Robert Edward Shaw, Charles William Shaw, Marion Shaw, Thomas Kenyon Sheard, Charles Holdrid Sheard, Dora Sheard, Jessie Elizabeth Sheard, Walter

Shepherd, William Shout, Theodore William Simpson, John Horace Simpson, Laura F. Skelsey, Frederick Walter Skinner, Mabel Smailes, Alan Smith, Arthur Clifford Smith, Egerton Smith, Harlan Smith, Lena Smith, Lister, Textile Scholar Smith, Lizzie Smith, Wilfrid Victor Snowdon, Henry Frederick Snowdon, Percy Speeden, William Knowles Spencer, Frances Mary Elvira Stafford, James Standing, Edwin Mortimer Standing, Margaret Stanhope, William Stapleton, Arthur Leonard Stead, Harry Smith Steele, Lily Henly, B.A. Stephenson, Ralph Steward, George Edward Stewart, Tom Stocks, Hetty Stoker, Joseph Stones, Edgar Strutt, Raymond Hugh Stubley, John Reginald Summerscales, Gertrude Sutcliffe, Harry Peveril Sutcliffe, John Algernon Lacy

Talbot, Joseph Harold Tate, Mary C. Tatham, Arthur Maurice Tattersfield, Frederick Taylor, Frederick William Taylor, John Edgar Taylor, Robert Tayomaru, Katsuji Thackray, (Mrs.) Annie M. Thomas, Sydney Hardisty Thompson, James Thornton, Ernest Tilney Thorp, George

Tiffany, Frank Tilley, Frank Edgar Tinker, Winifred L. Tolson, George Brooks Tolson, Jane Elizabeth Tolson, John Edwin Tomlinson, Thomas Fowler Tomlinson, Thomas Percival Townsend, Florence Emma Townsend, Fred Townsend, Robert Townshend, Lilian Toyne, Francis Digby Treacy, Kathleen Turner, Florence Mary Beatrice Turner, Fred Turner, George Corral Turner, Harriet Marie Turton, Edward, M.D.

Vallow, Harold Vause, Harold William Viccars, John Ellis Vickers, Benjamin Randall

Wagstaffe, George William Wainwright, John Arthur Wainwright, Wilfred Cleverley Waite, Joseph Harold, Leighton Scholar Walker, Arthur Leonard Walker, Charlotte Walker, Hugh Gordon Walker, Jessie Walker, Joshua Walker, Samuel Wall, Harry Wallace, Harry Bruce Wallhead, Elsie Adeline, B.A. Wallis, Ellen Adair Wallis, Thomas Hartas Walsh, Margaret Warburton, William Henry Ward, Alec Cowper Ward, Margaret Naomi Warnes, Sarah Catherine Wartnaby, William Thomas Wade Waterhouse, Osborn Watmuff, Reginald Jonas Watson, George Alston Weaver, Ethel Ann

Weddall, Philip Clifford Welbury, Cecilia Purse Wharton, John Wheelhouse, Thomas William Whitaker, Gilbert White, Ethel, B.A. White, Robert George Whitehead, Claude Maguire Whitehead, Mary Whitehead, Pollie Whitham, Fred Whiting, John Roland Whiting, William Annold Whitlock, Percy Oddie Whitton, Helen Grace Whitworth, Abraham Wiese, Franz Wilkins, Leopold Lound Wilkins, Louisa Mary Wilkinson, Percy

Wilkinson, Robert Willey, Edward Williams, Thomas Taliesin Wilman, Alfred Wilson, Florence Grey, *Baines Scholar* Wilson, Frances Annie Wilson, Mary Gertrude Wilson, Mary Gertrude Wilson, Selina Ethel Wood, Edith Nora Woodcock, Eva Wright, Harold William Wright, Henry Newcome Wright, John

Yeoman, Harold

Zortman, Israel Hyman, Akroyd Scholar

School of Medicine

Alderson, William Seaforth Almond, George Henry Anderson, Alexander Archer, Henry Arnott, William Ashmore, Arthur

Bailey, Frederick Baker, Arthur William Barber, John Watson Barrett, Walter Ernest Battle, Harold Edward Beeley, Arthur, M.Sc. Bibby, James Paley Frederick Percy Birtwhistle, Hewetson Boggs, Charles William Sproule Bolton, James Ebor, L.S.A. Bonny, Arthur Edward Booth,¹ Sydney Herbert Boyle,¹ Alan Bradshaw, Lionel Wilson Braim, Thomas Paul Braithwaite, Edward Wrigley Brearley, Joseph Brierley, Wilfred Edward

Burnell-Jones, Harold Stanley

Clay, Cecil Ernest Close, John Basil Coates, William Robert Addison Cooper, Wilbye Crawford, James Stirling Cundall, Edward

Dakin, Henry Drysdale, B.Sc. Dalby, Herbert Ernest, L.S.A. Deane, Arthur Maslen Dibb, William Land Dixon, John Dixon, Robert Garside Dobson, Donald Frederick Dobson, Francis George Dobson, Maurice Rowland Dolan, Edmund Michael

Edmondson,² Watts Elliott, William Harold Arthur Ellis, Edward Douglas

Fairclough, James Butler Farries, John Stothart

Medical Scholar.

Infirmary Scholar.

Fearnley, Harold Finch, George Flint, Ethelbert Rest Fothergill, Arthur Frankling, Herbert, M.R.C.S., L.R.C.P.

Gadgil, Shridhar Bheekajee, L.R.C.P., L.R.C.S. Gamble, Albert Gaunt Gaunt, Ernest Gloyne, Stephen Roodhouse Gough,¹ ² Alfred Greaves, Fredk. William Marshall Greenwood, George Frederick Grundy, George Christopher

Hackworth, Vivian Cuthbert Hamilton,¹ William Douglas Handcock, Robert Oliver Hardy, Digby Wrangham Hardy, George Wilfred Harling, Harry Simpson Harrison, Percy Heppenstall, Clement Hoyle Hessel, William Thomas Hill, Philip Keith Hill, William Bertram Hinings, John William, L.R.C.P., L.R.C.S. Hirst, Benjamin Hattersley Holroyde, Douglas Holroyde, Gerald Hood, Eric Crichton Hummel, John James, B.Sc. Hustler, George Herbert

Ibbotson, Henry Roscoe

Kemp, Edwin Wrigley, L. R.C.P., L. R.C.S. Kendall, Frank Edward Kenny, Maurice Aloysius

Landman, Abraham Judah Landmann, Alfred Emil Leach, Harold Legge, James Huntly, B.Sc. Lister, Thomas Edmund Lister, Walter Longley, Walter Lord, William Ernest

Mackenzie, Alexander, M.B., B.C. Macvean, Herbert James McKane, Rudolph John Watford McKane, William Oliphant Middlemiss, ¹² James Ernest Miller, Archibald William Cameron

North, Donald North, Herbert

O'Connell, Arthur Patrick O'Donoghue, James B.

Parkinson, Alfred Howard, B.Sc. Parkinson, Arthur Stanley, M.B., Ch.B. Pegler,² William Vernon Percival, Thomas Godfrey Perlman, Archie Pickles, Philip Dobson Pickles, William Norman Piercy, Bernard Charles Pinder, William Padgett Potts, Matthew Bertram Padalifa, Adalabar Hanald M.B.

Radcliffe, Adolphus Harold, M.B., Ch.B. Radcliffe, Roland Brooke Rawlings, ^{1 2} Harry Richardson Reed, Ernest William Richardson, Alfred Richardson, Gerald Sidney

Scarborough, Oswald Lowndes Scargill, Harold Brooke Schilling, Joseph Ludwig Scott, William Graham Sedgwick, George Henry Sergeant, John Owen Shacksnovis, Reuben Sharpe, George Metcalfe Simpson, Julius Benedict Smailes, Robert, L.R.C.P., M.R.C.S. Smailes,² William Herbert

1 Medical Scholar.

² Infirmary Scholar.

School of Medicine

Smith, Charles Nixon Stanger, Harry Sutcliffe, Edward Sutcliffe, James Herbert Swanson, George Isles Swinburne, Arthur Westray Sykes, Joseph Harvey Kemp

Taylor, Daniel Macpherson, M.B., C.M. Taylor, Richard Waring Thomas, Gordon Wilson Tinsley, Seth Todd, Alfred Bertram Slingsby Tomlin, Herbert Turner, Arthur Henry Waddington, Eric Frushard Wales, Harry Wales, Herbert Walker, Albert Latimer Walker, George Lister Walker, George Lister Walker, Melville George Leslie Whalley, Frederick White, William John Parsons Whitehead, Thomas Williamson, William Sugden Williamson, William Sugden Williamson, Joseph Burnett Wilson, John Black Ferguson Wolfenden, Albert Blagbrough Wood, René William Louis

Young, Frederick William Baker, L.S.A.

