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| Title | Calendar for Queen's College, Galway |
| :---: | :--- |
| Author(s) | Queen's College Galway |
| Publication <br> Date | 1904 |
| Item record | http://hdl.handle.net/10379/1388 |

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# QUEEN'S COLLEGE, GALWAY. 

FOUNDED A.D. MDCCOXLV.

## CALENDAR <br> FOR <br> 1903-1904.

PUBLISHED BY AUTHORITY OF THE COUNCIL.


## DUBLIN:

$$
\begin{gathered}
\text { PRINTED AT THE UNIVERSITY PRESS, } \\
\text { BY PONSONBY AND GIBBS. } \\
1904 .
\end{gathered}
$$

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## Calenmar.




\begin{tabular}{|c|c|c|}
\hline \multicolumn{2}{|l|}{12 TH MONTH.]} \& DECEMBER, 1903. [XXXI Days. \\
\hline \[
\begin{aligned}
\& 2 \\
\& 3 \\
\& 4 \\
\& 5
\end{aligned}
\] \& \begin{tabular}{l}
Tuesday \\
Wednesday \\
Thursday \\
Friday \\
Saturday
\end{tabular} \& Queen Alexandra born, 1844. Examination for Blayney Exhibition begins. \\
\hline 6
7
8
9
10
11
12 \& \begin{tabular}{l}
Sunday \\
Monday \\
Tuesday \\
Wednesday \\
Thursday \\
Friday \\
Saturday
\end{tabular} \& Letters Patent appointing Professors and constituting Statutes issued, 1849. \\
\hline \[
\begin{aligned}
\& 13 \\
\& 14 \\
\& 15 \\
\& 16 \\
\& 17 \\
\& 18 \\
\& 19
\end{aligned}
\] \& \begin{tabular}{l}
Sundag \\
Monday \\
Tuesday \\
Wednesday \\
Thursday \\
Friday \\
Saturday
\end{tabular} \& \begin{tabular}{l}
Lectures end. Examinations for Junior Law Scholarships begin. \\
First Term ends.
\end{tabular} \\
\hline \[
\begin{aligned}
\& 20 \\
\& 21 \\
\& 22 \\
\& 23 \\
\& 24 \\
\& 25 \\
\& 26
\end{aligned}
\] \& \begin{tabular}{l}
Sunoay \\
Monday \\
Tuesday \\
Wednesday \\
Thursday \\
Friday \\
Saturday
\end{tabular} \& Chitistmas Day. \\
\hline 27
28
29
30

31 \& | Sunday |
| :--- |
| Monday |
| Tuesday |
| Wednesday |
| Thursday | \& Letters Patent incorporating the College issued, 1845. <br>

\hline
\end{tabular}

| 1st month.] |  | JANUARY, 1904. | [XXXI DAYs. |
| :---: | :---: | :---: | :---: |
| 1 | Friday |  |  |
| 2 | Saturday |  |  |
| 3 | Sunðay |  |  |
| 4 | Monday | Second Term begins. |  |
| 5 | Tuesday |  |  |
| 6 | Wednesday | Epiphany. College | day. |
| 7 | Thursday | Lectures in Arts, Me neering begin. | e, and Engi- |
| 8 | Friday |  |  |
| 9 | Saturday |  |  |
| 10 | Sunday |  |  |
| 11 | Monday |  |  |
| 12 | Tuesday |  |  |
| 13 | Wednesday |  |  |
| 14 | Thursday |  |  |
| 15 | Friday |  |  |
| 16 | Saturday |  |  |
| 17 | Sunday |  |  |
| 18 | Monday |  |  |
| 19 | Tuesday |  |  |
| 20 | Wednesday |  |  |
| 21 | Thursday |  |  |
| 22 | Friday |  |  |
| 23 | Saturday |  |  |
| 24 | Sunday |  |  |
| 25 | Monday |  |  |
| 26 | Tuesday |  |  |
| 27 | Wednesday |  |  |
| 28 | Thursday |  |  |
| 29 | Friday |  |  |
| 30 | Saturday |  |  |
| 21 | Sunday |  |  |


| 2ND MONTH.] |  | FEBRUARY, 1904. | [xirx days. |
| :---: | :---: | :---: | :---: |
| 1 | Monday | Queen's University of Ireland dissolved, 1882. |  |
| 2 | Tuesday |  |  |
| 3 | Wednesday |  |  |
| 4 | Thursday |  |  |
| 5 | Friday |  |  |
| 6 | Saturday |  |  |
| 7 | Sunday <br> Monday <br> Tuesday Wednesday Thursday Friday Saturday |  |  |
| 8 |  |  |  |
| 9 |  |  |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |  |
| 13 |  |  |  |
| 14 | Sunvay <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Shrove Tuesdaf. College Holiday. Ash Wednesday. College Holiday. Law Lectures begin. |  |
| 15 |  |  |  |
| 16 |  |  |  |
| 17 |  |  |  |
| 18 |  |  |  |
| 19 |  |  |  |
| 20 |  |  |  |
| 21 | Zuntay <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday |  |  |
| 22 |  |  |  |
| 23 |  |  |  |
| 24 |  |  |  |
| 25 |  |  |  |
| 26 |  |  |  |
| 27 |  |  |  |
| 28 | Zunbay Monday |  |  |
| 29 |  |  |  |



| 4TH MONTH.] |  | APRIL, 1904. [xxx days. |
| :---: | :---: | :---: |
| 1 | Friday Saturday | Good Friday. |
| 3 4 5 5 6 7 8 9 | Sunday <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Easter Sunday. |
| $\begin{aligned} & 10 \\ & 11 \\ & 12 \\ & 13 \\ & 14 \\ & 15 \\ & 16 \end{aligned}$ | Suñan <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Third Term begins. Lectures begin. |
| $\begin{aligned} & 17 \\ & 18 \\ & 19 \\ & 20 \\ & 21 \\ & 22 \\ & 23 \end{aligned}$ | Sunvan <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Medical Session ends. |
| $\begin{aligned} & 24 \\ & 25 \\ & 26 \\ & 27 \\ & 28 \\ & 29 \\ & 30 \end{aligned}$ | Sunday <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Charter of Royal University of Ireland granted, 1880. |



| 6TH MONTH.] |  | JUNE, 1904. | [xxx days. |
| :---: | :---: | :---: | :---: |
| 1 2 3 4 4 | Wednesday <br> Thursday <br> Friday <br> Saturday | Corpos Christr. | College Holiday. |
| 5 6 7 8 9 10 11 | Suñay <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Third Term ends. | End of Session. |
| $\begin{aligned} & 12 \\ & 13 \\ & 14 \\ & 15 \\ & 16 \\ & 17 \\ & 18 \end{aligned}$ | ZunDay <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday |  |  |
| $\begin{aligned} & 19 \\ & 20 \\ & 21 \\ & 22 \\ & 23 \\ & 24 \\ & 25 \end{aligned}$ | Sundag <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday |  |  |
| $\begin{aligned} & 26 \\ & 27 \\ & 28 \\ & 29 \\ & 30 \end{aligned}$ | Suñay <br> Monday <br> Tuesday <br> Wednesday <br> Thursday |  |  |



Calendar.

| 8TH | MONTH.] | AUGUST, 1904. | [XXXI DAYs. |
| :---: | :---: | :---: | :---: |
| 1 | Monday |  |  |
| 2 | Tuesday |  |  |
| 3 | Wednesday |  |  |
| 4 | Thursday |  |  |
| 5 | Friday |  |  |
| 6 | Saturday |  |  |
| 7 | Sunday |  |  |
| 8 | Monday |  |  |
| 9 | Tuesday |  |  |
| 10 | Wednesday |  |  |
| 11 | Thursday |  |  |
| 12 | Friday |  |  |
| 13 | Saturday |  |  |
| 14 | Sundan |  |  |
| 15 | Monday |  |  |
| 16 | Tuesday |  |  |
| 17 | Wednesday |  |  |
| 18 | Thursday |  |  |
| 19 | Friday |  |  |
| 20 | Saturday |  |  |
| 21 | Sanday |  |  |
| 22 | Monday |  |  |
| 23 | Tuesday |  |  |
| 24 | Wednesday |  |  |
| 25 | Thursday |  |  |
| 26 | Friday |  |  |
| 27 | Saturday |  |  |
| 28 |  |  |  |
| 29 | Monday |  |  |
| 30 | Tuesday |  |  |
| 31 | Wednesday |  |  |

Queen's College, Galway,


| 10TH MONTH.] |  | OCTOBER, 1904. | [XXXI Days. |
| :---: | :---: | :---: | :---: |
| 1 | Saturday |  |  |
| 2 | Sunday <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 | Sunvay <br> Monday <br> Tuesday Wednesday Thursday Friday Saturday | New Charter, 1863. |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |  |
| 13 |  |  |  |
| 14 |  |  |  |
| 15 |  |  |  |
| 16 | Sunday Monday Tuesday | College Session and First Term begin. Supplementary Examinations begin. |  |
| 17 |  |  |  |
| 18 |  |  |  |
| 19 | Wednesday |  |  |
| 20 | Thursday |  |  |
| 21 | Friday <br> Saturday |  |  |
| 22 |  |  |  |
| 23 | Sunday <br> Monday | Examinations for Junior Scholarships of the First Year begin. |  |
| 24 |  |  |  |
| 25 | Tuesday |  |  |
| 26 | Wednesday |  |  |
| 27 | Thursday Friday |  |  |
| 28 |  |  |  |
| 29 | Saturday |  |  |
| 30 | Sunian | Colleat opened, 184 |  |
| 31 | Monday |  |  |


| 117\% момтн.] |  | NOVEMBER, 1904. | [xxx days. |
| :---: | :---: | :---: | :---: |
| 1 | Tuesday | All Saints. College Holiday. <br> Lectures in Arts, Medicine, and Engineering begin. <br> Examination for the "Dr. and Mrs. W. A. Browne" Scholarship begins. |  |
| 2 | Wednesday |  |  |
| 3 | Thursday |  |  |
| 4 | Friday |  |  |
| 6 | Sunday | Practical Chemistry Classes begin. <br> King Edward VII. born, 1841. College Holiday. Supplemental Matriculation Examination begins. |  |
| 7 | Monday |  |  |
| 8 | Tuesday Wednesday |  |  |
| 10 | Thursday |  |  |
| 11 | Friday |  |  |
| 12 | Saturday |  |  |
| 13 Sunday <br> 14 Ionday <br> 15 Tuesday <br> 16 Wednesday <br> 17 Thursday <br> 18 Friday <br> 19 Saturday |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  20 <br> 2n Suray <br> 21 Monday <br> 22 Tuesday <br> 23 Wednesday <br> 24 Thursday <br> 25 Friday <br> 26 Saturday |  | Law Lectures begin. |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| $\begin{array}{\|l\|} 27 \\ 28 \\ 29 \\ 30 \end{array}$ |  |  |  |
|  | Sunray |  |  |
|  | Tuesday |  |  |
|  | Wednesday |  |  |


| 12TH MONTE.] |  | DECEMBER, 1904. [XXXI days. |
| :---: | :---: | :---: |
| 2 3 | Thursday <br> Friday Saturday | Queen Alexandra born, 1844. Examination for Blayney Exhibition begins. |
| $\begin{array}{r} 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \end{array}$ | Sunday <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday |  |
| 11 12 13 14 15 16 17 | Sumuan <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Letters Patent appointing Professors and constituting Statutes issued, 1849. <br> Lectures end. Examinations for Junior Law Scholarships begin. |
| $\begin{aligned} & 18 \\ & 19 \\ & 20 \\ & 21 \\ & 22 \\ & 23 \\ & 24 \end{aligned}$ | Suntay <br> Monday <br> Tuesday Wednesday Thursday Friday Saturday | First Term ends. |
| $\begin{aligned} & 25 \\ & 26 \\ & 27 \\ & 28 \\ & 29 \\ & 30 \\ & \\ & 31 \end{aligned}$ | Sunday <br> Monday <br> Tuesday <br> Wednesday <br> Thursday <br> Friday <br> Saturday | Ceristmas Day. <br> Letters Patent Incorporating the College issued, 1845. |

# QUEEN'S COLLEGE, GALWAY. 

FOUNDED A.D. MDCCCXLV.

## FOUNDATION AND CONSTITUTION.

The Colleges of the Queen's University were founded under the provisions of the Act 8 and 9 Victoria, cap. 66, intituled "An Act to enable Her Majesty to endow new Colleges for the Advancement of Learning in Ireland." Under the powers given by this Act, it was determined to found three Colleges. Belfast, Cork, and Galway were selected as their sites; and on the 30 th of December, 1845, Letters Patent were issued incorporating them under the name and style of "The President, Vice-President, and Professors of Queen's College, [Belfast, Cobk,] Galway."

The Colleges were opened for Students on the 30th October, 1849. The Presidents and Vice-Presidents of the Three Colleges constituted a Board of Government till the foundation of the Queen's University in 1850. By the University Education (Ireland) Act of 1879 provision was made for the foundation of the Royal University and the dissolution of the Queen's University, within two years from the date of the Charter of the Royal University. All Graduates and Matriculated Students of the Queen's University at the time of dissolution became Graduates and Students of the Royal University, and all existing Professors of the Queen's Colleges continued to be University Professors. The Charter of the Royal University was granted on the 27th of April, 1880, and the Queen's University was dissolved on the 3rd of February, 1882.

## COLLEGE BUILDINGS.

The College, erected in 1848, is situated on the west side of the River Corrib, which divides its grounds from the town of Galway. It is built of cut limestone from the neighbourhood, in the form of a quadrangle. The style is Gothic of the 14th century. Over the principal entrance facing the town is a clock tower, 108 feet high. The private residences of the President and Registrar with the Examination Hall occupy the west side. The Library, over 130 feet in length, extends along the first floor of the north side. It contains upwards of 35,000 volumes in the various departments, to which constant additions are made of the most recent standard works. Beneath it are the Drawing school and Lecture rooms of the Engineering department, the Pharmacy Laboratory, the Mathematics and Modern Languages Lecture rooms. Corresponding to it on the south side is the Museum of Natural History, under which are the Laboratory, Museum, and Lecture rooms of Natural Philosophy. The Laboratories of Chemistry and of Practical Physiology with the Museums of Geology and Mineralogy and of Gynæcology, which are described under the departments to which they belong, and various Lecture rooms occupy the rest of the main buildings. The Anatomical School is situated in the north-west corner of the grounds. The Botanical Gardens, the cricket and football fields, the tennis and racquet courts are in the grounds surrounding the principal Building, as are also the Meteorological instruments, which are in charge of one of the College officers. The majority of the students reside during term in Salthill, which lies on Galway Bay, about a mile distant from the College.

## SESSION 1903-1904.

This College is a Corporation, founded by Letters Patent under the Great Seal of Ireland, under the name and style of the "President and Professors of Queen's College, Galway."