Veale, Rawdon Augustus

Number of Students

The following table shows the number of Students of different classes who attended the Yorkshire College during the last two Sessions :---

Registered Students :		1002-3.	1003-4.
In Department of Medicine		 181	157
In Department of Science, Tech	nology, Arts		5.
and Law		 626	685
Occasional Students in do. do.		 13	19
Evening Students in do. do.		 371	417
		1191	1278
			-

UNIVERSITY SOCIETIES, 1904-5

The sanction of the Senate is required to the Rules and Regulations of any new Society which it is proposed to establish.

The University Union. The University Union comprises the Cricket, Football (Rugby and Association), and Tennis Clubs, and undertakes the management of the Gymnasium, the Fives Court, 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, and other Entertainments.

The governing body of the Union consist of a President, two Vice-Presidents, two Representatives of the Staff, the Hon. Treasurer, and a Committee of twenty-five students elected annually.

The subscription to the Union is 105.6d. annually, and is payable to the Registrar 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, membership of the Debating Society, and the right of using the Common Rooms and the Gymnasium.

Printed copies of the Rules of the Union may be obtained from the Hon. Secretaries of the Union, and from the Hall Porter.

Further information may be obtained from the Hon. Secretaries of the Union.

President—The Most Hon. the Marquis of Ripon, Chancellor. Vice-Presidents—A. G. Lupton, Esq., Pro-Chancellor; N. Bodington, M.A., Litt. D., Vice-Chancellor; De Burgh Birch, M.D., Dean of the Faculty of Medicine. Chairman of Committee—A. C. Ward. Hon. Secretary— W. O. Ross. Hon. Treasurer—Professor Connal. Staff Representative—Professor Smithells. Committee—M. Booth, J. N. Cameron, W. N. Goodman, K. Lightfoot, H. E. Little, J. A. S. Morrison, H. H. Nixon, P. J. Rawlins, W. O. Ross, G. E. Steward, J. E. Viccars, C. M. Whitehead, Miss Edith Barton, B. Sc., Miss E. Blackburn, Miss H. Rogers, and representatives of the School of Medicine. Students' Representative Council.¹ 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.

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 E. Barton, B.Sc. Secretary-Miss E. Blackburn. Committee-Miss L. Allen, Miss F. Lishman, Miss A. W. Martin, Miss E. M. Neville, Miss N. N. Naylor, Miss H. Rogers.

Debating Society. Meetings on alternate Mondays in the first and second terms.

President—Professor Clapham. Vice-President—A. C. Ward. Secretary—S. Landman, B.A. Committee—M. Booth, F. Horn, F. Mellor.

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.

Annual Subscription,

President—Professor Grant. *Vice-Presidents*—Miss D. Gunnell and H. Landon. *Secretaries*—Miss Carrie Holmes and W. H. Warburton. *Committee*—Professor Connal, Miss H. Conyers, Miss M. Gascoigne, Miss E. Foggitt, J. A. S. Morrison.

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 a list of addresses to be put in a handbook containing also items of interest from former students, to be sent to all members every two or three years: (3) to provide a loan fund for the use of students whom pecuniary assistance would enable to stay a third year at the University, and others whom the committee consider eligible. Annual subscription 1s.; life members, on payment of Ios.

President—Mrs. H. Price. Treasurer and Secretary—Miss E. L. Melville, M.A. Secretary—Miss M. Briggs, B.A. Committee—Miss E. Aveyard, B.Sc., Miss A. Crawshaw, B.Sc., Miss M. Lister, B.A., Miss F. Nussey, Miss A. Oddy, B.Sc., Miss M. Skinner, B.A.

¹ The Officers for 1904-5 are not elected in time for insertion in the Calendar.

The Education Society. This Society meets on Fridays once a month during the first and second terms for the discussion of educational subjects. The syllabus for 1904-5 includes addresses from Mr. H. Holman, H.M.I., Mr. Rowntree, of Bootham School, York, Mrs. Miall and Professor Kendall.

President—Professor Welton. Vice-President—Miss E. L. Melville, M.A. Secretary—F. Horn. Committee—Miss L. Allen, G. J. Denbigh, Miss F. Gale, P. J. Rawlins, G. Thorp.

The Leeds Day Training College Club. The objects of the Club are (1) 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 found 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, IS.

President—Professor Welton. Vice-Presidents—Professors Connal, Kendall, Rogers, Stroud; Messrs. A. R. Dwerryhouse, M.Sc., C. M. Gillespie, M.A., W. H. Lindsay, B.A., S. A. Shorter, B.Sc. Secretary—W. P. Welpton, B.Sc. Trassurer—S. A. Shorter, B.Sc. Committee—H. Agar, M.Sc., E. N. Balmforth, B.Sc., W. H. Davis, B.A., E. J. Edwards, B.Sc., J. W. Embleton, B.Sc., L. W. K. Fearnley, B.Sc., J. T. Hargreaves, F. R. Horsfall, M.A., H. E. Rayner, B.Sc., Felix Walbank, A. J. Walker, B.Sc.

The Scientific Society. The object of this Society is to develop and maintain interest in the progress of Science by affording opportunities of intercourse between students of the University. The meetings are held during the first and second terms. Members take tea together at 5 p.m., after which papers are read and discussions take place. Any present or past student of the University is elegible for membership. The subscription for Ordinary members is 4s.; for Life members, \pounds_{I} Is. During the third term excursions are made to neighbouring chemical works, dvehouses, &c.

President—Professor Procter. Vice-Presidents—A. O. Allen, B.A., B.Sc., H. M. Dawson, B.Sc., Ph.D. Secretary—H. P. Armes. Committee—J. E. Appleyard, Miss E. Barton, B.Sc., H. F. Hodsman, I. H. Zortman, B.Sc.

The Biological Society. Members of the University Staff, who are interested in any branch of Natural History, and students past and present, who have completed a course of Elementary Biology, are invited to join. The meetings are conversational, and no lectures or papers are given. Members are invited to bring interesting natural objects for exhibition. Subscription, Is. a year. Meetings are usually held at 5 p.m. on the first Friday in the month, except when this falls in a University vacation. The officers of the Society are a President, and Secretary, the latter of whom also acts as Treasurer.

President—Professor Miall. Seeretary and Treasurer—T. H. Taylor, M.A.

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. It consists of Ordinary, Associate, and Honorary Members and Associates. Any past or present day or evening student of the University is eligible for ordinary membership. Any person not eligible for ordinary membership, but who shall have been actively engaged in engineering for a period of not less than five years, or who shall have passed through an engineering training at any University, or University College, is eligible as an Associate Member. Any person may be elected an Honorary Member. Any person is eligible as an Associate who is recommended by the Committee as a fit and proper person. Members are elected by ballot at the ordinary meetings. The ordinary meetings are held fortnightly at the University, the chair being taken at 7.30 p.m. Each Ordinary and Associate member pays an annual subscription of 5s. (except present day and evening students, who pay 2s. 6d., and receive no notices of meetings), and each Associate not less than IOS. per annum.

President—Professor Goodman. Hon. Secretary—Kenneth Lightfoot. Hon. Treasurer—Wilson Gardner. Committee—H. Ade Clark, S. Moorhouse, W. N. Goodman, F. T. Tomlinson, A. C. Ward, R. L. Alkin, J. Hinings, W. B. Odgers, J. E. Lister, H. McLaren, F. Hattersley Pickard, P. Wilkinson.

The Textile Society. The objects for which the Society is established are :

(a) To provide meetings for the discussion of all textile subjects; (b) to stimulate interest among students, manufacturers, and others in all questions relating to textile industries, whether of a scientific, mechanical, or an artistic character; (c) to provide textile journals for the use of members. The subscription of Members is 5s., Day students 3s. 6d., Evening students Is. a year. Honorary and Life members one payment of λ_3 3s. Honorary members must be gentlemen who have distinguished themselves in the advancement of textile industries. Former and present students of the University, and gentlemen connected with textile trades generally, may be elected Life members.

Vice-President:—Professor Beaumont, C. E. Bousfield, Edwin Fearnside, W. Fox, Thomas Hudson, J. Lowden, Ernest Nussey, P. Slater, W. Spurr, G. E. Stead, F. Harper, J. W. Gaunt, D. D. Marshall. Secretaries—B. Shaw, T. Hollis. Treasurer—J. W. Nixon. Secretary for students' meetings—Frank Beaumont.

The Agricultural Society. This Society has for its main object the promotion of intercourse between senior and junior students of the Agricultural Department, and affords opportunities of meeting for the discussion of agricultural topics. Papers are read or debates take place fortnightly on Tuesday evenings during the Winter Session. Students of the University or any persons interested in the progress of agricultural science are eligible for membership.

The minimum annual subscription is Is.

President—Professor Seton. Vice-Presidents—J. G. Stewart, M.A., B.Sc., R. C. Gaut, B.Sc. Hon, Secretary—R. H. Armstrong, Hon, Treasurer—C. Crowther, M.A., Ph.D. Committee—J. Elgey, C. T. Hutchinson, J. T. Hutchinson, F. M. Midwinter, R. E. Severs, R. G. White, B.Sc.

The Medical Society is managed by a Sub-Committee of the Students' Representative Council. Meetings are held on alternate Tuesdays 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 (Volunteers), Leeds Company. Medical Students are invited to join this Corps, as recruits are required annually to keep up the establishment. The Volunteer year commences on 1st November, when the enrolment of members commences. The active part of the Drill season is from the beginning of May to the end of July. The Company goes into Camp, usually for the first week in August, with the Regular Forces at Aldershot, Netley Military Hospital, or York. For further information apply to the Instructor at Headquarters.

Commanding Officer-De Burgh Birch, M.D., Major R.A. M.C. (Vols.)

Christian Union (Men's Branch). Affiliated to the B.C.U.U. Staff-President—Professor Phillips. Vice-Presidents—F. W. Moorman, W. Lowson. Student President—S. T. Jarrold, Hon. Secretary— W. O. Ross. Hon. Treasurer—A. Smailes. Committee—J. E. Appleyard, M. Booth, A. Jordan, J. A. S. Morrison.

Christian Union (Women's Branch). Affiliated to the B.C.U.U. President—Miss E. Foggitt. Hon. Treasurer—Miss J. Jowett. Hon. Secretary—Miss H. Conyers. Committee—Miss E. B. Barton, B.Sc., Miss D. Hilary, Miss S. Frank, Miss F. Wilson.

The University Lads' and Young Men's Club. The object of the club is to provide evening recreation for working lads who have left school. The club-rooms in 14 All Saints' Street, 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 will be glad to furnish a copy of the annual report, and to supply additional information.

Hon. Secretary and Treasurer—Professor Cohen. Committee—The Vice-Chancellor, Professors Clapham, Connal, Goodman, Grant, Hartley and Smithells; F. H. Brown, E. Kitson Clark, Dr. Hellier, Dr. Moorman, T. H. Taylor, J. J. Wood.

The University Girls' Club. The object of the club is to provide evening recreation for working girls who have left school. The clubrooms in 21 Aysgarth View, York Road, are open four nights a week. Books, magazines, and games are provided, and sewing, brushwork, singing, and drill taught. The workers are present, and former students with a few outside friends.

Fresident—Dr. Lucy Buckley. Secretary—Miss H. Rogers. Treasurer—Miss E. B. Barton, B.Sc. Committee—Miss J. Jowett, Miss H. A. Scruton, Miss J. Walker.

APPENDIX

EXAMINATION PAPERS

FOR

SCHOLARSHIPS, &c., 1904

EXAMINATION PAPERS FOR SCHOLARSHIPS, MAY, 1004

I. ENTRANCE SCHOLARSHIPS

ENGLISH DICTATION AND COMPOSITION. (One-and-a-half hours allowed.)

1.—Dictation.

2.—Write a short Essay on one of the following themes : (a) Heroism.

(b) The Russo-Japanese War.

(c) Shakespeare's heroines.

(d) The month of May in the country.

ENGLISH LANGUAGE.

(One-and-a-half hours allowed.)

[Attempt Question 1, and not more than *three* of the remaining questions.]

1.—Write a short Essay on one of the following subjects :

(a) Rudyard Kipling.

(b) "The spacious times of great Elizabeth."

(c) Dreams.

- 2.—What light is thrown upon the history of English civilisation by the introduction into the language of the following words :—minster, beef, jury, sonnet.
- 3.—Form, by means of prefixes and suffixes, as many words as possible from the roots of the following verbs, indicating in each case the force of the prefix or suffix : *bear*, *take*, *form*, *bind*.
- 4.—Give a short account of the plural formation of native nouns.
- 5.—Form sentences illustrating the following terms of syntax :—Sequence of Tenses, Double Accusative, Historical Present.

ENGLISH HISTORY.

(Three hours allowed.)

- [Not more than *eight* questions should be attempted, of which the first should be one; a third of the marks is assigned to it.]
 - I.—Write an Essay on one of the following subjects :—
 - (a) War in the Middle Ages.
 - (b) The Elizabethan Age.
 - (c) The British Empire.
 - 2.—Trace the chief steps in the conversion of the English people to Christianity.
 - 3.—Illustrate, from the reigns of the Norman Kings, the dangers arising from the feudal Nobles.
 - 4.—Give a summary of the relations between England and Scotland as far as the Battle of Bannockburn.
 - 5.—Give the causes and describe the course of Wat Tyler's Rebellion.
 - 6.—Sketch the career of Warwick, the King Maker.
 - 7.—Give the chief events in the reign of Charles I. as far as 1642, so as to bring out the causes of the Puritan Rebellion.
 - 8.—What were the chief differences in policy between the Whigs and Tories during the first half of the Eighteenth Century ?
 - 9.—What were the causes of the war of American Independence? Note the opinions of King George III., Burke, and Chatham with regard to it.
- 10.—Show the importance of the following events in the struggle with Napoleon :—The Battle of the Nile, the Peace of Amiens, the Berlin Decrees, the Battle of Quatre Bras.
- II.—Sketch, in outline, *either* the course of the Crimean War, *or* the Indian Mutiny.

LATIN.

(Three hours allowed.)

I.-Translate into Latin :--

- On receiving the news, Alexander halted and gave his men repose for four days, so that they should go into action fresh and vigorous. After this delay he moved forward by night, with the intention of reaching the enemy and attacking them at daybreak.
- (2) We know that if you had not come to our assistance we should all have perished.
- (3) While he was deliberating as to the proper measures to be taken, the soldiers, fearing to be deprived of the booty which they had expected, rushed suddenly in without orders, and began to kill and plunder without distinction. Above thirty thousand of the innocent inhabitants perished on that fatal day and ten thousand were carried away as slaves.
- II.—(1) Decline in the singular, utra manus, and in the plural, illud grave vulnus. Give the abl. singular of domus, paterfamilias, eques, animal, and gen. plural of pes, senex, vetus, arx.
 - (2) Give the Latin for on the top of the tree, my eldest brother, beneath this stone, round the city, without a sword.

Give the comparative of *beneficus*, *male*; the superlative of *celeriter*, *interior*.

- (3) Give :---
 - (a) The second singular of :--present subjunctive passive of *fero*, future indicative of *eo*, perfect indicative of *possum*.
 - (b) Third plural of :—perfect subjunctive of nolo, imperfect subjunctive passive of fero, imperfect and future indicative of possum.
 - (c) Present infinitive of *fio*; future infinitive passive of *vinco*.

- (4) Give the Latin for :---
 - (a) A certain man had two sons.
 - (b) All were killed and no one escaped.
 - (c) He died on March 14th.
 - (d) I don't know who said that.
 - (e) They seized him before he could get away.
- (5) Give principal parts of morior, cano, mordeo, eligo, comperio.
- III.-Translate :---
 - Tum Marius, uti suis receptui locus esset, collis duos propinguos inter se occupat, quorum in uno, castris parum amplo, fons aquae magnus erat, alter usui opportunus, quia magna parte editus et praeceps pauca munimenta quaerebat. Ceterum apud aquam Sullam cum equitibus noctem agitare iubet; ipse paullatim dispersos milites, neque minus hostibus conturbatis, in unum contrahit, dein cunctos pleno gradu in collem subducit. Ita reges loci difficultate coacti proelio deterrentur, neque tamen suos longius abire sinunt, sed, utroque colle multitudine circumdato, effusi consedere. Dein crebris ignibus factis, plerumque noctis barbari more suo laetari, exsultare, strepere vocibus, et ipsi duces feroces, quia non fugerant, pro victoribus agere. Sed ea cuncta Romanis ex tenebris et editioribus locis facilia visu magnoque hortamento erant.

FRENCH.

- I.--Translate into English:--
 - (a) Du temps de Madame de Sévigné, à côté d'elle et dans son intimité la plus chère, il y eut une femme dont l'histoire se trouve presque confondue avec celle de son aimable amie. C'est la même que Boileau désignait pour la femme de France qui avait le plus d'esprit et qui écrivait le mieux. Cette personne n'écrivit

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pourtant qu' assez peu, a son loisir, par amusement et avec une sorte de negligence qui n'avait rien du metier; elle haïssait surtout d'ecrire des lettres, de sorte qu'on n'en a d'elle qu'un très petit nombre et de courtes; c'est dans celles de Madame de Sévigne plutôt que dans les siennes qu' on la peut connaître. Mais elle eut en son temps un role à part, serieux et delicat, solide et charmant, un role en effet considerable, et dans son genre au niveau des premiers. A un fonds de tendresse d'ame et d'imagination romanesque, elle joignait une exactitude naturelle, et comme le disait sa spirituelle amie, une divine raison qui ne lui fit jamais faute; elle l'eut dans ses ecrits comme dans sa vie, et c'est un des modèles à etudier dans ce siecle ou ils presentent tous un si juste melange.