The general government and administration of the College is vested in a Council consisting of the President and six Professors elected by the Corporate Body.

## 

The Right Reverend the Lord Bishop of Tuam.
The Right Honourable the Lord Chief Justice of Ireland.
The Right Honourable the Earl of Westmeath.
The Right Honourable Lord Clonbrock, K.P.
The Moderator of the General Assembly for the time being.
The Right Honourable the Chibf Secretary to the Lord Lieutenant of Ireland for the time being.
The President of the Royal College of Physicians, Ireland, for the time being.
The President of the Royal Collefe of Surgeons, Irbland, for the time being.
flaresionext:
Alexander Anderson, m.a., camb., Hon. ll.d., Glasgow ; late Fellow of Sidney Sussex College, Cambridge; Member of the Senate of the Royal University of Ireland.

## 解xafessoxs :

Greek, . . . . R. Knox M‘Elderry, m.a., late Fellow of St. John's College, Cambridge ; Examiner, and late Junior Fellow, R.U.I.

Latin,
Charles Exon, m.a., Dublin.
Mathematics, . . . Thomas John I'anson Bromwich, m.a., late Fellow of St. John's College, Cambridge; Examiner, r.u.r.
Natural Philosophy, . . The President.
History, English Literature, Wilbraham Fitzjohn Trench, m.a., and Mental Science, .\} m.r.i.A.; Examiner, r.U.i.
Chemistry, . . . Alfred Senier, ph.d. berlin.
Natural History, . . ) Richaid J. Anderson, m.a., m.d. r.u.i.,
Mineralogy and Geology, .\} M.r.c.s. eng.; Examiner, r.u.i.
Modern Languages, . .
Jurisprudence and Political
Economy,
Valentine Steinberger, M.a., f.k.u.i.
John H. Wardell, m.a., Dublin.
English Law, . . . William B. Campion, b.a. dub., Serjeant-at-Law.
Anatomy and Physiology,
Practice of Medicine, .
Joseph P. Pye, M.d., M.CH., d.sc., F.h.U.i.
John Ibaac Lynham, m.d., m.ch., m.a.o., f.R.U.I.

## (1) rofessoxs-continued:


(3) fick- 马hearcxs :


## 

General Assembly of the Presbyterian Rev. J. Courtenay Clarie, Church in Ireland, . . . . ${ }^{\text {D.D. }}$
Church of Ireland, . . . . Rey. James F. Berry, b.d.
Methodist Church, . . . . Rev. Hugh M‘Gahie.

## $$
1903-1904
$$ <br> <br> 1903-1904. <br> <br> 1903-1904. <br> fectuxxts:

Medical Jurisprudence,
Clinical Fever,
$\left\{\begin{array}{cc}\text { Professoli } & \text { Kingead. } \\ \# & \text { Senier. } \\ \# & \text { Colaban. }\end{array}\right.$
Pathology,
Robert J. Rowlette, b.a., m.d., durlin.
Theory of Music,
1 Celtic,
\{ Walter Williams, mus. bac. oxford,
$\{$ A.r.c.m., f.r.c.o.
息emorastratoxs and Chasistants:
Natural Philosophy, . . James Warnock, m.a.
Chemistry, . . . Rosalind Clarke.
Anatomy, . . . William A. Sandys, m.b., b.ce., b.a.o.
English, . . . . John J. 0'Neill, m.a.
Biology, . . . . Richard A. M. L. MoCrea.
Electrical Engineering, . F. Auwyn Haige, b.sc. Vict., a.t.e.b.
Senior and other Scholars also act as Assistants and Demonstrators to the Professors in the various departments, as required by the Council.

Registrar's and Bursar's Offices.

The Offices of the Registrar and of the Bursar are open on week days during Session from 10 A.m. to 4 p.m., for the receipt of Fees, and transaction of other business. During the Summer Vacation the Offices are open from 10 a.m. to 2 P.m.

College Clerk, . . . James M‘Clelland.

## Thf College Sesston.

The College Session commences on the third Tuesday in October, and, in the Faculty of Arts and the School of Engineering, continues until the second Saturday in June; it is divided into three Terms.

The First Term of the Session 1903-1904 commences on October 20, and ends on December 19, 1903.

The Second Term commences on January 4, and ends on March 26, 1904.

The Third Term commences on April 11, and ends on June 11, 1904.

In the Faculty of Law the Session terminates on March 26.
In the Faculty of Medicine the Session terminates on April 23, 1904.

## Lectures.

Lectures in Arts, Medicine, and Engineering begin :In the First Term on November 3, 1903.
In the Second Term on January 7, 1904.
In the Third Term on April 12, 1904.
Lectures in Law begin:In the First Term on November 26, 1903.
In the Second Term on February 18, 1904.

## Duties of Matriculated Students.

"Every Matriculated Student shall obey the Statutes of the College, conform to all Decrees and other Regulations made by the authorities of the College for the maintenance of discipline and good conduct, and assist the College authorities in enforcing the same."-Statutes.

Every Matriculated Student is required to wear a cap and gown.

## $\left[\begin{array}{ll}6 & \end{array}\right]$

## GENERAL REGULA'I'IONS.

## I.-MATRICULATION.

The Matriculation Examination is held at the commencement of the first Term of each Session. In the Session 1903-1904, it will commence on Friday, October 23rd, at 10 o'clock, A.m.

An additional Matriculation Examination will be held on November 11th.

Each Candidate, before being admitted to the Matriculation Examination, is required to pay to the Bursar the Matriculation fee of ten shillings. This fee will not be returned to Students who may fail to pass the Examination; but such Students may present themselves at any subsequent Matriculation Examination in the same year without additional payment.

All Students are required to appear in the Registrar's office for the purpose of having their names entered on the College books.

The Council will admit any Student to Matriculation, without examination, who has passed the Entrance Examination of either of the Queen's Colleges, Belfast or Cork, or of the Royal or any other University within the United Kingdom empowered to grant Degrees in the several Faculties of Arts, Law, Medicine, and School of Engineering. Provided that-
(a) His certificate of Matriculation be lodged with the Registrar:
(b) He pass any portion of the Matriculation Examination of the College that is not included in the Entrance Examination of such other College or University:
(c) His College Fees have been paid:
(d) His standing be counted from the date of his having passed the Entrance Examination of such College or University.

A certificate of Matriculation will not be granted to any Student until he has paid the whole of the Class Fees for the Session, and commenced attendance on Lectures.

## II. -AD-EUNDEM STUDENTS.

Any Student who has pursued part of his Collegiate Studies in any one of the Queen's Colleges, or in any University empowered to grant Degrees in Arts, Law, Medicine, and Engineering, or a Student of any School of Law, Medicine, or Engineering, recognized by the Council, may, on passing such Examinations, and fulfilling such other conditions as the Council shall prescribe, take corresponding rank in this College; and may also compete for Junior Scholarships or other Prizes of the corresponding year: provided he shall not hold at the same time a Scholarship or other office of emolument in any other University, College, or Medical School.

## III.-NON-MATRICULATED STUDENTS.

Non-Matriculated Students may attend the Lectures of any Professor. They are required to pay to the Bursar the Fees for the Classes they propose to attend, and a College Fee of ten shillings, and to sign an engagement to observe order and discipline in the College. They are not entitled to compete for Scholarships or other Collegiate distinctions.

During the term of their attendance on College Lectures they are admitted to read in the Library, and are permitted to take out books on loan under the same regulations as Matriculated Students.

## IV.-ADMISSION OF WOMEN.

Women may attend the Lectures of the Professors, and present themselves at the College Examinations. By a recent alteration in the statutes all Scholarships and Prizes are open to Students of either sex.
ames Hardimăn Library, NUI Galway

## V.--FEES PAYABLE BY STUDENTS.

To be paid to Bursar at commencement of First Term.

## College Fee- <br> Pasa Courses-

 \& $8 . d$.For each and every year, including Matriculation, 0100 Clabs Fees.
$\begin{array}{lllllll}\text { For each Course, } \\ \text { Re-attendance on same, } & . & \quad . & . & . & 2 & 0 \\ 1 & 0 & 0\end{array}$
Except for the following :-
Anatomy and Physiology (First Course), . . 300
First Re-attendance on Physiology (by Junior Students), . . . . . 200
Practical Anatomy, . . . . 3000
*Practical Physiology, $\quad$. Si . 200
Practical Anatomy (Post-Graduate and Six Months Honour Courses), . . . .
Practical Physiology (Post-Graduate and Six Months Honour Courses), . . . . 50
*Practical Histology, . . . . 200
Practical Chemistry, . . . . 300

| Practical Chemistry (Post-Graduate and Six Months |
| :--- |
| Honour Courses), |

Hebrew or Sanskrit, . . . . 300
$\dagger$ Practical Biology (3 months), . . . 200
Practical Biology (3rd Year), . . . 200
Practical Phrsics (Second and Third Terms), . 200
Medical Jurisprudence, . . . . 200
Pathology, . . . . . . 200
Honour Courses-
In all subjects of the 1st and 2nd Years, . . 200
$\ddagger$ In all subjects of the 3rd Year, . . . 300
Scholars.
Junior Scholars are exempted from the payment of one-half of the Class Fees for Pass Courses, prescribed to Students of their Faculty and standing, when attended for first time.

## VI.-RULES RELATING TO ATTENDANCE ON LECTURES.

All Matriculated Students are required to attend Lectures in Academical Costume.

No Student shall be admitted to Jectures until he has paid his College and Class Fees to the Bursar, and entered his name with the Registrar.

[^0]Attendance on Lectures includes preparation for Lectures; and a Professor, who on any occasion is not satisfied with the preparation of a Student, may refuse him credit for attendance.

In cases where Students pass from the Faculty of Arts to a different Faculty or School, they are exempted from reattendance upon such Courses in Arts as they have already attended, which would otherwise be necessary for keeping the Academic year.

In cases of absence arising from illness, or other unavoidable cause, the Student is required, on resuming attendance, to lodge with the Registrar a letter or certificate explaining his absence, to be laid before the Council.

## VII.-LIBRARY REGULATIONS. ORDERS OF COUNCIL.

 (I.) General.The Library shall be opened and closed as follows:-

## OPEN.

March 1 to June 30, from 10 a.m. to 5 p.m.
August 1 to September 30, from 11 a.m. to 3 p.m.
October 1 to February 28, from 10 a.m. to 4 p.m.

## CLOSED.

During July, a week at Christmas and at Easter, and on College holidays.

The Librarian shall enter the name of every new book in the Departmental Catalogue.

No book shall be issued, placed in the Professors' Room, or taken away by a Professor or Officer, until the invoice of the parcel which contained it shall have been examined by at least one Member of the Library Committee, the name of the book shall have been entered in the Catalogue, the book tself shall hare been stamped, and its place in the Library shall have been marked on it.
Dictionaries, Grammars, Cyclopædias arranged in alpharetical order, works the chief value of which consists in
plates and embellishments, and such books as the Library Committee shall enumerate, shall be issued only by special permission of the Library Committee.

The Librarian shall each day examine the recall book, and call in all books therein required.

If a book be not brought back when due or when required, the Librarian sball write to demand its immediate return, and if the demand be not complied with, he shall report the same to the Council.

The Librarian shall call in all books towards the close of the Second Term ; and shall report to the Council the names of all persons in default.

Erery book brought back to the Library shall be set aside by the Librarian's Assistant, until it shall have been inspected by the Librarian, and the said book shall not be re-issued (unless to the same borrower) until it shall have been so inspected.

The Librarian shall inspect each book returned, if not reissued to the same borrower.

In case of a book or books being lost or injured, the Library Committee shall estimate the cost of such loss or injury, and the borrower shall pay same : or the amount may be deducted from the deposit lodged with the Bursar. The privilege of borrowing shall cease until the loss has been made good, or the deposit made up to the full amount.

No books shall be ordered except through the Librarian.
The Professors' room shall be kept strictly private.

## (II.) Issuing of Books.

No one shall borrow any book from the Library without first delivering a note for it to the Librarian or Assistant, signed by the borrower, and specifying, in the borrower's handwriting, the title of the book and the date on which it is borrowed.

The Librarian or Assistant shall compare the notes delivered for books borrowed with the books themselves, before they are taken away, and shall keep all such notes until the books to which they refer are brought back to the Library. When all the books specified in any note are brought back, the note shall be delivered up to the person by whom they are brought; when only some of the books specified are returned, their titles shall be crossed out on the note at the time, the borrower being responsible for each book until its title is so crossed out.

## To Professors and Office-Bearers.

A Professor may borrow whatever books from his own department he may require for the working of the same.

A Professor or Officer of the College may borrow books from any department other than his own, provided that the number of such volumes in his possession at any one time do not exceed twenty ; each volume to be returned within one month.

A Professor or Officer of the College requiring a larger number of books for any special purpose, shall make application on each occasion for the same to the Library Committee, stating fully the grounds on which he requires them.

A Professor or Officer requiring a book which is out may enter its name in a recall book to be kept for that purpose in the Professors' Room, and on its return shall have priority.

A Professor may, through the Librarian, call in any book lent from his department: and such book shall immediately be returned to the Library by the borrower.

The last number of any periodical shall not be removed from the Professors' Room until after the time limited by the posted notice, and the Librarian shall report to the Library Committee every infringement of this rule.

## To Students.

No Student shall be admitted to the Library, except in full academical costume.

No Student shall be allowed to read in, or borrow books from, the Library until he shall have subscribed the following declaration:--
" $I$, the undersigned, do hereby promise to the President and Council of Queen's College, Galway, that I will not mark, turn down the leaves of, or write on paper placed upon, orin any way whatsoever soil, deface, injure or remove without permission, any book or document in the Library of said College. I also promise that I will not injure the Library furniture : that I will faithfully observe all the rules made for the regulation of the Library; and that I will acquaint the College Authorities with any serious instance of violation of the said rules which may come under my notice."

A Student, after depositing with the Bursar $£ 1$, may borrow three volumes, or on depositing $£ 2$, six volumes, at a time.

A Scholar can comply with this rule by giving the Bursar an order on his Scholarship for the amount of the deposit.

On the production, by a Student, of a certificate from the Librarian that all books borrowed by him from the Library James Hardiman Library, NUT Galway
have been returned uninjured, the Bursar shall, at the end of the term, repay the deposit.

The Library Committee may grant special permission to a Senior Scholar to borrow more books than the number of volumes specified in these rules, application for this privilege to contain the names of the books required, and to be countersigned by the Professor of the Department.

A Student shall not retain a book borrowed from the Library longer than one fortnight; but on returning it, may renew the loan, if it has not been in the meantime applied for.

On receising at any time notice from the Librarian, a Student shall return within 48 hours any books borrowed from the Library. On failure to comply with this rule he incurs a penalty of sixpence per volume for each day the book or books are retained, until the amount of fine equals the deposit.