Sainte Beuve.

 (b) L'amour, pour l'ordinaire, est peu fait a ces lois, Et l'on voit les amants vanter toujours leur choix;

Jamais leur passion n'y voit rien de blâmable, Et dans l'objet aimé tout leur devient aimable : Ils comptent leurs défauts pour des perfections, Et savent y donner de favorables noms.

La pâle est aux jasmins en blancheur comparable;

La noire à faire peur une brune adorable ; La maigre a de la taille et de la liberte ;

La grasse est dans son port pleine de majesté ; La malpropre sur soi, de peu d'attraits chargée, Est mise sons le nom de beauté négligée ;

La geante paraît une deesse aux yeux ;

La naine, un abrégé des merveilles des cieux....

- II.—Translate into French :—
 - (a) Fifteen hundred soldiers were assembled under the Earl. A thousand more had been posted as a body of reserve, at a neighbouring convent,

Entrance Scholarships

under the command of Stanhope. After a winding march along the foot of the hills, Peterborough and his little army reached the walls of Monjuich. There they halted till daybreak. As soon as they were descried, the enemy advanced into the outer ditch to meet them. This was the event on which Peterborough had reckoned, and for which his men were prepared. The English received the fire, rushed forward, leaped into the ditch, put the Spaniards to flight, and entered the works together with the fugitives.

Macaulay.

(b) A friend of mine is to come at seven.

Have tea prepared for him.

See that no one comes to disturb us.

- He will stay about an hour. When he is gone, you will lay the supper on the table for me.
- After that, you are free to go to bed. I shall stay up late as I have many papers to go through.
- III.—Write an essay in French of about 200 words on one of the following subjects :—
 - (a) Les plaisirs du printemps;
 - (b) Un auteur français;
 - (c) Le Canada.

IV.—Grammar :—

- (a) Write down the second person singular of the present subjunctive of mourir, venir, pouvoir, mouvoir, faire, écrire; and the 3rd person plural of the preterite indicative of acquérir, courir, savoir, asseoir, boire, lire, rire.
- (b) What is the rule for the formation of adverbs corresponding to adjectives in *ant* or *ent*? What are the exceptions?
- (c) Show by French sentences how the following prepositions govern the verb :--en, par, sans, après, à.

Translate into English the sentences given.

GERMAN.

(Three hours allowed.)

I.—Translate into English :—

(a) Moses Mendelssohn war jüdischer Religion und Handlungsdiener bei einem Kaufmann. Er war ein sehr frommer und weiser Mann und wurde daher von den angesehensten und gelehrtesten Mannern hochgeachtet und geliebt. *Eines Tages* kam ein Freund zu ihm, als er eben an einer schweren Rechnung schwitzte, und sagte : " Es ist doch schade, guter Moses, und ist unverantwortlich, dass ein so verständiger Kopf, wie ihr seid, einem Manne ums Brot dienen muss, der euch das Wasser nicht bieten kann. Seid ihr nicht am kleinen Finger gescheiter, als er am ganzen Körper, so gross er ist ?" Einem andern hätte das im Kopf gewurmt, er hatte Feder und Tintenfass mit ein paar Flüchen hinter den Ofen geworfen und seinem Herrn auf der Stelle gekündigt. Aber der verstandige Mendelssohn liess das Tintenfass stehen, steckte die Feder hinter das Ohr, sah seinen Freund ruhig an und sprach zu ihm also : " Das ist recht gut, wie es ist, und von der Vorsehung weise ausgedacht. Denn so kann mein Herr von meinen Diensten viel Nutzen ziehen, und ich habe zu leben. Wäre ich der Herr und er mein Schreiber, ihn könnte ich nicht brauchen." I. P. Hebel.

Comment on the use of the subjunctive mood in the last sentence, and re-write the last sentence but one, substituting the perfect for the present tense. Explain why *ein paar* is uninflected after *mit*, and why the genitive case is used in *eines Tages*. Why does *hinter* govern the accusative case in *hinter das Ohr*? Make up and translate a German sentence in which *hinter* requires the dative case.

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(b) Muttersprache, Mutterlaut, Wie so wonnesam, so traut ! Erstes Wort, das mir erschallet, Süsses erstes Liebeswort, Erster Ton, den ich gelallet, Klingest ewig in mir fort.

> Ach, wie trüb ist meinem Sinn, Wenn ich in der Fremde bin ! Wenn ich fremde Zungen üben, Fremde Wörter brauchen muss, Die ich nimmermehr kann lieben, Die nicht klingen, wie ein Gruss.

Überall weht Gottes Hauch, Heilig ist wohl mancher Brauch, Aber soll ich beten, danken, Geb' ich meine Liebe kund, Meine seligsten Gedanken Sprech' ich wie der Mutter Mund.

II.--Translate into German :--

- A poor man lived in a small cottage. He had only two chairs and a table, and a little straw which served him as a bed. One evening when he was very tired he lay down earlier than usual and soon fell asleep. About midnight a thief broke into the cottage, and, as he could find no light he had to find his way along the wall with his² hands. Suddenly he knocked down one of the chairs in the little room beside the poor man's bed, and the noise wakened the latter. When he noticed the thief, and knew that he had come to steal something, he said : "You are a great fool if you think you can find something in my cottage at night. 1 cannot see anything in this room even in davtime."
- III.—Write between ten and fifteen lines in *German* on *one* of the following subjects :—
 - (a) Beschreiben Sie ein Ihnen bekanntes Gemalde.

¹ Omit the article. ² Use the def. article.

M. von Schenkendorf.
- (b) Der Charakter der Königin Elisabeth von England.
- (c) Volksbibliotheken.

IV.—Questions on Grammar :—

- (a) Give the gender, genitive singular and nominative plural of Amt, Farbe, Gemālde, Hase, Irrtum, Universität.
- (b) Give the third person singular indicative, present and pluperfect of auslassen, ankommen, verkennen, wegfliegen, hauen, vermogen, sitzen, setzen; and explain the relation between sitzen and setzen.
- (c) Classify the following conjunctions as coordinating or subordinating, and illustrate the use of one co-ordinating and one subordinating conjunction by means of German sentences: *aber, allein, bevor, damit, denn, obgleich, während, weil.*

MATHEMATICS I.

(For Infirmary, Baines, Emsley, and Wheatley Scholarships, and Preliminary Paper for Leeds City Council, Entrance Akroyd and Brown Scholarships, and Leeds City Council Entrance Free Studentships.)

(One-and-three-quarter hours allowed.)

[Candidates for Entrance Akroyd Scholarships need not attempt questions 5 and 10.]

- **1.**—Prove that the sum of the internal angles of a triangle is equal to two right angles.
 - In how many ways may a plane be divided into equal regular polygons, all of the same kind.
- 2.—Prove that parallelograms on the same base and between the same parallels are equal in area. Shew how to bisect the area of a triangle by drawing a line through a given point in one of its sides.
- 3.—If two circles touch one another externally prove that the straight line which joins their centres will pass through the point of contact.

- Shew how to describe a circle which shall pass through a given point and shall touch a given circle in a given point.
- 4.—If a quadrilateral be circumscribed about a circle, prove that the sum of one pair of opposite sides is equal to the sum of the opposite pair.
 - If the sum of one pair of opposite sides be equal to the sum of the other two sides, will it follow that a circle may be drawn to touch the four sides ?
- 5.—If the vertical angle of a triangle be bisected by a straight line which cuts the base, prove that the segments of the base will have to one another the same ratio as the remaining sides of the triangle.
 - A B C D is a quadrilateral; shew that if the bisectors of the angles, A and C, meet on B D, then the bisectors of the angles B and D will meet on A C.

6.—Factorise the following expressions :—

(i.) $x^6 - I$.

(ii) $4x^4 + 7x^2 + 4$.

(iii.) $100a^2 - 30ab - 4b^2$.

7.—Reduce $\frac{x^3 + x^2 - 5x + 3}{x^4 - 2x^3 - x^2 + 4x - 2}$ to its lowest terms.

8.—Solve the equation :—

 $\frac{4}{x-3} - \frac{7}{2x-7} - \frac{1}{2x+7} = 0.$

- How much tea, worth 2s. per 1b., must be mixed with 100 lbs., worth 3s. 6d. per 1b., so that the mixture may be worth 2s. 6d. per 1b.?
- 9.—Shew how to solve the equation :—

 $ax^2 + 2bx + c = o.$

and find the product of the two roots.

- IO.—Find the sum to *n* terms of the series $a, a + b, a + 2b \dots$
 - If a, b, c, d, are in G.P. prove that $(b-c)^2 = ac+bd-2ad$.

MATHEMATICS II.

(For Leeds City Council and Entrance Akroyd and Brown Scholarships, and Leeds City Council Entrance Free Studentships.)

(Three hours allowed.)

(Tables of Logarithms, etc., will be provided.)

I.—Find the condition that the roots of the quadratic equation—

 $ax^2 + bx + c = o$

should be real.

- Trace the graph of $y = x^2 4x + 3$, and find between what values of *m* the line y = mx cuts the curve.
- 2.—State and prove the Binomial Theorem for a position integral exponent.

Calculate the fifth root of $\frac{7}{8}$ to four places of decimals.

3.-Define Radian, Tangent, Projection.

Prove that $a \cos x + b \sin x$ varies in magnitude between the limits $\sqrt{a^2 + b^2}$ and $-\sqrt{a^2 + b^2}$, as x increases form o° to 360°.

4.—Determine the value of cos 15°.

If $\cos v = \frac{\cos u - e}{1 - e \cos u}$

prove that $\tan \frac{1}{2} v = \sqrt{\frac{1+e}{1-e}} \tan \frac{1}{2} u$. 5.—Establish the identities :—

(i.) $\cos A - \cos B = 2 \sin \frac{A+B}{2} \sin \frac{B-A}{2}$

(ii.) cos 4A == cos⁴ A + sin⁴ A - 6 sin² A cos² A.
6.—A and B are two stations due W. and due S. of a point O, at equal distances of one mile from O. A point, P, lies N.N.E. of A and N.N.W. of B; find the distance and the bearing of P from O.

7.—Solve the triangle in which : a = 231 ft, $B = 40^{\circ}$, $C = 50^{\circ}$.

- 8.—Write down a general formula for the amount on a given principal after n years at a given rate per cent. compound interest.
 - Find the number of years in which £57 will amount to £103 at 4 per cent., compound interest.
- 9.—Trace the lines 3x + y = 5, 2x 3y = 4, and find their intersection.

Find the equation to the lines drawn through their intersection at right angles to each.

IO.—Find the equation of the circle passing through the three points (2, I); (—I, 0); (0, 3); and determine its radius.

PHYSICS.

(Three hours allowed.)

- I.—A particle slides down a straight smooth tube, 3 ft. long, inclined at 45° to the horizontal, and then falls freely and reaches the ground in I sec. Calculate the height of the top of the tube from the ground, and the horizontal range of the particle reckoned from the projection of the top of the tube, $[g = 32 \text{ ft.} / \text{sec}^2]$.
- 2.—A perfectly inelastic particle slides from rest down a smooth tube, 4 ft. long, which is bent at the middle at an angle of 150°, so that the upper half is inclined at 30° to the vertical and the lower half at 30° to the horizontal. Find the velocity of the particle at the bottom of the tube.
- 3.—Find the acceleration of a particle which is moving with uniform velocity in a circle.
- 4.—A weight of 7 lbs., attached to a cord 2 ft. long, is being whirled uniformly in a vertical circle four times per second. Calculate the tension in the cord at the highest and lowest points.
- 5.—Find the C.G. of a wire which is bent into the form of the periphery of half a regular hexagon, and show that if the wire is suspended from one of the angles then one of the sides will always be horizontal.

- 6.—A sphere weighing 10 tbs. and radius 5 in. is supported on a smooth plane inclined at 30° to the horizontal by a string of length 8 in., whose ends are fastened to a hook on the sphere and a fixed point in the plane. Find the tension in the string.
- 7.—When 63 parts of sulphuric acid (sp. gr. = 1.82) are mixed with 24 parts of water the mixture occupies 86 parts. Find the sp. gr. of the mixture.
- 8.—A hollow cubical vessel, whose internal volume is o.5 cubic ft., has the lower half filled with water, and the upper half filled with a liquid of specific gravity o.8. Find the thrust produced by each liquid on a vertical side, and what the thrust would become supposing the liquids were mixed together so as to be homogeneous.
- 9.—A common hydrometer floats in water with 4 in. of the stem projecting from the surface; in alcohol of specific gravity 0.9, I in. of the stem projects. How much of the stem will project in a liquid of specific gravity, 0.95?
- IO.—Describe the Sprengel or some other form of mercury pump, and explain its action.

CHEMISTRY.

(Three hours allowed.)

- I.—Use the following analyses to illustrate the law of chemical combination in reciprocal proportions :
 Potassium, 52.5 | Potassium, 23.6 | Iodine 78.2
 Chlorine 47.5 | Iodine 76.4 | Chlorine 21.8
 (The atomic weights of the elements must not be regarded as known beforehand.)
- 2.—Sketch the apparatus you would use for preparing nitric acid, and state what you know of the action of nitric acid on metals and non-metals. What is the origin of nitrates in the soil and what becomes of them ?

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- 3.—An unsaturated solution of two potassium salts is taken, one salt, A, being twice as soluble as the other, B; the solution is allowed to evaporate, and the crystals removed at intervals. Explain clearly the course of events with regard to the two salts up to the point where only a small amount of solution is left.
- 4.—Describe the experiments you would perform to shew the points of resemblance and of difference between iodine and chlorine.
- 5.—Describe the procedure by which you would shew that when iron-pyrites is heated in air, sulphur dioxide and ferric oxide are formed.
- 6.—Starting with soda crystals, how could you prepare specimens of (a) sodium hydrate (b) sodium hydrogen sulphate (c) sodium silicate ?

BOTANY.

(Three hours allowed.)

- **1.**—What is a spore, and how can it be distinguished from a seed ? Describe the structures concerned in the production of spores in any plant you have examined.
- 2.—Describe some experiments to prove that plants absorb and give off water. What purpose is served by these operations ?
- 3.—How could you prove that pollen is necessary for the production of seed ?
- 4.—Describe the buds, leaves, and flowers of any common tree.
- 5.—Describe what can be seen with a lens in the specimens supplied.
- 6.—Describe the plant supplied.

CLOTHWORKERS' TEXTILE DAY SCHOLARSHIPS

MATHEMATICS.

(One and three-quarter hours allowed.)

Find the cost of papering the walls of a room 13 ft.
5 in. long, 14 ft. 3 in. wide, and 10 ft. 7 in. high, with paper at 10d. a yard and 2 ft. 6 in. wide.

2.—Divide 9803.1 by .0797.

Find the value of £384 5s. in francs, supposing the rate of exchange to be $\pounds I = 26.04$ francs.

3.—A broker sells an article for £386 5s. After deducting 16 guineas for expenses and also his own charges, he hands over £343 14s. What rate per cent. did he charge for commission?

4.—Find the Highest Common Factor of :—

 $x^3 - 4x^2 + 2x + 3$ and $2x^4 - 9x^3 + 12x^2 - 7$. 5.—Solve the equations :—

- (i.) $\frac{x-4}{3} + (x-1)(x-2) = x^2 2x 4.$ (ii.) $\begin{cases} \frac{1}{3}x + 3y = 7.\\ \frac{1}{5}(4x-2) = 3y - 4. \end{cases}$
- 6.—A sum of money was divided between A and B, so that the share of A was to that of B as 5 to 3; also the share of A exceeded five-ninths of the whole sum by £50. What was the share of each?

7.—Find the square root of

 $9x^{\bar{4}} - 6x^2 + 7x^2 - 2x + 1 = 0.$

TEXTILE INDUSTRIES (WEAVING AND DESIGNING). (Three hours allowed.)

(Intel nours anowen.)

Not more than ten questions to be attempted.

- Describe and compare the properties of wool, cotton, and silk, giving sketches to show the physical structure of the fibres.
- 2.—Contrast wools of British and Colonial growth, stating the distinguishing features and probable causes of the variation in character.

- 3.—What are the essential features of good washing? Describe some of the devices for mechanically treating the wool whilst in the scouring solution to facilitate the cleansing operation.
- 4.—Name and describe the operations usually required to convert raw wool into tops for (a) English lustre wool; (b) Australian merino wool.
- 5.—By means of sketches show the relationship between the interlacing of the yarns in a cloth and the point paper plan. Further, give sketches illustrating simple structures of gauze and plush fabrics.
- 6.—On seven threads produce three twills, and by examples show how new designs may be originated from these weaves, (a) by combination; (b) by rearrangement of the threads or picks.
- 7.—What is meant by drafting? Make a stripe design on 72 threads, using four weaves derived from the 6-shaft twill, and supply draft and pegging plan.
- 8.—Make block check designs on 48 threads and picks with Mayo weave, as follows :—(a) by simply reversing the twill of the weave ; (b) by changing the weave back to face.
- 9.—Describe each of the motions required in weaving on the treadle handloom in the order in which they are performed. Also make out a tie-up and cording plan to weave the 8-shaft $(\frac{4}{4})$ twill; further, give another order of treading to produce the $\frac{4}{4}$ hopsack from the same tie.
- 10.—Describe the tappet power loom and give a sketch showing the relative positions of the parts composing the shedding mechanism. Also enumerate the dimensions required for the construction of the tappets.
- **II**.—Sketch the patterns resulting from a simple weave in several orders of colouring.