## To others than Professors or Students.

Any person resident in Galway may, by permission of the Council or of the Library Committee, obtain the privilege of borrowing books from the Library.

Each person on obtaining such permission, shall deposit the sum of $£ 1$ with the Bursar, which shall be refunded when he ceases to avail himself of the privilege, on presenting a certificate from the Librarian that all books borrowed by him have been returned uninjured.

No person may have more than two rolumes on loan from the Library at the same time.

The borrower may not retain a book for longer than a fortnight, but may, on returning it, renew the loan if the book has not in the meantime been applied for.

Books shall not be issued to persons other than Professors, Office-Bearers, or Students, except between 12 and 3 p.m. on Wednesdays and Saturdays.

## VIII.-SESSIONAL EXAMINATIONS.

An Examination is held at the close of the Session in the subjects upon which Lectures have been delivered. Any Professor may, with the sanction of the Council, conduct the Sessional Examinations in any of his Classes by means of Term Examinations. Notice of this method shall be given to the Class at the beginning of the Session. Prizes may be awarded for distinguished answering in these Examinations; but no prize can be obtained by a student who fails in any of the subjects prescribed. Students to whom prizes are awarded
must order their books from the College booksellers before the 1st of the following December, otherwise their prizes will be forfeited.

A Supplementary Examination in the same subjects is held at the commencement of the following Session. Candidates intending to present themselves at the Supplementary Examination must give a fortnight's notice to the Registrar.

No Student is admitted to the Sessional or Supplementary Examination who has not attended at least three-fourths of the Lectures delivered in the prescribed Courses.

Every Matriculated Student in Arts, Law, and Engineering, must attend the Courses of Lectures prescribed to Students of his class and standing, and must pass either the Sessional or the Supplementary Examination, before his name can be entered on the College Register as having completed the Session.

The Sessional Examination, completing a course of lectures, may be passed (except for the retention of Scholarships or Exhibitions) by passing the corresponding Examination of the Royal University in the same year, in so far as this Examination includes the subjects of the lectures.

## IX.-SCHOLARSHIPS.

No Student can compete for a Scholarship in any Course substantially the same as, or included in, one in which he has already held a Scholarship or Exhibition in this, or in either of the other Queen's Colleges.

No Scholarship will be awarded to a Candidate who is not, in the opinion of the Examiners, sufficiently qualified in the prescribed Course.

> A.-Sentor Scholarships.

The Council is empowered to award by Examination Eight Senior Scholarships of the value of £40 each to Matriculated Students, whose answering is reported as meritorious, and who shall have, during three College Sessions (of which two at least shall have been attended in Queen's College, Galway*), attended such Courses of Lectures, and passed such Examinations as shall be prescribed in that behalf by the Council,

[^1]and who shall have passed the necessary Examinations within five years from the date of Matriculation, and who shall have complied with such further conditions as the Council shall impose, provided he shall not have previously obtained a Senior Scholarship in the same department in this or in either of the other Queen's Colleges.

Of these Scholarships one is awarded for proficiency in each of the following departments :-

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1. Ancient Classics.
2. English and Modern Languages.
3. Mathematics.
4. Natural Philosophy.
5. Metaphysics, Political Science, and History.
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6. Chemistry.
7. Natural History.
8. Engineering.
9. Anatomy and Physiology.*

All Senior Scholars are required to be in attendance in the College during their period of office, and to assist the Professors in such ways and under such regulations as the Council shall prescribe.

Senior Scholars, except in Engineering and Medicine, who have not taken the Degree of B.A., shall attend the Courses prescribed for the third year in Arts.

Senior Scholars in Engineering, who have not taken the Degree of B.E., shall attend the Courses prescribed for the Students in Engineering of the Third Year.

Senior Scholars not assisting the Professor must attend at least one Honour Course of three Terms.

For the dates of these Examinations, see page 20. For the Courses in the various branches, see pages $55-59,82,89$.

## B.-Juntor Scholarships.

The Council is empowered to award Forty-five Junior Scholarships, tenable for one Session, which are allocated as follows:-
(a) In the Faculty of Arts, thirty (value $£ 24$ each).
(b) In the Faculty of Law, two (value $£ 25$ each).
(c) In the Faculty of Medicine, eight (value $£ 25$ each).
(d) In the School of Enginebring, five (value $£ 20$ each).

[^2](a) Of the thirty Junior Scholarships assigned to the Facouty of Arrs, ten-five Literary and five Science* $\dagger$-are tenable by Students of each of the first three years.

For Courses, see pages 48-55.
(b) Of the two Junior Scholarships assigned to the Faculty of Law, one is tenable by a Student of the First Year, one by a Student of the Second Year.

For Courses, see pages 63, 64.
(c) Of the eight Junior Scholarships assigned to the Faculty of Medicine, two are tenable by Students of each of the first four years.

For Courses, see pages 78-82.
(d) Of the five Junior Scholarships assigned to the School of Engineering, $\dagger$ two are tenable by Students of the First Year, two by Students of the Second Year, and one by a Student of the Third Year.

For Courses, see pages 88, 89.
Junior Scholars in any Faculty are exempted from the payment of one half of the Class Fees for the Pass Courses prescribed to Students of their faculty and standing. (See pages $27,62,55$, and 83 ).

The Examinations for Junior Scholarships are held at the beginning of the first term of the Session.

No Student can compete for any Scholarship until-
(a) He has Matriculated. $\ddagger$
(b) He has paid the College and Class Fees.
(c) He has entered his name with the Registrar.

[^3](d) He has (except when a candidate for a Junior Scholarship of the First Year) completed the course of the previous year in any one of the Queen's Colleges, or in any University empowered to grant Degrees.

Scholars failing to attend the prescribed Courses of Lectures, and to pass the Sessional Examinations, vacate their Scholarships. Students attending Honour Lectures must pass the Sessional Examinations in the subjects of such Lectures.
For the days and hours of examination for these Scholarships see pages 20, 21, 22.

## C.-The "Dr. and Mrs. W. A. Browne" Scholarship.

An Examination for a Scholarship of the yearly value of about £37, founded and endowed by Dr. W. A. Browne, on behalf of and in memory of his wife Caroline Charlotte Browne, F.Z.S., is held early in the First Term of each year.

The Scholarship is awarded for proficiency in the French and German languages, a competent colloquial knowledge of both languages being required.

It is open to any Matriculated Student of Queen's College, Galway, of either sex, who is a natural born subject of His Majesty, if not more than two years hare elapsed from the 1st of January following his, or her, Matriculation.

The Scholarship shall be held for one Session only; but the successful candidate, if otherwise qualified, may compete in succeeding Sessions, provided that no Student shall hold the Scholarship more than three times.

The Scholar, during the tenure of the Scholarship, shall attend the lectures prescribed to Students of his, or her, faculty and standing, and shall pursue Honour Courses in French and German Literature in the College, and shall qualify for a Sessional Prize in these subjects.

The Scholarship may be held along with any other Scholarship.

One-half of the Scholarship will be paid in January, and one-half in the following July, provided the holder shall have satisfied the conditions stated above.

[^4]The Council retains the power of withholding the whole or of awarding only a portion of the Scholarship, if sufficient merit be not shown. In case the whole or part of the Scholarship be not expended in any year, the Council shall apply the money so accruing to the purpose of giving an additional Scholarship in the next or following years, in the same subjects and under the same regulations.

## Scholars.



## D.-Research Scholarshitp.

A Research Scholarship in Science (value $£ 150$ per annum, tenable for two years, subject to a satisfactory report at the end of the first year) has been offered by the Royal Commission for the 1851 Exhibition, to students of science of at least three years' standing who have been recommended by the authorities of this College. For information respecting the nomination for 1904-1905 given to this College by the Royal Commission, application may be made to the Registrar.


[^5]
## X.-EXHIBITIONS.

The Council may a ward Exhibitions, tenable for one Session, to Natriculated Students at the Examinations for Junior Scholarships.

No Student is allowed to compete for an Exhibition in any Course substantially the same as that in which he has already held a Scholarship or Exhibition.
Exhibitioners failing to attend the prescribed Courses of Lectures, and to pass the Sessional Examinations, forfeit their Exhibitions.

## The Blayney Exhibition.

An Examination for one Exhibition, value about £30, in connection with the Blayney Bequest, is held in the month of December of each year, on the following conditions :-

1. No Candidate is eligible if more than two and a-half years have elapsed from the date of his Matriculation in this College to the time of the Examination.
2. The Holder of the Exhibition must attend Honour Classes, as required by the Council in this College, during the Session in which he shall have obtained the Exhibition; he must pass the College Sessional Examinations at the close of the same Session, and he must qualify for First Class Prizes at these Examinations in the subjects in which he shall have obtained the Exhibition.
3. The Council retain the power of withholding, or of awarding only a portion of the Exhibition.
4. The Blayney Exhibition may be held along with any Scholarship.
5. One-half of the Exhibition will be paid in January, and one-half in the following month of July, provided the Holder shall have satisfied the conditions stated above.

The Exhibition is awarded in alternate years for Classical and Scientific merit, respectively. In 1903 the Course is in Science as follows:-

The Mathematical Course appointed for the Junior Science Scholarship of the Second Year.

The General Theory of Infinite Series; and in particular the Binomial, Exponential, and Logarithmic Series.

Analytical Geometry of Two Dimensions; including the discussion of the General Equation of the Second Degree.

Differential and Integral Calculus, excluding Differential Equations.
Newton's Principia, Book r., Sections 1, 2, 3.
Elementary Statics.
Elementary Dynamics, including easy applications to the plane motion of rigid bodies.

Elementary Hydrostatics.
Elementary Optics.
Elementary Astronomy.
The Examination begins on Tuesday, 1st December, 1903. Intending Candidates must give in their names to the Registrar a fortnight before this date.

The Course for 1904 will be found on p. 61.
Blayney Exhlbitioners.

| 1890 (Classics), |  | Mahon, John S. |
| :---: | :---: | :---: |
| 1891 (Science), | - | - M‘Clelland, John A. |
| 1892 (Classics), |  | - M'Gregor, William. |
| 1893 (Science), |  | - None awarded. |
| 1894 (Classics), | - | Johnston, James. <br> (Mills, John, proxime accessit.) |
| $1895\left\{\begin{array}{l} (\text { Science }), \\ (\text { Classics }), \end{array}\right\}$ |  | $\text { . } \begin{aligned} & \text { Carmichael, John S. } \\ & \text { Reid, John. } \end{aligned}$ |
| 1896 (Classics), | - . | - Hezlett, James. |
| 1897 (Science), | - | - McLean, Andrew H. |
| 1898 (Classics), |  | - Williams, William J., in part. |
| 1899 (Science), |  | - Strain, Thomas G. |
| 1900 (Classics), | - - | - O'Neill, Joseph J. |
| 1901 (Science), | - | - Perry, Agnes M. |
| 1902 (Classics), | . | - Thompson, Frances L. |
| 1903 (Seience), | . | . Montagu, Cuthbert F. |

XI.-THE PRESIDENT'S MEDAL.

This Medal for excellence in Oratory and English Composition, founded by the late President, Sir Thomas Moffett, will be awarded annually in connection with the Literary and Debating Society, by the President.

Medalists.


## XII-TIME TABLES OF MATRICULATION AND SCHOLARSHIP EXAMINATIONS, 1903.

(Supplementary Examinations for First, Second, and Third Year Students will be held on Tuesday, the 20th October, and Wednesday, the 21st October, 1903, from 10 a.m. to 1 p.m., and 2 p.m. to 5 p.m.)

| days. | Hours. | FIRST YEAR. | SECOND YEAR. | THIRD YEAR. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MATRICULATION. | JUNIOR SOHOLARSHIPS. | JUNIOR SCHOLARSHIPS. | $\begin{gathered} \text { SENIOR } \\ \text { SCHOLARSHIPS. } \end{gathered}$ |
| Thursday, 22nd Oct. | 10-1 |  | Arts.-Latin. | Arts.-Latin. | Latin. |
|  | 2-5 | , | Arts.-Greek. | Arts.-Greek. | Greek. |
| Friday, 23rd Oct. | 10-1 | English. 10-111 <br> Latin. 111 $\frac{1}{2}$-1 | Arts.-English. <br> Engin.-Geometrical Drawing, \&c. | Arts. -English. | French. |
|  | 2-5 | Greek, French, German, or Italian. 2-3 $\frac{1}{2}$ <br> Mathematics. $3 \frac{1}{2}-5$ | Arts.-English. <br> Engin.-Geometrical Drawing, \&c. | Arts.-English. | German. Italian. |
| Saturday, 24th Oct. | 10-1 | Experimental Physics. | Arts.-Latin. | Arts.-Latin. | Latin. |
|  | 2-5 |  | Arts.-Greek. | Arts.-Greek. | Greek. |


| Monday, 26th Oct. | 10-1 | Jun. SCHOLARSHIPS. |  | $\left\{\begin{array}{l} \text { Arts.-Modern Lang. } \\ \text { Engin.-Engineering. } \end{array}\right.$ | Engineering. Political Science. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Arts. } \\ & \text { Med. }\} \text { English. } \end{aligned}$ |  |  |  |
|  | 2-5 | $\begin{aligned} & \text { Arts. } \\ & \text { Med. }\} \text { Greek. } \end{aligned}$ | Arts.--Modern Languages. | $\left\{\begin{array}{l} \text { Engin.-Engineering. } \\ \text { Arts.-Modern Lang. } \end{array}\right.$ | Engineering. <br> Modern History. |
| Tuesday, 27th Oct. | 10-1 | $\left.\begin{array}{l}\text { Arts. } \\ \text { Med. }\end{array}\right\}$ Latin. | $\left.\begin{array}{c} \text { Med. } \\ \text { Engin. } \end{array}\right\} \begin{gathered} \text { Theoretical } \\ \text { Chemistry. } \end{gathered}$ | Arts.--Chemistry. | Theoretical Chemistry. |
|  | $2-5$ | $\left.\begin{array}{l} \text { Arts. } \\ \text { Med. } \end{array}\right\} \text { Greek. }$ | Arts.-Celtic. | $\left\{\begin{array}{l} \text { Arts. } \end{array}\right\} \begin{aligned} & \text { Math. } \\ & \text { Engin. } \end{aligned} \text { Physics. }$ | Muthematical Physics. |
| Wednesday, 28th Oct. | 10-1 | $\left.\begin{array}{l}\text { Arts. } \\ \text { Med. }\end{array}\right\}$ Latin, | $\left.\begin{array}{cc}\text { Arts. } \\ + \text { Med. } \\ + \text { Engin. }\end{array}\right\}$Experimental <br> Physics. | $\left\{\begin{array}{c} \text { Arts.--Experimental } \\ \text { Physics. } \end{array}\right.$ | Exper. Physics. $\dagger$ |
|  | 2-5 | $\left.\begin{array}{l}\text { Arts. } \\ \begin{array}{l}\text { Med. } \\ \text { Engin. }\end{array}\end{array}\right\}$Arithm. <br> Algebra. | $\left.\begin{array}{l} \text { Arts. } \\ \text { Engin. } \end{array}\right\} \text { Mathematics. }$ | Arts.-Mathematies. | Metaphysics. Mathematics. |
| Thursday, 29th 0ct. | 10-1 | Arts.Med. <br> Medin.I Trig. | Arts. $\}$ Mathematics. Engin. Med.-Anatomy. | $\left\{\begin{array}{l} \text { Arts.-Mathematics. } \\ \text { Engin.-Mathematics. } \end{array}\right.$ | Mathematics. |
|  | 2-5 | $\left.\begin{array}{l}\text { Arts. } \\ \text { Med. }\end{array}\right\}$ Celtic. | Med.-Anatomy. | Arts.-Logic. | English. |
| Friday, 30th Oct. | 10-1 | $\begin{aligned} & \text { Arts. } \\ & \text { Med. }\} \text { German. } \end{aligned}$ |  | Arts.-Geology. | English. <br> Nat. History. |
|  | 2-5 | $\left.\begin{array}{l}\text { Arts. } \\ \text { Med. }\end{array}\right\}$ French. | Med.-Natural History. | Arts.-Nat. History. | Practical Chemistry.* |
| Saturday, 31st Oct. | 10-1 | $\left.\begin{array}{l}\text { Arts. } \\ \text { Med. }\end{array}\right\}$ Italian. |  | $\begin{aligned} & \text { Engin.-Practical } \\ & \text { Chemistry. } \end{aligned}$ |  |



* This Examination usually extends over two days, the hours to be arranged with Examiner.
† There will be an Examination in Practical Pbysics, day and hour to be arranged.