12.—Give the rule for finding the diameter of yarns, and explain how the settings for various weaves may be deduced.

13.—Work out the following calculations :—

- (a) It is required to make a three-fold worsted twist equal to 2/50's, one of the threads being single 80's, what counts of yarns should be used ?
- (b) A silk twist yarn is made from 30 skeins woollen and a silk thread (2 drams per 1,000 yards). Give the resultant counts and also the cost per 1b., assuming the 30 skeins to cost 3s. per 1b., and the silk 25s. per 1b.
- (c) A cloth is made as follows :---
 - Warp : 2 threads 18 skeins.
 - 2 ,, 36 skeins twisted with 1/15's worsted.

Sett 9's reed 4's, 64 in. wide.

Weft, 14 skeins, 36 picks per inch.

Length of warp, 64 yds. ; piece from loom 62 yds. ; finished piece, 59 yds.

- Assuming the loss in finishing to be 15 per cent. find the weight per yard of the finished cloth.
- 14.—Analyse the sample of cloth submitted, giving weave, threads, and picks per inch and counts of yarn.

FREEHAND DRAWING AND DESIGN.

(Three-and-a-half hours allowed.)

The accompanying design must be enlarged to about one-and-a-half times the size of the copy; the design must be washed in with ordinary writing ink or Indian ink. Tracing paper may be used for multiplying the repeats of the pattern, and mathematical instruments for setting out any construction lines that may be used.

Examination Papers

Textile Scholarshifs



III. SENIOR SCHOLARSHIPS

ENGLISH ESSAY.

(Three hours allowed.)

Write an Essay on one of the following subjects :---

- (a) The American Commonwealth.
- (b) Vox populi, vox dei.
- (c) "Shakespeare's [English] Kings are quite ordinary humanity thrust upon greatness."
- (d) "The history of what man has accomplished in this world is at bottom the history of the great men who have worked here."
- (e) What do you consider to be the chief aims which the University of Leeds should set before it ?

LATIN.

(For Salt Scholarship.)

(Three hours allowed.)

I.-Translate :--

(I) Erat eo tempore in nobis summa gracilitas et infirmitas corporis, procerum et tenue collum; qui habitus et quae figura non procul abesse putatur a vitae periculo, si accedit labor et laterum magna contentio. Eoque magis hoc eos quibus eram carus commovebat quod omnia sine remissione, sine varietate, vi summa vocis et totius corporis contentione dicebam. Itaque cum me et amici et medici hortarentur ut causas agere desisterem, quodvis potius periculum mihi adeundum quam a sperata dicendi gloria discedendum putavi. Sed cum censerem remissione et moderatione vocis et commutato genere dicendi me et periculum vitare posse et temperatius dicere, ut consuetudinem dicendi mutarem, ea causa mihi in Asiam proficiscendi fuit. Itaque cum essem biennium versatus in causis et iam in

foro celebratum meum nomen esset Roma sum profectus. . . . Post a me Asia tota peragrata est cum summis quidem oratoribus, quibuscum exercebar ipsis libentibus. . . Quibus non contentus Rhodum veni meque ad eundem, quem Romae audiveram, Molonem applicavi, cum actorem in veris causis scriptoremque praestantem, tum in notandis animadvertendisque vitiis et instituendo docendoque prudentissimum.

(2)

Multorum pallor in ore

mortis venturaest faciesque simillima fato. Advenisse diem qui fatum rebus in aevum conderet humanis, et quaeri, Roma quid esset, illo Marte palam est. Sua quisque pericula nescit

attonitus maiore metu. Quis litora ponto obruta, quis summis cernens in montibus aequor, aetheraque in terras deiecto sole cadentem, tot rerum finem, timeat sibi ? Non vacat ullos

pro se ferre metus : urbi Magnoque timetur.

Nec gladiis habuere fidem, nisi cautibus asper exarsit mucro; tunc omnis lancea saxo corrigitur; tendunt nervis melioribus arcus;

cura fuit lectis pharetras inplere sagittis.

Auget eques stimulos frenorumque aptat habenas.

II.—Translate into Latin :—

As soon as news was brought that the troops were coming, the Emperor went out of the city to meet them, and having mounted a throne which had been placed outside the gates, delivered a short speech to the soldiers. He said that they knew what his feelings were towards those who had fought in his cause, and whose labours he himself had shared, and that, while he lived, the honour which they had deserved would be theirs; but he asked them to remember that his life was uncertain, and to obey another ruler, whoever

he might be, as faithfully as they had obeyed him, for their own and their country's sake. Let them be faithful to their country; let them put her welfare above the interests of any party or leader whatever, so as not to bring upon their fellow citizens the miseries of civil war.

III.—(I) Point out any peculiarities in the syntax of the following passages :—

- (a) litteras quas me sibi misisse diceret recitavit.
- (b) omne cum Proteus pecus egit altos visere montes.
- (c) equo ne credite, Teucri.
- (d) flaventes abscissa comas.
- (2) Translate into Latin :---
 - (a) I am sure I should not have done it had it not been for your advice.
 - (b) While there is life there is hope.
 - (c) As far as I am concerned you may do anything you like.
 - (d) You will have to go whether you like it or not.

ENGLISH LANGUAGE.

(Three hours allowed.)

I.-Translate :---

Hie tha to tham symle sittan eodon,

wlance to wingedrince, ealle his weagesithas,

bealde byrnwiggende. Thær wæron bollan steape

boren æfter bencum gelome, swylce eac bunan and orcas

fulle fletsittendum : hie thæt fæge thegon rofe rondwiggende, theah thæs se rica ne wende, egesful eorla dryhten. Tha wearth Holofernus,

goldwine gumena, on gytesalum;

hloh and hlydde, hlynede and dynede,

thæt mihten fira bearn feorran gehyran,

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hu se stithmoda styrmde and gylede, modig and medugal manode geneahhe bencsittende thæt hi gebærdon wel. Swa se inwidda ofer ealne dæg dryhtguman sine drencte mid wine.

- swithmod sinces brytta, oth thæt hie on swiman lagon.
- oferdrencte his duguthe ealle, swylce hie wæron deathe geslegene,

agrotene goda gehwylces.

- 2.—Scan lines 8 to 15 of the above passage, and comment on the following words : dryhten, hlydde, byrnwiggende, brytta, duguthe.
- 3.—Give a short account of the strong-weak (preteritepresent) verbs in old English.

4.—Indicate the influence of the Danish settlement upon the Middle English Grammar and Vocabulary.

5.—Translate :—

- "This were a wikked way but who-so hadde a gyde
- That wolde folwen vs eche a fote : " thus this folke hem mened.
- Quath Perkyn the plouman " bi seynt Peter of Rome,

I have an half acre to erye bi the heighe way; Hadde I eried this half acre and sowen it after, I wolde wende with yow and the way teche."

"This were a longe lettynge" quod a lady in a sklayre,

"What sholde we wommen worche therewhiles?"

"Somme shal sowe the sakke," quod Piers, "for shedying of the whete;

And ye, louely ladyes with youre longe fyngres, That ye han silke and sendal to sowe, when tyme is,

Chesibles for chapelleynes cherches to honoure.

Wyues and wydwes wolle and flex spynneth, Maketh cloth, I conseille yow and kenneth so yowre doughtres;

- The nedy and the naked nymmeth hede how hij liggeth,
- And casteth hem clothes for so comaundeth treuthe.
- For I shal lene hem lyflode but yif the londe faille,

Flesshe and bred bothe to riche and to pore,

As longe as I lyue for the lordes loue of heuene. 6.—Indicate, and comment on, the borrowed words in

- the above passage.
- 7.—Point out marks of dialect in the above passage, giving where possible the forms of the words in other dialects.
- 8.—Trace back the words *folwen*, *heighe*, *worche*, *lyflode*, *lordes*, to their old English forms, and indicate the nature of the changes of sound which have taken place.

ENGLISH LITERATURE.

(Three hours allowed.)

(Do not attempt more than six questions.)

- I.—Give a brief account of the life and work of Langland.
- 2.—Trace the development of a patriotic literature in England in the last decade of the 16th Century. Do you regard Shakespeare as a patriotic poet?
- 3.—Appreciate the lyric genius of either Herrick, Burns, or Shelley.
- 4.—" Of the great English poets Milton was the most classical" (*Colvin*). Consider this statement, and state what the term "classical" implies.
- 5.—If you were given a number of hitherto unpublished essays by Addison, Dr. Johnson, and Charles Lamb, what characteristic features would you seek in them in order to assign them to their respective authors.

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- 6.—State what you know about any two of the following:—Pepys' Diary, The Tale of a Tub, Pamela, Percy's Reliques, The Rowley Poems, Gray's Journal.
- 7.—What essential elements of romanticism do you find in the poems of (a) Scott; (b) Coleridge?
- 8.—Consider very briefly, the relation of Tennyson to the intellectual and social problems of the nineteenth century.
- 9.—What conception do you form of Carlyle's personality from your study of his works ?

FRENCH.

(Three hours allowed.)

- I.—Translate into English :—
 - (a) Les Turcs, dans un suprême effort, appellent à leur aide le feu grégeois. Mais le vent se déclare pour les chrétiens, et renvoie sur les paiens le feu qu'ils ont lancé. Ceux-ci se trouvent à leur tour enveloppés de leurs propres flammes, et pas un, dit le conteur, n'eût échappé vivant, s'ils n'eussent été garnis de vinaigre, remêde souverain contre ce redoutable destructeur.

Ce ne fut que le lendemain vendredi, jour sacré où s'était livrée déjà la grande bataille d'Antioche, à l'heure même où Jésus souffrit la passion, c'est-à-dire à trois heures de l' après-midi, que les chrétiens entrèrent dans Jérusalem.

Le pan de muraille miné par les ribauds menaçait ruine depuis la veille. Sans en attendre la chute, un hardi chevalier, Thomas de Marle, se couche sur son écu et demande à ses compagnons de le hisser sur la pointe de leurs lances jusqu' au parapet. Et ce fut ainsi, ajoute l'auteur, qu' il entra le premier à Jérusalem. *Lenient*.

(b) Sur le coteau, là-bas, où sont les tombes, Un beau palmier comme un panache vert Dresse sa tête, où le soir les colombes Viennent nicher et se mettre à couvert.

Mais le matin, elles quittent les branches. Comme un collier qui s'égrène, on les voit S'éparpiller dans l'air bleu, toutes blanches, Et se poser plus loin sur quelque toit.

Mon âme est l'arbre où, tous les soirs, comme elles,

De blancs essaims de folles visions Tombent des cieux en palpitant des ailes, Pour s'envoler dès les premiers rayons.

Gautier.

- II.—Translate into French :—
 - Far be it from me to speak of whist in an uncomplimentary fashion. But to play it satisfactorily you must get three other people, and those not the first comers; you must secure a place where whist is playable, and you must, at least that is my experience, make something of a business of it, and invest no small capital of time, if not of money. You need do none of these things with literature. Books are cheap, and even those who cannot afford them can borrow them from libraries, though I own that for my part I cannot read with comfort any book that is not at least temporarily my own.
- III.—Write an essay in French of at least 200 words on *one* of the following subjects :—
 - (a) One of Moliere's plays;
 - (b) The evils of war;

(c) The month of May.

IV.—Grammar :—

(a) Give the principal parts of conquerir, boire, rejoindre.

Write down the second person singular and second person plural of the present imperative

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and present subjunctive of avoir, savoir, croire, courir, retenir.

(b) What is the plural form corresponding to the following :---

betail, detail, loyal, mal, bal, bail.

- (c) Say in what cases French uses the definite article where no article is used in English, and construct French sentences to illustrate your answer.
- (d) Show that certain conjunctions in French are followed by the subjunctive mood, and illustrate your answer by French sentences. Translate into English the sentences you give.

LOGIC.

(Three hours allowed.) (Six questions to be answered.)

- I.—Distinguish carefully between the treatment of Inference by Logic and Psychology respectively. Can you point to cases where the importation of merely psychological considerations has led to faulty theory in Logic ?
- 2.—" Proper names have no connotation."
 - "The connotation of every proper name is infinite." Point out the difference of meaning given to *connotation* in the above, and enquire which is preferable for Logic.
- 3.—Explain the division of propositions into subject, copula, predicate, and examine the value of the interpretation of the proposition as the inclusion of the subject in the predicate class.
- 4.—Compare and contrast the categorical and hypothetical syllogisms. Show that the rules of the 1st and 2nd figures of the categorical syllogisms correspond to the rules of the hypothetical syllogism.

- 5.—What is the logical distinction between the propositions every S that I have observed is P and every S is P? How do these propositions differ in respect of (a) the propositions necessary to establish them, (b) the propositions which may be inferred from them ?
- 6.—Examine the definition of cause as totality of conditions.
- 7.—What is meant by the statement that the Law of Uniformity is the ultimate major premiss in all inductions ? How is the law established ?
- 8.—Show by the symbolic forms into which Mill's experimental methods fall that they can only be applied to a limited class of cases.
- 9.—Contrast the use of deduction in abstract and concrete sciences.
- 10.—What is the difference between an artificial and a natural classification? Which is rather to be considered the goal of science, classification or explanation?

PSYCHOLOGY AND ETHICS.

(Three hours allowed.)

(Six questions to be answered.)

- I.—What is meant by the Associationist psychology ? Estimate its merits and its deficiencies.
- 2.—What is involved in the perception of an object (a) as a thing ; (b) as real ?
- 3.—What was the point at issue in the controversy between the Nominalists and the Conceptualists as to the nature of the concept ? Which of the two theories seems the better justified by the facts ?
- 4.—What is involved in the apprehension of an event as past, present, and future respectively? How do we judge that one event A preceded another event B in the past?

^{5.—}Analyse the emotion of Fear.

- 6.—What ethical conclusions have been drawn from the doctrine that desire is essentially painful? Is the doctrine tenable?
- 7.—Examine the view that although pleasure is not the only valuable thing, it forms part of the value of all valuable things.
- 8.—On what grounds do Plato, Kant, and Mill respectively base the duty of the individual to consider the welfare of others?
- 9.—Analyse the conception of moral responsibility, and consider its connection with the conception of freedom.
- IO.—What is the ground of the Kantian distinction between the Categorical and Hypothetical Imperatives? In what sense may it be maintained that the imperative of morality is categorical?

MATHEMATICS.

(Three hours allowed.)

I.—If
$$f(x) = I + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \cdots$$

prove that $f(x) \cdot f(y) = f(x+y)$.

and find by first principles the derivative of e^{ax} .

Differentiate $e^x \cos x$; log tan x; tan $-1 \frac{I-x}{I+x}$.

2.—What is the geometric significance of $\frac{d^2y}{dx^2} = 0$?

Trace the curve $xy^2 = \mathbf{I} - x$, and find its points of inflexion.

- 3.—Determine the proportions of a cylinder in which the sum of the length and base-perimeter is 12 ft., such that its volume is a maximum.
- 4.—Shew how to find the area bounded by a curve whose Cartesian equation is given.
 - Determine the whole area bounded by a cycloid and the line joining two consecutive cusps.

- 5.—Define radius of curvature, and shew how it may be obtained at the origin by Newton's method. Shew that the radius of curvature at any point of a rectangular hyperbola varies as the cube of the central radius.
- 6.—Integrate $\tan^{-1}x$; $\sqrt{a^2 x^2}$; $\frac{x}{1 + x 2x^2}$. 7.—Obtain a formula of reduction for $\int \frac{1}{2} \pi \sin^{n\theta} d\theta$
 - and evaluate $\int_{\sin 3\theta}^{\frac{1}{2}\pi} \sin^{3\theta} d\theta$.
- 8.—In a parabola prove that the tangent at any point makes equal angles with the axis and the focal radius.
 - If perpendiculars be let fall on any tangent to a parabola from two given points on the axis equidistant from the focus, prove that the difference of their squares is constant.
- 9.—Prove that the difference of the focal radii in a hyperbola is constant.
 - If a straight line cut a hyperbola in Q, Q' and its asymptotes in R, R' shew that the middle point of QQ' will be the middle point of RR'.

PHYSICS.

(Three hours allowed.)

- I.—Describe the gyroscope. Explain the phenomenon of precession. For what purposes are gyroscopes practically useful?
- 2.—Describe the ballistic pendulum, and obtain a formula connecting the velocity of the shot v, its mass, m, the mass of the pendulum bob, M, the time of vibration of the pendulum T, its amptitude, θ , and length, l.
- 3.—How has Boyle's Law been accurately tested in the case of gases ? Discuss the significance of the results obtained.

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- 4.—Define coefficient of viscosity. How is the viscosity of a fluid measured? Discuss the effect of temperature upon the numerical value of the coefficient in the case of liquids and gases respectively.
- 5.—How would you measure the density of a saturated vapour at various temperatures ?
- 6.—Prove Joule's equation expressing the pressure of a gas in terms of its density and molecular velocity. What is the connection between the molecular velocity and the velocity of sound in a gas ?
- 7.—Explain the principle of the Diffraction Grating. Compare the relative advantages and disadvantages of grating and prismatic spectra.
- 8.—Discuss the optical principles involved in the projection of an image of a lantern-slide upon a screen.
- 9.—What are the difficulties in measuring the conductivity of electrolytes, and how may these difficulties be overcome ?
- 10.—State the principles upon which it is possible to calculate the distribution of currents in a network of conductors.