ADDITIONAL TIME TABLE OF THE EXAMINATIONS FOR MEDICAL SCHOLARSHIPS OF THE THIRD AND FOURTH YEARS, 1903.

| days. | моктнs. | Hours. | subjects. |
| :---: | :---: | :---: | :---: |
| Thtrsday, . . . . . | 29th October, | $\left\{\begin{array}{lll}10-1, \\ 2-5, & . & .\end{array}\right.$ | Anatomy. <br> Physiology. |
| Friday, . | 30th October, | $\left\{\begin{array}{l}10-1, \\ 2-5,\end{array} . . .\right.$. | Materia Medica. Surgery. |
| Monday, | 2nd November, | $\left\{\begin{array}{lllll}10-1, & . & . & . & .\end{array}\right.$ | Midwifery. <br> Medicine. <br> Practical Chemistry. |
| Tursday, . . . . . . | 3rd November, | $\left\{\begin{array}{l} 10-11 \frac{1}{2}, \\ 11 \frac{1}{2}-1 \end{array}\right\} . . .$ | Medical Jurisprudence. |

Examinations for Junior Law Scholarehifs will be held on the 17th and 18th December, 1903.
James Hardiman Library, NUI Galway

## XIII.-MATRICULATION EXAMINATION, 1903.*

[For Regulations and date see pages 6 and 20.]
A.-In the Faculties of Arts, Law, and Medicine.

## Subjects :

i. Latin.
ii. Any one of the following languages:-Greek, French, German, Italian.
iii. English.
iv. Mathematics.
v. Experimental Physics.


[^6]iii. English, . . | English Grammar and Composition. |
| ---: | :--- |
| Macaulay-Life of Johnson. |
| Thackeray-Addison, Steele, Goldsmith, from |
| English Humourists. |

iv. Mathematics, . Arithmetic, including Principles of Notation and the four rules, Vulgar and Decimal Fractions, Proportion and its applications, and the Extraction of the Square Root.
Algebra, including Fractions, and the solution of Simple Equations.
Geometry-Euclid's Elements, Books i., ii., iii.
v. Experimental Physics: The Elementary Principles of Dynamics and Hydrostatics, as treated in Everett's Elementary Text-book of Physics.
B.-In the Sohool of Engineering.*

Subjects:
i. Mathematics.-Same as Course in Faculty of Arts.
ii. History, Geography, and the English Language. Outlines of History of Great Britain and Ireland. Outlines of Geography. English Grammar and Composition.
iii. Experimental Physics : Same as Course in Faculty of Arts.

## CHANGES IN THE MATRICULATION COURSE FOR THE SESSION 1904-1905.

Latin, . . Virgil-Aeneid, iii. (for i.).
Greek, . . Xenophon-Hellenica, Book ii. (for Book i.). Euripides-Hecuba, omitting choral odes (for Medea).
English, . Lyster-Select Poetry for Young Students, 1st Division (for Thackeray).

\author{

* See foot-note, p. 23.
}


## FACULTY OF ARTS．

## I．－TIME TABLE OF LECTURES．

| Subjects． | Terms． | Mon． | Tues． | Wed | Thrs． | Fri． | Sat． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1st YEAR． |  |  |  |  |  |  |  |
| French（Honour）， | 1，2，3， | 10 | － | － | 10 |  |  |
| French（Pass）， | 1，2，3， | － | 10 | － | － | 10 |  |
| German， <br> ＊Italian， | ，$1,2,3$, <br> $1,2,3$, |  | － | 二 |  |  | 10 |
| Latin（Honour）， | 1，2，3， | － |  | $\overline{12}$ |  | 12 |  |
| Latin（Pass）， | 1，2，3， |  | 11 |  | 11 |  | ＊ |
| Greek（Honour）， | 1，2，3， | － | ， | 9 | － | 9 |  |
| Greek（Pass）， | 1，2，3， | － | － | － | 10 | － | 11 |
|  | 1，2，3， | 1 | － | 1 | － | 1 | － |
| Mathematics（Honour）， <br> $\dagger$ English， | $1,2,3$, <br> $1,2,3$, | －11 |  |  |  | 11 | 1 |
| Experimental Physics， | 1，2，3， | － | 12 | － | 12 | － | 12 |
| 2nd YEAR． |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { French (Pass), } \\ & \text { (Honours,) } \end{aligned}$ | 1，2，3， | － | 12 | － | 12 | － | 12 |
|  | 1，2，3， | 9 | － | － | 9 |  |  |
| ＊Italian，${ }_{\text {Greek }}$（Honour） |  |  |  |  | － |  |  |
| Greek（Honour）， | 1，2，3， | 12 | 11 | － |  | 12 | 10 |
| Latin， | 1， $1,2,3$, | 11 |  | 11 |  |  |  |
| ，＇（additional for Honours）， | 1，2，3， |  | 10 | － | － | 11 |  |
| Mathematics（Pass）， Mathematics（Honour）， | 1，2，3， | － | 11 | － | 11 |  | 1 |
| Mathematics（Honour）， | 1， 1,2, |  | 11 |  | 11 | － | 11 |
| ＋English， |  |  |  | 10 |  |  |  |
| ＊History， |  | 二 |  |  |  |  |  |
| Mathematical Physics（Honour）， | 1，2，3， |  | － | 9 | － |  | 9 |
| Mathematical Physics（Pass）， | 1，2，3， | 10 |  | － | － | 10 |  |
| ${ }_{\text {Cxperimental Physics，}}^{\text {Chemistry（ }}$（ ${ }^{\text {ass and }}$ Honour）， | $1,2,3$, $1,2,3$, 3 | 12 | $\underline{9}$ | $\overline{12}$ | 9 |  | － |
| Chemistry，Laboratory（Pass），． | $3{ }^{\text {M }}$ Mths． | 3 | － | 2 |  | 12 |  |
| ＊Chemistry，Laboratory（Honour）， |  |  |  |  |  |  |  |
| ${ }_{\text {Piology，}}$ Prical ${ }^{\text {a }}$（ ${ }^{\text {a }}$ |  |  | 3 | － | 3 | － | 3 |
| Practical Biology（Honour）， Mineralogy and Geology， |  |  | － |  |  |  |  |
| ＊Practical Physics，． | $\stackrel{1}{1,2,}$ |  | 二 | 10 |  | 10 |  |

＊At hours and on days to be arranged．
$\dagger$ Honour Students receive special instruction．

## TIME TABLE OF LECTURES-continued.



* At hours and on days to be arranged.
$\dagger$ Honour Students receive special instruction.
$\ddagger$ Honour Students may substitute for the above, attendance on the Second Course of Natural History. See page 66, note $\ddagger$


## II.-COURSES OF LECTURES.

## [The Course of Study extends over three Sessions.]

> Prescribed Pass Courses.

For Students of the First Year.
I. Latin.
II. Any one of the following :-Greek, French, German, Italian.
III. English Language and Literature.
IV. Mathematics.
V. Experimental Physics.

Students may substitute Honour Courses in Latin, Greek, Mathematics, and Modern Languages for the Pass Courses in these subjects.

For Students of the Second Year.
I. Latin.
II. Greek.
III. English Language and Literature.
IV. Any one of the following languages:-French, German, Italian.
V. Logic (Two Terms).
VI. Mathematics.
VII. Mathematical Physics.
VIII. Experimental Physics.
IX. Chemistry.
X. Natural History.
XI. Geology (including Mineralogy and Physical Geography).

Students must attend in four of the foregoing subjects, one of which must be Latin or Mathematics.

Honour Students may take Honour for Pass Courses in any of the subjects, and a Fifth (optional) Honour Course.

## For Students of the Third Year.

## I. Latin.

## II. Greek.

III. English, and any one of the following languages:-French, German, Italian.
IV. Logic, and any one of the following:-Metaphysics, Ethics, History of Philosophy, Political Economy.
V. Mathematics.
VI. Mathematical Physics.
VII. Experimental Physics.
VIII. Chemistry.
IX. Physiology.
X. Botany and Zoology.
XI. Geology (including Mineralogy and Physical Geography).

Students may attend, at their option, in any one of the following groups of subjects:-
A. (1) Latin ; (2) Greek; and (3) any one other of the above subjects.
B. (1) Latin; (2) Logic, Metaphysics, with History of Philosophy; and (3) either Ethics or Political Economy.
C. (1) Mathematics; and (2) (3) two others of the above subjects, one of which must be one of those enumerated under heads VI. to XI.

Or Honour Lectures in any one of the following Groups:-
I. Latin and Greek Languages and Literatures.
II. English, and any two of the following languages:-French, German, Italian.
*III. Logic, Metaphysics, Ethics, and History of Philosophy.
IV. Civil and Constitutional History, Political Economy, and General Jurisprudence.
V. Mathematics and Mathematical Physics.
VI. Mathematical and Experimental Physics.
VII. Any two of the following subjects:-

1. Experimental Physics.
in. Chemistry.
iri. Botany and Zoology.
rv. Physiology or Geology.
[For the regulations as to University Examinations in Arts, see $\Lambda$ ppendix.]
[^7]
## I. -GREEK.

The books to be read in the Greek class-room for Session 1903-1904 will be selected so as to prepare students for the several Examinations in the Royal University and corresponding Examinations.

## Students of the First Year will read-

In Pass Class-Homer, Odyssey, ix., x.; DemosthenesPhilippics, i., ii., iii. History from b.c. 776 to b.c. 429. Outlines of Greek Literature (Jebb). Antiquities (Gow, chaps. x., xi., xix.).

In Honour Class, in addition to the above, Euripides, Baccha; Hervdotus, Book viii. ; Plato-Meno.

The Pass Class meets at 12 on Thursdays, and 11 on Saturdays; the Honour Class at 9 on Tuesdays, Wednesdays, and Fridays.

Students of the Second Year will read-
In Pass Class-Sophocles, Oedipus Rex; Thucydides, Book 6. History, from 431 to 387 B.c.; Literature, History of Tragedy, The Historians; Antiquities (Gow, chaps. xii.-xy., xviii., xx., xxxi.):

In Honour Class, in addition to the above-Homer, Iliad, 16, 21, 22 ; Sophocles, Antigone and Philoctetes; Plato, Phaedo. History, Literature, and Antiquities-Grote, chaps. 58-62, Haigh's Attic Theatre, Jevons' Hist. of Greek Literature, Part 1, Book 3.
The Pass Class meets at 11 a.m. on Tuesdays and Thursdays; the Honour Class at 12 noon on Mondays and Fridays, and at 10 A.m. on Saturdays.

## Students of the Third Year will read-

In Pass Class-Jebb's Selections from the Attic OratorsAntiphon, Andocides, Lysias; Aeschines, in Ctesiphontem; Aeschylus, Prometheus Vinctus. Special Portions of History, Literature, and Antiquities.

In Honour Class, in addition to the above, Aristotle, Poetics; Aeschylus, Agamemnon and Eumenides; Aristophanes, Knights and Frogs; Theocritus, 1, 2, 3, 6, 7, 9, 10; Pindar, Nemeans, i.-vi.

The Pass Class meets at 11 a.m. on Mondays and Fridays; the Honour Class at 12 noon on Tuesdays, Wednesdays, and Thursdays.

The lecture-hours, as given above, are subject to readjustment as occasion may arise. Special arrangements may be made for post-graduate Students.

Lectures on Greek Prose Composition form a regular part of each Course. Students of the First and Second Years will find North and Hillard's and Sidgwick's "Greek Prose Composition" of service. Goodwin's Grammar is also recommended.
The standard works of reference and the larger editions of Greek Classics may be consulted in the Library. Before providing themselves with class-room copies of the authors prescribed, Students may consult a list, which will be posted at the beginning of the Session, of editions recommended for use.

## II.-LATIN.

Lectures are delivered during three terms on the Language and Literature of Ancient Rome. Special portions of the History and Antiquities are studied in connection with the authors read. Latin Prose Composition, taught orally as well as by written exercises, forms an important part of each Course. Arrangements are made for the instruction in writing Latin Verse of such Students as are anxious to cultivate the art. The elements of Classical Philology and Textual Criticism are part of the work of the senior classes.

The Books read in class are chosen with a view to the requirements of Students who are preparing for Examinations in the Royal University of Ireland.

## Lectures for Students of the First Year:-

(a) The Pass Class meets on Tuesdays and Thursdays, at 11 А.м., during three terms.

Books appointed for Session 1903-1904:-Livy, Book xxxv. Virgil, Aeneid, Book ii. Roman History, A. ©.c. to 133 b.c. (Pelham, Rivington's.) Literature (Wilkins' Primer).
(b) Additional Lectures for Honour Students are delivered on Mondays, Wednesdays, and Fridays, at 12 noon.

Books appointed for Session 1903-1904:-Virgil-Aeneid, vi., Ovid-Fasti, i., ii., iii. Cicero-Philippic ii. History-From 216 to 167 s.c. (Mommsen, vol. II., bk. iii., 6-10). Antiquities (Ramsay, chaps. ii.-vi.). Literature-Mackail's Latin Literature.
[These Lectures include the Courses preseribed for the First Year Examination in the Royal University, for the Sessional Examination, and for the Latin portion of the Second Year Literary Scholarship in Q. C. G.]