A network of uniform wire is made in the form of a skeleton cube. Find the resistance between the extremities of one side if each side has a resistance of I ohm.

CHEMISTRY.

(Three hours allowed.)

- I.—Explain the chemistry of the following tests for:
 (a) tartaric acid with silver nitrate;
 (b) nitric acid with ferrous sulphate;
 (c) phosphoric acid with ammonium molybdate;
 (d) mercurous chloride with ammonia.
- 2.—Describe the essential reactions involved in the manufacture of pig-iron from clay ironstone.

Suggest a suitable method for determining the proportions of metallic iron and ferric oxide in a powder consisting of these two substances.

- 3.—Describe the usual method of preparation of the following and explain the reasons which lead to the use of the particular method : (a) hydriodic acid; (b) aluminium chloride; (c) chloric acid; (d) mercuric chloride.
- 4.—Give an account of the discovery of the gaseous constituents of the atmosphere from the time of Black to the present day.
- 5.—Describe the action separately of nitric acid, sulphuric acid, and chlorine on the following substances: (a) Toluene; (b) nitrobenzene;
 (c) acetanilide; (d) benzoic acid; and state, where you can, the probable position taken by the elements or groups entering the nucleus.
- 6.—How would you distinguish the following pairs of substances: (a) acetamide and glycocoll; (b) lactic and hydracrylic acid; (c) resorcinol and quinol; (d) glucose and galactose; (e) butter and margarine?
- 7.—Describe the preparation in detail of any two of the following: (a) acetophenone; (b) cinnamic acid;
 (c) diphenylmethane; (d) allyl alcohol.

GEOLOGY.

(Three hours allowed.)

(Six questions to be attempted including No. 5).

- Compare and contrast the Oolites of Yorkshire with the Coal Measures.
- 2.—Describe and illustrate by diagrams the structure of one of the following districts :—

(a) Charnwood Forest; (b) The Cleveland Hills; (c) The Bristol Coal Field.

3.—What is meant by Magmatic Differentiation? Illustrate your answer by reference to one or more British examples.

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- 4.—State what you know regarding the conditions which obtained in Britain during the Cretaceous (including Neocomian) Period, giving the evidence on which you rely.
- 5.—In a traverse of a piece of country the following specimens were collected, representing all the rocks exposed, viz. :—
 - (I) Turritella granulata.
 - (2) Marl with Estheria minuta and pseudomorphs of salt.
 - (3) Terebratula hastata.
 - (4) Pecten asper.
 - (5) Clypeus Plotii.
 - (6) Pecopteris.
 - (7) Orthoceras Ludense.
 - (8) Ammonites (Psiloceras) planorbis.
 - (9) Coccosteus decipiens.
 - (10) Conglomerate containing fragments of dolomitised Carboniferous Limestone.
 - (11) Trinucleus concentricus.
 - (12) Orthis resupinata.
 - (13) Terebratula fimbria.
 - (14) Anthracosia acuta.
 - Draw a longitudinal section indicating the probable relations of the strata, and state where such a succession might be found in Britain.
- 6.--Describe the various modes of river-capture, giving examples from British streams.
- 7.—Describe the principle on which the Tertiary rocks are subdivided.

ENGINEERING.

(Three hours allowed.)

1.—Find the pitch of the outer row of rivets in a combined lap and cover plate joint for a boiler; thickness of plates, $\frac{5}{8}$ in., punched holes; tensile strength of plates, 26 tons per sq. in.; tensile

strength of rivets, 24 tons per sq. in.; also find the bearing pressure on the rivets and the efficiency of the joint.

- 2.—A beam, 20 ft. long, rests on supports 15 ft. apart, one end of the beam overhangs 3 ft. A load of 4 tons is placed on the extreme end of the 3 ft. portion and 5 tons on the other extreme end. The central span supports an evenly distributed load of 0.3 tons per foot run. Find the position of the points of contrary flexure and sketch the bending moment diagram approximately to scale.
- 3.—An elastic cantilever, 12 ft. long, of uniform cross section, is propped level at its extreme end. Find the pressure on the prop when a load of 4 tons is placed on the cantilever at a distance of 3 ft. from the prop.
- 4.—Find the extension of a close-coiled helical spring consisting of 20 free coils of circular wire, 0.18 in. diameter. The mean diameter of the coils is 2.1 in.; load, 48 lbs.; modulus of rigidity, 12,000,000 lbs. per sq. in.
- 5.—Deduce an expression for the deflection of a plate spring, supported freely at each end, and loaded in the middle in terms of the number, thickness, and breadth of the leaves, the length of the spring, the load supported, and Young's Modulus of Elasticity.
- 6.—Discuss the errors involved in Euler's treatment of struts, quote any rational formula which agrees more closely with experiments, and show, by means of curves, the range over which they approximately agree and where they differ.
- 7.—Having given the relation between the temperature and pressure of any liquid and the latent heat of vapourization, find an expression for the specific volume of the vapour at any given pressure and temperature.

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- 8.—Calculate the change of entropy per the of steam, starting from water at 32° F. evaporated at 300° F. and superheated to 450° F. Show, by means of an entropy-temperature diagram, the various stages passed through, and further indicate the temperature at which the superheated steam would again become saturated if adiabatically expanded.
- 9.—Deduce an expression for the thermal efficiency of a steam engine in which the feed water is supplied to the boiler at the temperature of the exhaust T_e , the temperature of the water is raised to T_a , at which steam is generated at constant pressure until dry and saturated, it is then superheated to a temperature T_s and supplied to the cylinder at constant pressure and temperature, it is then adiabatically expanded down to back pressure, and finally exhausted in a saturated state at constant pressure and temperature T_e .

Entrance Examination, October, 1903

MATHEMATICS

(For Students under 17, and for admission to the Engineering and Mining Departments.)

(At least two questions in each section must be attempted.)

ARITHMETIC.

- 1.---(a) Convert 84 miles 560 yards into metres correct to three places of decimals.
 - (b) Find which is the greater, 10 square metres or 12 square yards, and express the difference between these areas as a decimal of a square metre.

I Metre = 3.281 feet.

2.—(a) Find the contents of a tank whose internal dimensions are 8 feet $6\frac{1}{2}$ inches by 3 feet 4 inches and 7 feet 2 inches deep. Express the result in gallons to two places of decimals.

I cubic foot = 6.24 gallons.

(b) Find the weight of the tank which has an open top, the walls of which weigh 7 lbs. per square foot.

3.—Find the square root of 1,865 and of 0.75 to three places of decimals.

4.—The height of the barometer on seven successive days was 30.11, 29.97, 29.91, 29.62, 29.40, 30.01, 30.13, what was the average height during the week, by how much did the lowest reading fall below and the highest rise above the average.

ALGEBRA.

5.—Simplify

$$\frac{(a-b)^2}{a+b} + \frac{b-c}{b+c} + \frac{(a-c)^2}{a+c}$$

and find the value when a = 5, b = 3, c = 1.

6.—A post which projects 7 feet above the surface of the water is found to have one third of its length in the water and one quarter of its length in the mud at the bottom; find its total length.

7.—A rectangle is 6 feet long; if it were 1 foot wider its area would be 30 square feet. Find the width.

8.—Solve: 30x + 12 + 32x - 8 = 500and

$$\frac{7x+17}{12} = \frac{2x+1}{9} + \frac{1}{4} \left\{ x+6 - \frac{3}{4} \left(3x+19 \right) \right\}$$

GEOMETRY.

- 9.—Prove that :—If at a point in a straight line two other straight lines on opposite sides of it make the adjacent angles together equal to two right angles, then these two straight lines shall be in one and the same straight line.
- 10.—To a given straight line apply a parallelogram which shall be equal in area to a given triangle, and have one of its angles equal to a given angle.
- **11.**—A B C is an equilateral triangle, and Ax is the perpendicular drawn from A to B C : Show that the square on Ax is three times the square on Bx.

12.—A B C is a triangle and D is any point in A B: it is required to draw through D a straight line D E to meet B C produced in E, so that the triangle D B E may be equal to the triangle A B C.

ENGLISH

1.—Dictation.

- 2.—Write a short Essay on one of the following subjects :
 - (a) The summer holidays.
 - (b) The art of letter-writing.
 - (c) A favourite novel.

The examination papers set in January and July, 1904, for admission to the Engineering and Mining Departments are published in the special prospectus of those departments.

[CH. 12.]

CHAPTER 12.

An Act to extend the privileges of the Graduates of the University of Leeds.

A.D. 1904.

[15th August 1904.]

DE 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 :---

I. 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.

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

Short title.

Extension of privileges of graduates of Leeds University.

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