## Lectures for Students of the Second Fear:-

(a) The class meets on Mondays and Wednesdays at 11 a.m.

The special books appointed for the Session 1903-1904 are:-
Cicero-Tusculan Disputations iii. and iv.; Tacitus-Dialogus;
Juvenal-Satires, 1, 3, 7, 8, 11 ; History of the period from b.c. 31 to a.d. 68 (Student's Roman Empire, chaps. 1-18 (omitting 4, 6, 7, 8)). Antiquities-The Public Lands, Financial Administration of the Republic; Law and Justice; Roman Money; Roman Measures (Ramsay, chaps. 7, 8, 9, 13, and Roby L. G. i., App. D). Literature-Mackail's Latin Literature.
(b) Additional Lectures for Honour Students are delivered on Tuesdays at 10 a.m., and Fridays at 11 a.m., when the following will be studied :-Lucretius, ii.; Martial-Liber Spectaculorum and Books i.-iv. (Stephenson's edition); Cicero-In his Letters, sli. to lxxx. (Tyrrell's edition); Tacitus-Hist. iii., iv., v. The special Honour course in History is Mommsen, Provinces of the Roman Empire, vol. i., pp. 1-194 (Eng. Trans.) Literature and Antiquities.
[These Lectures include the Courses prescribed for the Second Year Examination in the Royal University, for the Sessional, and for the Latin portion of the Third Year Literary Scholarship Q. C. G.]

## Lectures for Students of the Third Year:-

The class meets at 10 a.m. on Mondays, Wednesdays, and Fridays, and arrangements are made for additional Lectures for Honour Students. The subjects of Lecture during the Session 1903-1904, will be:-Virgil-AEneid, ii., iv., vi.; Horace-Odes, i. and ii.; Tacitus-Annals, i.-iv.; Lucretius, Book ii.; PlautusMostellaria and Captivi; Cicero-Ad Atticum, iii., iv., v.; Persius (omitting Sat. iv.); History, A.D. 68 to A.D. 138 (Student's Roman Empire); Mommsen-History of Rome, vol. v., bk. v., chaps. 8-11). Literature-Cruttwell's Roman Literature, Bks. ii. and iii. Sellar-Poets of the Republic, chaps. i.-vii.; Antiquities-Law and Justice; Religion, The Calendar; the Military and Naval Organisation of the Republic (Ramsay, chaps. 9 to 12).
[These Lectures embrace the Courses prescribed for the Royal University B.A. Examination, for the Sessional of the Third Year, and for the Senior Scholarship in Q. C. G.]
[Arrangements may be made with the Professor for additional Lectures if necessary.]

Students are expected to provide themselves with texts and the ordinary editions for College use in class. The larger modern editions and Books of Reference may be consulted in the Library. For Pass Students of the First Year, Bradley \&
edition of Arnold's Latin Prose Composition is used as a basis of instruction in Prose Composition; for all the other classes Bradley's Aids to Latin Prose Composition.

## III.-MATHEMATICS.

The Lectures in Mathematics are adapted for those preparing for the Examinations of the Royal University. Students are expected to prepare for the Lectures by reading, and to work out the examples set in the classes to the best of their ability.
The Courses in the Faculty of Arts are :-

## I. For Pass Students of the First Year-

Elements of Plane Geometry, Algebra and Plane Trigonometry. The following Text-books will be needed:-A good edition of Euclid's Elements, books i.-vi. (e.g. Lachlan's, H. M. Taylor's, Casey's, Nixon's, Hall and Stevens'). Chrystal's Introduction to Algebra. Hall and Knight's Elementary Trigonometry. *Bottomley's Four-fgure Mathematical Tables.
In connexion with the theoretical teaching of Geometry, Students will be required to practise Elementary Geometrical Drawing; they should provide themselves with a hard pencil, two small set-squares ( $45^{\circ}$ aud $60^{\circ}$ ), a ruler graduated in inches and tenths, and a pair of compasses with a hard pencil. Books of squared paper will also be found useful. In the lectures on Trigonometry a small protractor will be of assistance, but is not indispensable.
This class meets on Mondays, Wednesdays, and Fridays, at 1 p.m.

## II. For Honour Students of the First Year, and Pass Students of tee Second Year-

Elements of Solid Geometry and Mensuration; Plane Trigonometry; Elements of the Theory of Equations, of Analytical Geometry and of Conic Sections; First Principles of the Differential Calculus and of Spherical Trigonometry. The following Text-books will be needed:-A good edition of Euclid's Elements, book xi. *Godfrey and Price's Translation of Hocevar's Solid Geometry. Hall and Knight's Elementary Trigonometry. C. Smith's Analytical Conic Sections; *C. Taylor's Elementary Geometry of Conics. *Lamb's Infinitesimal Calculus, or *Gibson's Elementary Treatise on the Calculus. Todhunter and Leathem's Spherical Trigonometry. Bottomley's Four-figure Mathematical Tables.

[^8]In this class, as in I., Students will require simple mathematical instruments; and, in addition, books of squared paper will be needed (the most convenient size of ruling is in inches and tenths).

This class meets on Tuesdays, Thursdays, and Saturdays, at 1 p.m.
III. For Honour Students of the Second Year, and Pass Students of the Terrd Year-

Algebra (including Theory of Equations) and Analytical Trigonometry; Plane Analytical Geometry; Differential and Integral Calculus. Text-books recommended are:-*Chrystal's Algebra (vols. i., ii.). Osgood's Introduction to Infinite Series (published by Harvard University). *Hobson's Trigonometry. Lamb's or Gibson's Calculus. C. Smith's Conic Sections, or Salmon's Conic Sections. Burnside and Panton's Theory of Equations.

This class meets on Tuesdays, Thursdays, and Saturdays, at 11 a.m.
IV. For Honour Students of the Third Year-

Analytical Geometry of Two and of Three Dimensions, including the Elements of Higher Plane Curves; Differential and Integral Calculus; Differential Equations. Text-books recommended are :-Edwards' Differential Calculus. Williamson's Integral Calculus. C. Smith's Solid Geometry. *Salmon's Geometry of Three Dimensions. Woolsey Johnson's Differential Equations. *Picard's Traité d'Analyse, t. i.
This class meets on Tuesdays, Thursdays, and Saturdays, at 12 noon.
A Class may be arranged with the Professor for Students reading the Course in Mathematics for the M.A. Degree in the Royal University.

An additional Course of Lectures is given by the Senior Scholar to Pass Students of the First Year. This Class meets at 1 p.m. on Tuesdays and Thursdays.

The College Library contains a large collection of standard mathematical works and Journals, to which regular additions are made. The following may be mentioned, in addition to the usual text-books:-

> Works of Lagrange, Jacobi, Gauss, Cayley, Weierstrass, Schwarz, Fourier, Adams, Riemann, fo.; Journals of Crelle and Liouville, Acta Mathematica, Quarterly Journal of Mathematies, Proceedings of the London Mathematical Society, Jahrbuch der Fortschritte der Mathematik, Annali di Matematica, American Journal of Mathematics, Zeitschrift für Mathematik und Physik.

[^9]
## IV.-NATURAL PHILOSOPHY.

[In this Department Courses of Study are pursued in both Experimental Physics and Mathematical Physics.]

## A.-Experimental Physics.

Instruction in this subject is imparted by means of Lectures illustrated by experiments, by the use of suitable text-books, and by Courses of practical work in the Laboratory.

Lecture Courses.-Separate Courses of Lectures are given to Students of the First, Second, and Third Years.

The Class for Students of the First Year meets on three days of the week during the whole Session. The Lectures are designed to give Students in Arts, Medicine, and Engineering a thorough grounding in the general principles of Mechanics, Hydrostatics, Heat, Sound, Light, Magnetism, and Electricity, and are adapted for those preparing for the First University Examinations of the Royal University of Ireland, and similar Examinations. Special attention is given to the subjects of Heat, Light, and Sound, to meet the requirements of those intending to compete for Honours at the First University Examination in Arts.

The Class for Students of the Second Year meets on two days of the week during the whole Session. The subjects chosen are those prescribed for the Second University Examination in Arts of the Royal University. These subjects are dealt with as completely as the Mathematical attainments of the Class will permit.

The Class for Students of the Third Fear meets on two days of the week during the whole Session for Pass Students, and an additional Lecture every week is delivered to those who intend to compete for Honours at the B.A. Examination of the Royal University. The subjects chosen are those prescribed for this Examination, and the Lectures aim at making Students familiar with the present state of physical science, and with the results and methods of modera physical research. A Class may also be arranged with the Professor for Students reading the M.A. Honour Course of the Royal University.

## Text-Books.

The Text-books recommended for the First Year Course are the Cambridge Natural Science Manuals, by R. T. Glazebrook.

For the Second Year Course the Text-books recommended are Deschanel's Natural Philosophy, edited by Professor Everett, Joubert's Electricity and Magnetism, and Balfour Stewart's Heat.

For the Third Year Course the Text-books recommended are Deschanel's Natural Philosophy, edited by Professor Everett; Preston's Theory of Light; Preston's Theory of Heat; Fleming's Alternate Current Transformer, vol. i.; Maxwell's Heat; Cours de Physique, by J. Violle; Ewing's Magnetic Induction.

Laboratory Courses.-Separate Courses of practical instruction in the Laboratories, at which the Demonstrator assists, are given to Students in the Faculties of Arts, Medicine, and Engineering. These Courses, which are continued for three months of the Session, are designed to prepare Students for the Examinations in Practical Physics of the Royal University, and similar Examinations; but facilities are afforded to Students desirous of pursuing a more extended course of practical work. The Physical Laboratories are supplied with electrical power from the Galway Electric Light Company's Station, and provided with storage batteries, continuous current dynamo, alternator, and transformer. The Museum of Natural Philosophy, in connection with the Laboratories, contains a very complete collection of physical apparatus suitable for lecture illustration and research work.

> B.-Mathematical Physics.

Instruction in this subject is imparted by means of Lectures and by the use of text-books.

Lecture Courses.-Three Courses of Lectures are delivered extending over the whole Session-one to Pass Students of the Second Year, one to Honour Students of the Second Year, and one to Honour Students of the Third Year. Pass Students of the Third Year attend the Honour Course of the Second Year. A Class for Students reading the M. A. Honour Course of the Royal University in Mathematical Physics may be arranged with the Professor. An additional Course of Lectures is given by the Senior Scholar to Pass Students of the Second Year.

The subjects treated in the Courses of the Second Year are those branches of Mathematical Physics prescribed for the Second University Examinations of the Royal University in Arts and Engineering. The Third Year Course includes those branches of Mathematical Physics prescribed by the Royal University for the Degrees of B.A. and B.E. with Honours.

## Text-Books.

The Text-books recommended for the Second Year Courses are, Loney's Mechanics and Hydrostatics for Beginners, Loney's Treatise on Elementary Dynamics, Greaves' Statics, Heath's Elementary Optics, Greaves' Hydrostatics, Parker's Astronomy.

For the Third Year Course, the following Text-books are recommended :-Routh's Statics, vols. i. and ii. ; Williamson and Tarleton's Dynamics, Routh's Elementary Rigid Dynamics, Heath's Geometrical Optics, Besant's Hydromechanics, Part I.; Godfray's Astronomy, Frost's Newton.

Library :-The College Library contains a large collection of standard works on the various branches of Mathematical and Experimental Physics, and their allied subjects, and receives many British and foreign scientific periodicals and journals.

## V.-ENGLISH LANGUAGE AND LITERATURE.

Lectures to First Year Students are delivered during the whole Session on Mondays and Fridays, at 11 a.m. The Course prescribed in the First University Examination in the R.U.I. supplies the subjects specially dealt with in these Lectures.

The Lectures for Students of the Second Year are given during the three terms. Additional Lectures are given to Students reading for Honours.

In the Third Year, Honour Lectures are given throughout the Session.

In each year the Books prescribed for the Examinations of the Royal University form the subjects of special study.

Courses of Honour Lectures deal with the history of English Literature during the periods prescribed for the several years: these Lectures aim especially at imparting an intelligent apprehension of the origin, development, and
characteristics of successive literary movements; rather than a knowledge of the names of individual writers and their works.

The Students are also instructed and exercised in the writing of essays.

Students are expected to provide themselves with the text-books in the study of which the classes are respectively engaged. They will find the College Library, especially as their studies become more adranced, a great assistance, for it contains a large collection of standard editions of English poets and prose writers, as well as the principal works in literary criticism and on the history of literature, and also works that will aid in the linguistic study of English.

Arrangements may be made with the Professor for a postgraduate class, with a view to the examination for the M.A. Degree in the R.U.I.

## VI.-MODERN HISTORY.

Lectures will be given during two terms, the Course including the History of Great Britain and Ireland, and of France, from 1589 to 1815.

## VII.-MENTAL SCIENCE.

Logic.-The Courses of Lectures for Second Year Students are delivered during two terms, at 1 p.m., on Mondays and Wednesdays.

Metaphysics.-Lectures are delivered during two terms. The Lectures deal with the principles of Psychology and Ontology.

In the various Courses of Lectures, the portions of the subjects for each class are chosen to meet the requirements of Students who are preparing for Examination in the Royal University, and special arrangements may be made for Students who are studying for other public Examinations.

## VIII.-CHEMISTRY.

Chemistry is studied throughout the Session:-First, by means of Lectures in which an acquaintance is made with the chief facts upon which the science is based, by experiments conducted on the Lecture-table. These are carefully observed and their scientific bearing considered: Secondly $y_{t}$ by experiments conducted by the Students themselves, each working independently in the laboratory, under the supervision of the Professor or Demonstrator : Thirdly, by the use of text-books ; by reference to the Dictionaries of Chemistry, and to the Chemical Journals which are available in the Library.

## (1) Lecture Courses.

(a) Second Year Course for Pass and Honours. Inorganic Chemistry.-The class meets at 12 o'clock on Mondays, Wednesdays, and Fridays throughout the Session, but attendance is not required on Mondays, between the Christmas recess and the close of Medical Lectures. The Lectures embrace a consideration of the leading facts of Inorganic Chemistry, and include both the Pass and Honour subjects required for the Second University Examination in Arts of the Royal University, or for other corresponding Examinations.

About forty Lectures are devoted to a detailed study of the non-metallic elements, their reactions, and the constitution of the compounds they form. The remaining Lectures embrace a review of the general facts established, including the weight and volume relation in chemical reactions, the molecular hypothesis, the atomic hypothesis, and the relative weight of molecules and atoms. The leading metals and their more important compounds are also briefly considered.
(b) Third Year Course for Honours.- Organic Chemistry.A class in Advanced Organic Chemistry, adapted to the requirements of the B.A. Honour Examination of the Royal University, will, if required, be formed to meet throughout the Session at hours to be arranged; also a Fourth Year (Post-Graduate) Course for Honours, to meet the requirements of Students preparing for the M.A. Honour Examination of the Royal University. Students wishing to avail themselves of these classes must arrange with the Professor at the beginning of the First Term.

## (2) Laboratory Courses, Practical Chemistry.

Students are admitted to the Laboratory at the hours given in the time-table, and at other times by arrangement with the Professor. A separate bench is allotted to each Student. These courses of experiment afford a means of acquiring manipulative skill, and of attaining a more intimate knowledge of the science of chemistry.
(a) Second Year Course for Pass.-This course consists of about forty Lectures of two hours each, commencing in the first term, and ending at the close of the second term. The work done is adapted to the requirements in Practical Chemistry of the Pass Second Examination in Arts. A Second Fear Six Months' Course for Honours, adapted to the Honour Second Examination in Arts of the Royal University, will be arranged for Students who desire it.
(b) Third Year Course for Honours.-This Course is arranged to meet the requirements of the B.A. Honour Examination of the Royal University and of other corresponding Examinations. The Class works throughout the Session at hours to be arranged. Fee, five pounds. Fourth Tear (Post-Graduate) Courses for Honours will be organized, if desired, to meet the requirements of Students preparing for the M.A. Honow. Examination of the Royal University, or for other Examinations. These Classes will commence work at the beginning of the Session. Post-Graduate Courses may also be arranged in other departments of Pure or Applied Chemistry, including Agriculture, Brewing, Food Analysis, etc., to meet individual requirements. Fee, five pounds.
(3) Text-Books, Chemistry Department of Librarty,
Chemistri Mosedm.
(a) Text-Books recommended.-For Second Year Lecture Course:-
Thorpe, Inorganic Chemistry, 2 vols.; Holleman, Inorganic Chemistry (trans. Cooper); Newth, Inorganic Chemistry; Remsen, College Chemistry ; or Richter, Inorganic Chemistry (trans. Smith).

For Third Year Honour and Post-Graduate Lecture Courses :-

Roscoe and Schorlemmer, Treatise on Chemistry, vols. i. and iu.; James HardinPdi Library, NUI Galway

Holleman, Organic Chemistry (trans. Walker); Richter, Urganic Chemistry (trans. Smith) ; Nernst, Theoretical Chemistry (trans. Palmer); Hjelt, Principles of General Organic Chemistry (trans. Tingle) ; L. Meyer, Outlines of Theoretical Chemistry (trans. Bedson and Williams) ; Van't Hoff, The Arrangements of Atoms in Space (trans. Eiloart) ; Walker, Introduction to Physical Chemistry ; Van't Hoff, Lectures on Theoretical and Physical Chemistry (trans. Lehfeldt) ; Lehfeldt, Physical Chemistry.

## For Laboratory Courses :-

Qualitatire Analysis-Clowes, Practical Chemistry. For Quantitative Analysis-Fresenius, Quantitative Analysis, (trans. Vacher and Grores), or Clowes and Coleman, Quantitative Analysis; Hempel, Gas Analysis (trans. Dennis). For Preparations-Fischer, Organic Compounds (trans. Kling); Gattermann, Practical Methods of Organic Chemistry (trans. Shober) ; Lassar-Cohn, Manual of Organic Chemistry (trans. Smith). Erdmann, Chemical Preparations (trans. Dunlap). H. Meyer, Determination of Radicals in Carbon Compounds (trans. Tingle). Cohen, Practical Organic Chemistry.
(b) Chemistry Department of Library.-Chief works of reference:-

Morley and Muir, Watt's Dictionary of Chemistry; Thorpe, Dictionary of Applied Chemistry; Beilstein, Organische Chemie; Richter, Lexicon der Kohlenstoffverbindungen; Roscoe and Schor* lemmer, Treatise on Chemistry; L. Meyer, Modern Theories of Chemistry (trans. Bedson) ; Ostwald, Lehrbuch der Allgemeinen Chemie; Kopp, Geschichte der Chemie; E. Meyer, History of Chemistry (trans. M'Gowan); Comey, Dictionary of Solubilities; Allen, Commercial Organic Analysis; Green, Fermentation; Menschutkin, Analytical Chemistry (trans. Locke).

Principal Journass containing original Memoirs:-
Journal of the Chemical Society; Liebig's Annalen der Chemie; Berichte der Deutschen Chemischen Gesellschaft ; Chemisches Centralblatt; Zeitschrift für Physikalische Chemie; Annales de Chemie et de Physique; Journal of the Society of Chemical Industry; Chemical News.

## IX.-NATURAL HISTORY.

The Department of Natural History comprehends the Sections of Zoology, Botany, Practical Biology, Geology, Mineralogy, and Physical Geography.

## 1. Zoology.

The Class in Zoology meets at 3, on Tuesdays, Thursdays, and Saturdays, during the months of November, December, January, and February. The Course consists of at least forty Lectures.

Introduction-The Kingdoms of Nature. The Characters of Organized Bodies. Protoplasm. Cells. Tissues. Organs. Development. Classification of Animals. Distribution in Time and Space. Theories of Erolution. The Anatomy, Physiology, and Life-History of selected types. Systematic Zoology.

The Musedm.
This Museum contains a series of specimens illustrating the Animal Sub-Kingdoms. The specimens are arranged in a series, commencing with the simpler and proceeding to the higher Forms. Disarticulated Skulls, Glass and PapierMaché Models may be used by the Students. A revolving Microscope, Panoramic Diagrams, and Dissected Specimens of Animals are included in the Collection.

## Text-Books.

Thomson's Zoology, Huxley's Vertebrata.
Books recommended to Senior and Honour Classes:-Wiedersheim, Lang, Sedgwick, Parker and Haswell.

## Works of Reference

The works of Ray Lankester (Oxford Zoology) ; The Cambridge Zoology; Bronn's Tier-Reich; Brehm, Tier-Leben; Cuvier, Règne Animal; Marey, D'Arsonval and others, Physique Biologique; 0wen, Odontography; Owen, Comparative Anatomy; Ludwig's Leunis; Fuerbringer, Birds; Bateson, Materials for Variation; Ellenberger, Anatomy of the Dog ; Hertwig, Embryology ; Krause, Anatomy of the Rabbit ; A. Russel Wallace, Distribution of Animals; C. Darwin, Animais and Plants under Domestication ; Tarrell, British Birds and British Fishes; Fürbringer, Untersuchungen zur Morphologie und Systematik der Vögel ; British Museum Zoological Catalogues; Macalister, Animai Morphology and Comparative Anatomy of Vertebrates; Topinard, Anthropology.

## Journals.

Journ. Zoological Society, Journ. Linnean Society, Challenger Reports, The American Naturalist, Annales des Sciences Naturelles. Kölliker's Zeitschrift für Wissenschaftliche Zoologie, Gegenbaur's

Morphologisches Jahrbuch, Journ. of Marine Biological Association, Zoologischer Jahresbericht, Naples; Zoologische Jahrbücher, Spengel.

Several small Aquaria in the Museum and passages contain living specimens.

## 2. Botany.

The Course in Botany extends over three months. The Class meets on at least three days in the week at 3 o'clock. The Lectures will embrace :-
Definitions. Plant Life; Histology and Physiology. Morphology, Systematic Botany, Cryptogams and Phanerogams. The course is fully illustrated with Microscopic specimens.

The Morphology and minute Anatomy of Plants, Plant Physiology. Systematic Botany. The Characters of the Chief Natural Orders. The Life History of selected types-Phanerogams and Cryptogams; General conditions of Plant Life.

## Text-Books.

Strasburger's Botany, Vines' Botany, Hooker's British Flora; Green's Botany.

Senior Classes.-Le Maout and Decaisne, Sachs, Goebel, Pfeffer ; and the practical manuals of Bower, Vines, Detmer, and Darwin.

## Works of Reference.

Leunis' Synopsis; Kerner and Oliver, Natural History of Plants; Sowerby, English Botany ; J. Lubbock, Seedlings; Vines, Physiology of Plants; Massee, Plant Diseases; Scott, Structural Botany; De Candolle, Monographae Phanerogamarum C. Darwin, Insectivorous Plants.

## Journals.

Just's Botanischer Jahresbericht, Annales des Sciences Naturelles, Linnean Society's Journal and Transactions.

A centrifugal machine to show Knight's experiment, a Growth lever Registering Drum, and other apparatus useful in studying the Physiology of Plants, are included in the Museum of this department.

## 3. Biologx.

This Class meets on two or three days each week during the first three months of the Session.

During this Course the following Animals are dissected by the Students:-the Rabbit, Pigeon, Frog, Codfish or Dogfish, Sepia, Snail, Mussel, Blatta, Crayfish or Lobster, Cockroach, Earthworm, Leech, Hydra; Microscopic preparations of the organs are examined, fresh or preserved. The Plants studied are (a) Flowering Plant, Arabis or Wallfower, Tulip; (b) The Fern; (c) Chara, Penicillium, Mucor, Yeast. Sections of stems, leaves, roots, and flowers are made by the Students, who are expected to make drawings. Paramaecium, Vorticella, Acineta, Amoeba, Noctiluca, Spongilla, and Rotifers may be studied.

Third Year.-Honour Students meet on an extra day in the week, and are supplied with other specimens in addition to the above. All animals are supplied to the Students free of cost. Dissections take place under the superintendence of the Professor of Natural History and the Assistant in Biology.

Senior Zoological Classes have opportunities afforded them of dissecting, amongst other types, Helix, Blatta, Oniscus, Actinia, Taenia, and cartilaginous fishes.

Senior Botanical Classes are provided with chemicals, microscopes, and other apparatus for the study of the minute structure of composite types, and the conditions under which elementary organisms live. An ample supply of tropical and sub-tropical plants comes for the Botanical Classes from the Royal Botanic Gardens, Glasnevin, through the kindness of the Curator.

## Text-Books.

The Biological Works of Marshall and Hurst, and of Parker, are recommended. Marshall's Frog. The Practical Botanical Works of Bower, Vines, and Francis Darwin.

## 4. Mineralogy, Grology, and Physical Geography.

Lectures on Mineralogy, Geology, and Physical Geography are delivered during the First and Second Terms. The Class meets on Mondays, Wednesdays, and Fridays at 10 s.m.

The Lectures will embrace:-
(A.) Mineralogr.-Crystallography. Physical Characters and Chemical Constitution of Minerals. Classification.

## Text-Books.

Rutley or Dana's Class Book, Mineralogy, Gurney's Crystallography, Rutley's Rocks.

Books recommended to Senior Students:--Dana's Text-book and System of Mineralogy, Bauermann's Mineralogy, Maskelyne's Crystallography, Lewis' Crystallography.

## Works of Reference.

Die Mikroskopische Beschaffenheit der Mineralien und Gesteine. Dana's System of Mineralogy. Miller's Mineralogy. Bonney, Volcanoes.

## Journals.

The Mineralogical Magazine. Bulletin de la Société française de Mineralogie. Neues Jahrbuch f. Mineralogie u. Geologie.
(B.) Geology.-Definitions-The Materials of the Earth's Crust. The General Structure and the Size of the Earth. The Density of the Earth. Comparison with other Heavenly Bodies. The Nebular Hypothesis. The Rotation of the Earth. The Effects of the Sun and Moon on the Earth. Underground Temperature. Temperature of the outer Crust. Temperature in the Past. Climate. Limitation of Geographical Regions. Process of Denudation. Air. Water. Ice. Process of Depositing. Stratification, Jointing, Dip, Strike, Contortion, Faults, Synclinal and Anticlinal Folds. The Clinometer. Volcanic Agencies.--Active Volcanoes, and Earthquakes. Igneous Rocks, Granites, Porphyries and Voleanic Rocks, Lavas, Tuffs, and Ashbeds. Configuration and Structure. Classification of Animals and Plants. General Distribution. Biological Theories. Systematic Stratigraphical Geology.

## Text-Books.

Watt's Geology (Students are recommended to read Harrison's Elementary Geology early in the Session), or Geikie's Class-book, Lyell's Student's Elements, Wood's Palæontology.

Senior Students are advised to read:-Lapworth's Geology, Geikie's Class-book, and Woodward's Palæontology.

## Works of Reference.

Etheridge and Seely-Geology. Prestwich-Geology. KinahanGeology of Ireland. Hull-Coalfields. Woodward-Palæontology of Vertebrates. Schimper-Traité de Palæontologie Végétale. Greene's Geology. Jukes Browne-Geology. Zittel-Palæontology. Lapparent's Geology. Bonney-Story of our Planet. Scott-Studies in Fossil. Botany. Jukes Browne-Stratigraphical Geology.

## Journals.

The Geological Magazine. Palæontologie française. Quarterly Journal of the Geological Society. The Transactions of the Palæontological Society.
(C.) Physical Geography.-The Earth. General Geographical Considerations, Continents, Islands, Varieties of Land Surfaces, Proportion of Land to Water, Rivers, Lakes, Water in Interior of Earth, Snow, Ice, The Atmosphere, Winds, Climate, Weather, Volcanoes, Earthquakes.

## Text-Books.

Geikie (to be read early), Mill's Realm of Nature, Gregory's Physical Geography.

Books recommended to Honour and Senior Students:-The advanced Text-books of Thornton and Simmon.

## Works of Reference.

Sir Wyville Thompson's Voyage of the Challenger, Wallace's Australasia, Wallace's Island Life, Darwin's Beagle, Stansford's Compendium, Réclu's Universal Geography; also the works of Baker, Burton, Cameron, Cook, Kane, Livingstone, M‘Clintock, and M‘Clure. Prevalsky-Mongolia.

## Journals.

The Geographical Journal, Geographical Magazine, Journal of the Geographical Society of London.

## The Museum of Mineralogy and Geology.

The Museum, founded by the late Professor King, contains a series of Fossils illustrating the Geological Formations. The Museum contains also a large collection of Minerals and Ores, and a small Chemical Cabinet.

Instruments have been provided for the use of Senior Students and for Class Purposes, including a Goniometer, a Clinometer, a Spectroscope, and an apparatus to illustrate Crystalline forms. A large Globe and several Maps, with the Land Surfaces in relief, are at the disposal of Students.

Newton's large Revolving Lantern, with Microsfopic, Vertical, and other attachments has been placed in this Museum. A second Lantern, which is supplied with numerous slides, is placed in the larger room.
Senior Students are permitted to work in the Museum on one or two days in each week.

## X.-MODERN LANGUAGES.

Subjects: French, German, Italian.
There are three Classes, for Students of the First, Second, and Third Year of their A cademical Course. In cach of these Classes separate Lectures for Pass and Honour Candidates will be given. The different Classes meet at the hours set down in the Time Table of the College Calendar. The Lectures are arranged to suit the requirements of Students preparing for the several Examinations in the Royal University and for similar Examinations.

## Pass Classes.

The business of these Classes is conducted by Lectures on Grammar and (in the Second and Third Year) on the Elementary History and some particular period of Literature of the language, by translations from and into English, by written exercises and examinations.

## Honour Classes.

The Course of Instruction comprises advanced Composition, Translation, Critical Readings, and (in the Second and Third Year) Lectures on the History and Literature of the Romance and Teutonic languages.

The Third Year Honour Class is conducted in the vernacular of the language which is being studied.
M.A. Class.

A Class may be arranged with the Professor for Students reading the Course in Modern Languages for the M.A. Degree in the Royal University.
XI.—JURISPRUDENCE AND POLITICAL ECONOMY.

See Faculty of Law, pp. 62, 63.

## XII.-PHYSIOLOGY.

For Course see Faculty of Medicine, page 70.

## XIII.-THEORY OF MUSIC.

Arrangements were made for a Course of Lectures in the above subject during the Second and Third Terms of the Session 1902-1903.
The Course embraced that prescribed for the First Year in Music at the Royal University, and included Harmony, Counterpoint, and Elementary Composition.
These Lectures will, if possible, be continued during the ensuing Session. Intending Students should communicate with the Registrar before the end of the First Term.

# III.-COURSES FOR SCHOLARSHIP EXAMINATIONS, 

> SESSION 1903-1904.
[No Candidate can take Celtic as a subject at any of the Scholarship Examinations unless he has given the Registrar notice of his intention at least six weeks before the date of Examination.]
[For Regulations see pp. 14-16. For dates of Examinations see pp. 20 and 21.]
I.--JUNIOR SCHOLARSHIPS OF THE FIRST YEAR.

> A.-Literary Scholarships.

## Subjects:

i. Latin.
ii. Any one of the following languages:-Greek, French, German, Italian, Celtic.
iii. English.

Note.-In Group ii., embracing Greek, French, German, Italian, Celtic, the candidates must answer in one subject, may answer in two, but not in more.

## Detailed Courses:

[The maximum mark is attached to each subject, and no mark under one-fifth of this is taken into account.]
i. Latin (150), . Livy-Book xxiii.

Sallust-Catilina.
Horace-Odes, Book i. (omitting 13, 19, 23, 25, 33), and Satires, Book 1., 1, 5, 6, 9.

A piece of unprescribed Latin.
A paper on Latin Grammar.
Roman History-133-65 в.c. (Student's Rome). Composition in Latin Prose.
$\begin{cases}\text { Greek }(150), & \text { Homer-Iliad, Book vi. } \\ & \begin{array}{l}\text { Thucydides, Book vii. } \\ \text { Euripides-Heractidac. }\end{array}\end{cases}$
Euripides-Heractidae.
A piece of unprepared Greek.
A paper in Greek Grammar.
Composition in Greek Prose.
Grecian History- 560 to 322 b.c. (The Student's Greece, or Oman's History of Greece.)
Outlines of Greek Literature (Jebb's Primer).
French (100), . Erckmann-Chatrian-Le Conscrit.
Sandeau-Mademoiselle de la Seiglière.
Coppée-Le Trésor.
French Grammar. Translation from English into French.
Oral Examination.
ii
 gräber, Der Zauberlehrling.
Schiller-Der dreissigjöhrige Krieg, Book iv.
German Grammar. Translation from English into German.
Oral Examination.
Italian (100), . Machiavelli-Istorie Fiorentine, Books i. and ii. Alfieri-Saul.
Tasso-Gerusalemme Liberata, Cantos i., ii., iii.
Italian Grammar. Translation from English into Italian. Oral Examination.
Celtic (100), . Eachtra Lomnochtáin ant-Sléibhe-Riffe (Mac Neil). Irish Phrase-Book (Hogan).
Handbook of Irish Idioms (Hogan), p. 64 to end.
Grammar and Composition.
Keating's History of Lreland, Bk. i., Pt. i. (Joyce).
iii. English (100), . Shakspere-Richard II., or as an alternative, Henry IV., i. and ii.
Pope-Iliad, 18 to 24, inclusive.
English Grammar and Composition.

## B.-Science Scholarships.

i. Arithmetic-

## Subjects:

Including Vulgar and Decimal Fractions, Proportion and its applications, and the extraction of the Square Root.
ii. Algebra-

Including the Solution of Simple and Quadratic Equations, Progressions, Permutations and Combinations, the Binomial Theorem for a positive Integral exponent, the nature and use of Logarithms, Graphical methods, Representation of the simpler algebraic Functions by Curves, Problems.
iii. Geometry-

The subject-matter of Euclid's Elements, Bks. i.-vi. Deductions.
iv. Plane Trigonometry-

So far as to include the Solution of Triangles. Problems.
v. The use of Lagarithmic and Trigonometrigal Tablestway

## II.—JUNIOR SCHOLARSHIPS OF THE SECOND YEAR.

## A.-Literary Scholarships.

Subjects:
i. Latin.
ii. Any one of the following languages:-

Greek, French, German, Italian, Celtic.
[Candidates may select two, but not more, of these five languages.]
iii. English.

## Detailed Courses:

[The maximum mark is attached to each subject, and no mark under one-fifth of this is taken into account.]
i. Latin (200), . Horace-Odes, Bk. in.

Virgil—Georgics, iv., and Aeneid, ii. and vi.
Livy-Book xxxv.
Cicero-Philippics, ii.
Translation at sight.
Latin Prose Composition, and Questions on Grammar and Philology.
Roman History-from b.c. 216 to в.c. 167. (Mommsen, vol. ii., Book iii., chaps. 6-10).
Literature-The Augustan Age (Student's Companion to Latin Authors, chap. iii.). Mackail's Latin Iiterature, chap. ii.



## B.-Science Scholarships. <br> Subjects:

## (1.) Mathematics.

The Course appointed for Science Scholarships of the First Year, and in addition the following :-

Nature and Simpler Transformations of Equations. Determinants of the Third Order.
Geometry-
Elements of Solid Geometry-Euclid's Elements, Book xi., Propositions 1 to 21 , inclusive, with easy deductions from them; Elementary Properties and Mensuration of the Prism, Pyramid, Cone of Revolution and Sphere.

Trigonometry-
Plane Trigonometry (including Mensuration of Plane Figures, Determination of Heights and Distances, Properties of the Circumscribed, Inscribed, and Escribed Circles, and the Use of Tables).

Analytical Geometry-
Discussion of the Equations of the Right Line and Circle in Cartesian Co-ordinates; Equations of the Conic Sections, deduced from their Geometrical Definitions, with their Elementary Properties. Easy Problems.

## Differential Calculus-

Differentiation of Algebraic and Trigonometrical Functions of a single variable; Easy applications to tangents and normals of plane curves; Maxima and Minima of Functions of a single variable,
(2). Experimental Physics.

The Elementary Principles of Mechanics, Hydrostatics, Pneumatics, Sound, Heat, Light, Electricity and Magnetism.

## III.-JUNIOR SCHOLARSHIPS OF THE THIRD YEAR.

## A.-Literary Scholarships.

## Subjects:

i. Latin.
ii. Any one of the following languages:-

Greek, French, German, Italian, Celtic.
[Candidates may select two, but not more than two, of these five languages.]
iii. English.
iv. Logic (Optional).
v. History (Optional).

## Detailed Courses:

【The maximum mark is attached to each subject, and no mark under one-fifth of this is taken into account.]
i. Latin (200), . Tacitus-Agricola; Juvenal-Satires, 4, 5, 7, 8, 10 ; Cicero-In his Letters, xli. to lxxx. (Tyrrell's edition); Tusc. Disp. ii. and iii. ; Lucretius-Book i.; Martial (Macmillan), Lib. Spec. and Epigrams i.-iv.
Translation at Sight.
Latin Prose Composition, and questions on Grammar and Philology.
Roman History-The period from 31 b.c. to 68 A.d. Bury-Student's Roman Empire, chaps. i.-xviii. (omitting chaps. 4, 6, 7, 8).

Literature-Student's Companion to Latin Authors, chaps. ii. and iii.; Mackail, chap. i.; Sellar-Roman Poets of the Republic, chaps. $1,2,10,11,14$.


## Detailed Courses (continued):

| ii. Celtic, | Diarmid and Grainne. <br> Cath Rois na Riogh (later version). <br> Translation into Irish Prose. <br> Irish Grammar and Idioms. <br> History of Ireland from Richard I. to Henry <br> VIII. (inclusive.) |
| :---: | :---: |
| iii. English (150), | Shakspere-Hamlet and Merchant of Venice. <br> Spenser-Faëry Queene, Book i. <br> Milton-Paradise Lost, i. and ii. <br> Bacon-Essays, i. to Xxv. (omitting iii. viii., x., xvi., xvii.). <br> Sidney-Defence of Puesie. <br> History of English Literature, 1579-1616. <br> English Composition. |
| iv. Logic (50), | Deductive Logic. |
| จ. History (50), | History of England, Ireland, and France, from 1558 to 1689. <br> History of the Thirty Years' War. |

## B.-Science Scholarships.

## Subjects:

## i. Mathematics.

ii. Mathematical Physics.
iii. Experimental Physics.
iv. Chemistry.
v. Natural History.
vi. Geology, Mineralogy, and Physical Geography.

## Detailed Courses:

[The maximum mark is attached to each subject.]
i. Mathematics (140), Algebra and Theory of Equations, including Infinite Series, Determinants, and the solution of Cubic and Biquadratic Equations.
Plane Geometry and Elementary Solid Geometry.
Plane and Spherical Trigonometry.
Analytical Geometry, including Homogeneous Coordinates, and the discussion of the General Equation of the Second Degree.
Differential and Integral Calculus.
ii. Mathematical

Physics (100), Mechanics, Hydrostatics, Geometrical Optics, and Astronomy, as treated by the simpler mathematical methods.

## iii. Experimental

Physics (100), The Course for this Examination includes that for the Science Scholarship of the Second Year; but a more extensive knowledge of the subject is required. In addition Candidates are required to show proficiency in Physical Manipulation and Measurements.
Schuster and Lee's Practical Physics is recommended.
iv. Chemistry (100), Lecture Course prescribed for Arts Students of the Second Year. (See page 38.)
v. Natural His-
tory (100), . Subject of Natural History Lectures and Practical Biology Demonstrations of Second Year Arts.
Students are recommended to read A. Thomson's Zoology, Marshall and Hurst's Practical Biology, Vines' Botany.
vi. Geology, Mineralogy,
and Physical Geo-
graphy (100), . . Subjects of Geological Lectures delivered to Second Year Arts Students.
Geikie's Class Book, or Lapworth's Geology. Dana's Class Book of Mineralogy. Gregory's Physical Geography.
Candidates must answer in two, may answer in three, but not more of the foregoing subjects.

$$
\begin{aligned}
& \text { IV.-SENIOR SCHOLARSHIPS. } \\
& \text { [For Regulations see pp. 13, 14.] } \\
& \text { 1.-Ancient Classics. } \\
& \text { Greek, . . Pindar-Nemeans, i-vi. } \\
& \text { Aristotle-Poetics. } \\
& \text { Fschylus-Agamemnon, Eumenides, Prometheus } \\
& \text { Vinctus. } \\
& \text { Aristophanes-Acharnians, Frogs. } \\
& \text { Antiphon, Andocides, Lysias (Jebb's Selections). } \\
& \text { Demosthenes-De Falsa Lsgatione. } \\
& \text { Theoeritus, } 1,2,3,6,7,9,10 . \\
& \text { Composition in Greek Prose. } \\
& \text { Translation from unprescribed authors. } \\
& \text { Higher Greek Grammar and Philology. } \\
& \text { Grecian History, 387-322 в.c. } \\
& \text { Greek Literature-The Orators, Lyric Poets, } \\
& \text { Comedy. } \\
& \text { Antiquities-Gardner and Jevons, iii. and viii. }
\end{aligned}
$$

Latin, . . Tacitus-Annals, XV., xvi.
Lucretius-Book i.
Plautus-Asinaria, Captivi.
Cicero-Ad Atticum, iv., v., vi.
Virgil-Aeneid, ii., iv., vi.
Horace-Odes, ii. and iii.
Persius-Sat. 1, 2, 3, 5, 6.
Roman History. Mommsen, Vol. v., book $\nabla$., chaps. 8-11.
Giles-Manual of Comparative Philology (Parts i. and ii.)
Student's Companion to Latin Authors.
Latin Prose Composition.
Sellar-Poets of the Republic, chaps. 1-7.

## 2.-English and Modern Languages.

(i.) English, 100, . Chaucer-The Prologue.

Shakspere-Lear' and Richard III.
Wordsworth-M. Arnold's Selections, from p. 115, and Preface.
Byron-M. Arnold's Selections (including Preface).
Coleridge-Lectures and Notes on Shakspere
(Bohn's Series, pp. 183-242):
Coleridge-Biographia Literaria, ch. xiv. to ch. xxii.

Cowper-Task, Books i., iv., v.
History of English Literature, 1800-1850.
English Essay.
(ii.) Any two of the following : -French, German, Italian, Celtic.

French, 100, . Taine-L'Ancien Régime, ii., iii., iv.
Sanson-Littérature française-Le XVII. Sièele.
Corneille-Le Cid.
Voltaire-Mérope.
Molière-Les Précieuses Ridicules.
Buffon-Discours sur le style.
Darmesteter et Hatzfeld-Tableau de la Littérature au seizième Siècle.
Darmesteter-Histoire de la langue française, deuxième partie (Morphologie).
Translation from English into French.
Essay in French.
German, 100, . Schiller-Die Braut von Messina.
Goethe-First Part of Faust.
Freytag-Dic Verlorene Handschrift, Buch I.
Schiller-Wilhelm Tell.
Kluge-History of German Literature, ${ }^{\text {" }}$ sections 41-64.
Behaghel-History of the German Language, to page 87.
Translation from English into German. Essay in German.

Italian, 50, . Dante- 7 Purgatorio.
Monti-In Morte di Ugo Basseville, In Morte di Lorenzo Mascheroni.
Fogazzaro-Piccolo Mondo Antico.
Tasso-La Gerusalemme Liberata.
Manzoni-Il Conte di Carmagnola.
Gino Capponi-Storia della Republica di Firenze, books $1,2$.
Translation from English into Italian.
Elements of the History of the Italian Language.
History of Italian Literature from the death of Boccaccio to Tasso.
Essay in Italian.
Celtic, 50, . The Life of Alexander the Great. Cath Rois na Riogh (older version).
Prose Composition in Irish.
Windisch's Irish Grammar, with Lessons at the end.
The Prosody of the Irish Language.
History of Ireland from the reign of Edward VI. to the reign of Elizabeth (inclusive).

## 3.-Mathematics.

In addition to the Mathematical Course appointed for Science Scholarships of the third year:-

Analytical Geometry of two and of three dimensions, including the elements of Higher Plane Curves.
Differential and Integral Calculus, including applications to Geometry.
Elementary Differential Equations.

> 4.-Natural Phmosophy.

Mathematical Physics-
Statics, with the Elementary Theory of Attractions.
Dynamics of a Particle.
The Elementary Principles of the Dynamics of Rigid Systems.
Hydrostatics.
Geometrical and Physical Optics.
Spherical Astronomy.

## Experimental Physics-

The subjects treated in Everett's Translation of Deschanel's Natural Philosophy, Preston's Theory of Light, Preston's Theory of Heat, Fleming's Alternate Current Transformer, Part I., and Ewing's Magnetic Induction.
Candidates will be required to show a practical knowledge

5.-Metaphysics, Political Science, and History.

I. (A) General Metaphysics-
(i.) Object, methods, and chief divisions of Metaphysics.
(ii.) Notion of Being. Conceptions of Existence, Essence, Substance, Quality, Accident, Nature, Subsistence, Personality, Unity, Number, Identity, Diversity, Simplicity, Extension, Quantity, Space, Duration, Finite, Infinite ; Relation; Possibility; Cause and Effect.
(B) Psychology-
(i.) Analysis of Psychological Phenomena, as Consciousness, Sensation, Imagination, Remembrance, Judgment, Reasoning, Appetite, Emotion, Volition, Freedom of Will.
(ii.) Subject, Object, and their relation in cognition. Perception, Conception. Laws of mental development, and Association of mental phenomena. The Nature and Properties of the Human Mind; mutual relations of the Mind and Body. Immortality.
(C) Outlines of the History of Philosophy, from Descartes to Kant (inclusive).

Candidates will be required to answer on the foregoing Course-
Either according to the principles of the philosophy of Aquinas, as expounded by Maher, Rickaby, \&c.

Or according to the principles of Sir W. Hamilton's Psychological and Metaphysical ssstem ; with special reference to Hamilton's Lectures on Metaphysics, Lectures XVI. to XL., and Notes A, B, C, in his edition of Reid, excluding the merely historical matter contained in those notes.

## II. (A) Political Science (100).

(B) Jurisprudence-

Austin-Jurisprudence (Student's Ed.).
Holland-Jurisprudence.
Maine-Ancient Law.
Early History of Institutions.
Early Law and Custom.
(C) Economics-

Marshall-Elements of Economics, vol. i. (Third Edition).
J. S. Mill-Political Economy (Books iii. and $\nabla$.).
C. S. Devas-Political Economy (Second Edition).

Gibbins-Industry in England (Second Edition).
J. S. Nicholson-Money (Fifth Edition).
G. Clare-Money-market Primer (Second Edition).
III. Modern History-

The History of Great Britain and Ireland, France, and Germany, from 1588 to 1815.

## 6.-Cbemistry.

(i.) Theory of Chemistry-inorganic and organic-

## Books recommended:

Holleman, Inorganic Chemistry (translated by Cooper).
Roscoe and Schorlemmer's Treatise on Chemistry, non-mitals and metals. Holleman-Organic Chemistry (translated by Walker).
Richter-Organic Chemistry (translated by Smith).
L. Meyer-Outlines of Theoretical Chemistry (translated by Bedson and Williams).

Hjelt-General Organic Chemistry (translated by Tingle).
(ii.) Laboratory Experiments-Qualitative and simple quantitative (volumetric and gravimetric) analysis-

Books recommended:
Clowes-Practical Chemistry.
Clowes and Coleman-Quantitative Analysis.

## 7.-Natural History.

The Examination for the Senior Scholarship in Natural History will include the subjects of the Third Year Honour Course in Arts.

Candidates are advised to pay attention to the practical work.

## CHANGES IN THE SCHOLARSHIP COURSES FOR THE SESSION 1904-1905.

The Courses for 1904-1905 will be the same as those prescribed for 1903-1904, with the following alterations:-


Mathematics, . Questions will be set which involve the elements of Geometrical Drawing. Candidates will be expected to provide themselves with a hardpointed pencil, pair of compasses (also with a hard pencil), ruler with an edge graduated in inches and tenths. Two small set-squares ( $45^{\circ}$ and $60^{\circ}$ ) will be allowed, but are not indispensable.
On pp. 317, 406 will be found some questions on Drawing, to indicate the style of questions which will be set in future years.

## II. Junior Scholarships of the Second Year.

Latin, . . Omit Virgil—Georgics, iv. Add Ovid-Fasti, i., ii., iii.
Greek, . . Euripides-Bacchae (for Hercules Furens).
Demosthenes-Philippics, i., ii., iii. (for Leptines).
French, . . Sandeau-Sacs et Parchemins (for Guizot).
Labiche-Le Voyage de Monsieur Perrichou (for Moinaux).
German, . . Hauff-Der Scheik von Alexandria und seine Sklaven (for Benedix).
Riehl-Die Ganerben, Die Gerechtigkeit Gottes (for Fontane).
Italian, . . Ferrari-Antologia della livica moderna Italiana (for Tasso).
Celtic, . . Add Keating-Oıonbpollace.
Love Songs of Comacht. Text of the Poems only.
English, . . Addison-Spcctator Club, omitting 1, 12, 34, 105, 131, 295, 530, 549, 550. Critical Papers, omitting 63-592, and 165, 253. Arnold's Edition.
Burke-Speechon American Taxation (for Rasselas).
Mathematics, . Questions will be set which involve the elements of Geometrical Drawing. Candidates will be expected to provide themselves with a hardpointed pencil, pair of compasses (also with a hard pencil), ruler with an edge graduated in inches and tenths. Two small set-squares ( $45^{\circ}$ and $60^{\circ}$ ) will be allowed, but are not indispensable.
On pp. 317, 406 will be found some questions on Drawing, to indicate the style of questions which will be set in future years.

## III. Junior Scholarships of the Third Year.

Subjects.
Instead of "iv. Logic (optional), v. History (optional)," read iv. (optional), Logic or History. [Candidates may not present themselves for examination in both these subjects.]

Latin, . . Juvenal-Satires, 1, 3, 7, 8, 11 (for 4, 5, 7, 8, 10). Cicero-Tusc. Disp., iii, iv. (for ii. iii.). Tacitus-Dialogue (for Agricola). Lucretius-Book ii. (for i.).
History, . . Instead of Course hitherto prescribed, FreemanGeneral Sketch, from ch. $\nabla$. to end. History of England and Ireland, 1603-1689.

## IV. Senior Scholarships.

1. Ancient Classics.

Greek, . . Æschines—In Otesiphontem (for Demosthenes). Aristophanes-Knights (for Acharnians).
Latin, . . Horace-Odes, i., ii. (for ii., iii.).
Tacitus-Annals, i., ii. (for xv. xvi.).
Lucretius-Book ii. (for i.).
Plautus-Mostellaria (for Asinaria).
Cicero-Ad Atticum, iii. iv., v., (for iv., v., vi.). Cruttwell's Roman Literature, Book iii. (for Students' Companion to Latin Authors).
2. English and Modern Languages.

English, . . History of English Literature, 1790-1850 (for 1800-1850).
Celtic, . . The Poems of Egan O'Rahilly (for Life of Alexander the Great).
3. Metaphysics, Political Science, and History.
I. Instead of Course hitherto prescribed :-
(A) Elements of Ontology.
(в) Elements of Psychology.
II. (в) Jurisprudence. Graham's Political Philosophy (for Maine's Early Law and Custom).

Course for the Blayney Exhibition, 1904

1. Composition in Greek and Latin Prose.
2. Higher Grammar and Philology (Giles' Manual of Comparative Philology, and Lindsay's Short Historical Latin Grammar).
3. Translation of unprescribed passages of Greek and Latin.
4. The following Authors:-

Greek-Aeschylus, Agamemnon; Aristophanes, Knights; Aeschines, in Ctesiphontem.
Latin-Plautus, Captivi; Lucretius, Book ii.; Cicero, Ad Atticum iv.

## FACULTY OF LAW.

## I.-COURSE OF STUDY.

Courses of Twenty-four Lectures are delivered to each Class, commencing in the First Term, on days and hours that are arranged with the Professors.

The following Course of Study is prescribed :-
First Year.-The Law of Real Property and the Principles of Conveyancing; Jurisprudence.

Skcond Yrar.-Equity, Personal Property, Contracts, and Bankruptcy; Civil Law.

Law Classes.
Fibst Year. - Jurisprudence. - Course of Twenty-four Lectures in the First and Second Terms.

Books Recommended.
Holland-Jurisprudence.
Austin-Jurisprudence (Student's edition).
Maine-Ancient Law.
Maine-Early History of Institutions.
Maine-Early Law and Custom.
Second Year. - Roman Law. - Course of Twenty-four Lectures in the First and Second Terms.

Justinian-Institutes (Sanders).
Mackenzie-Studies in Roman Law.
Arts Classes.
Pass.-Courses of Twenty-four Lectures during the First and Second Terms are delivered on:-
(a) Political Economy.

Books Recommended.
Marshall-Elements, vol. i. Devas-Political Economy. Nicholson-Money.

Honours.-Additional Lectures supplementing the Pass Course.

Books Recommended.
J. S. Mill-Political Economy.

Ingram-History of Political Economy.
Gibbins-Industry in England.
(b) Jurisprddence.-(Honour Course).

Broks Recommended.
Holland-Jurisprudence.
Austin-Jurisprudence (Student's edition).
Maine-Ancient Law.
Maine-Early History of Institutions. Maine-Early Law and Custom.
II.-EXAMINATIONS.

Junior Scholarships.
One (value £25) tenable by a Student of the First Year.

## Subjects:

Law of Property, \&c.—
Williams-Real Property.
Goodeve-Modern Law of Real Property.
Jurisprudence-
Holland-Jurisprudence.
Austin-Jurisprudence (Student's edition).
Maine-Ancient Law.
Maine-Early History of Institutions.
Maine-Early Law and Custom.
One (value £25) tenable by a Student of the Second Year.
Equity-
Snell-Principles of Equity.
White and Tudor-Leading Cases in Equity, vol. i.
Law of Property, \&c.-
Williams-Personal Property.
Smith-Lectures on the Law of Contract. James Hardman Library, NUI Galway

## Jurisprudence and Roman Law- <br> Jurisprudence as for First Year's Scholarship. The Elements of Roman Law. Mackenzie-Studies in Roman Law.

Students intending to proceed for the Certificate of the Law Professors, so as to entitle them to serve an apprenticeship of four years instead of five, under the provisions of the Attorneys and Solicitors (Ireland) Act, 1886*, are required to enter their names with the Registrar, either as Matriculated or Non-Matriculated Students, and pay the necessary College and Class Fees to the Bursar before the commencement of the Law Lectures in each Session.

Such Students are required to attend all the Lectures and pass all the Examinations prescribed for the first and second years of the Course of Study for Candidates for the Diploma of Elementary Law.

For the Degrees of LL.B. and LL.D., see Regulations of Royal University (Appendix).

[^10]
## ( 65 )

## FAOULTY OF MEDICINE.

## I.-COURSE OF STUDY AND EXAMINATION.

The attention of Students is specially directed to the absolute necessity for their being registered with the Branch Medical Council not later than fifteen days after the commencement of those Courses of Lectures, certificates of attendance on which they have to produce.

No student can be registered until he has passed the Preliminary Examination in General Education required by the General Medical Council, or one of the other examinations recognised as qualifying for registration, among which are included:-

The Matriculation Examination of the Royal University. (Certificate to include the required subjects.)

The Preliminary Examination of the Royal College of Surgeons of Ireland. (The required subjects to be passed at one time.)

Intermediate Education of Ireland :-
Middle Grade Examination. (The required subjects to be passed at one time.)

Senior Grade Examination. (Certificates to include the required subjects.)

The Preliminary Examination in General Education, required to be passed previous to Registration as a Medical Student, shall be as follows:-
(a) English; (Paraphrasing; Grammar; Composition; questions on English History and Geography).
(b) Latin ; (Grammar; Translation into English from unprescribed Latin books; Translation into Latin of a continuous English passage and of short idiomatic English sentences).
(c) Mathematics; (Arithmetic; Algebra, including easy quadratic equations; Geometry, including the subject-matter of Euclid, Books I., II., and III., and simple deductions).
(d) One of the following subjects:-
(a) Greer (Grammar; Translation into English from unprescribed Greek books; Translation into Greek of short idiomatic English sentences) ; or
(B) A Modern Language (Grammar; Translation into English from unprescribed books; Translation of a continuous English passige, and of short idiomatic sentences).

The Curriculum estends over at least five years, and comprises the following*:-

Course of Study.

Natural Philosophy.
Practical Physics.
Chemistry.
Practical Chemistry.
Botany with Herborizations for practical study, and Zoology.
Anatomy and Physiology.
Practical Anatomy.

Practical Physiology. Materia Medica and Pharmacy. Theory and Practice of Surgery. Obstetrics and Gynæcology. Theory and Practice of Medicine Medical Jurisprudence. Pathology.

The Courses prescribed to Scholars of the several years are given on pp. 78-82.
II.-TIME TABLE OF LECTURES.

| Subjects. | Months. | Mon. |  |  |  | Fri. | Sat. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| French, | VI. |  |  |  | 10 |  | 10 |
|  | VI. |  |  | $2 \ddagger$ |  | $2 \pm$ | 3 |
| Natural Philosophy, . | VI. | - | 12 | - | 12 |  | 12 |
| Practieal Physics, ${ }^{\text {S }}$ |  |  |  |  |  |  |  |
| Chemistry (Pass and Honour), | VI. | 12 |  | 12 | - | 12 |  |
| Chemistry, Laboratory (Pass or Honour), |  |  |  |  |  |  |  |
| Physiology, | VI. | 9 | 9 |  |  |  | - |
| Anatomy, ${ }_{\text {A }}{ }_{\text {Practical }}$ Pharmacs, | VII. |  |  | 1 | 1 | $\underline{1}$ | - |
| ( Practical Pharmacy, | IIII. | 二 |  | - | - |  | - |
| Anatomy, | VI. | 1 | 1 | 1 | 1 | 1 | - |
| Practical Physiology, and Practical Histology, | III. | 2 |  | 2 | - | 2 | - |
| Practical Histology, . | VI. |  |  |  |  | 12 |  |
| Midwifery, | vi. |  |  | , |  |  | - |
| Medicine, | VI. | - | 2 |  | 2 |  | 2 |
|  | III. |  |  |  |  |  | - |
| Medical Jurisprudence, | Iv. | 12 | - | $\underline{12}$ | - | 二 | - |

*The Regulations of Licensing Bodies whose requirements differ from the above Curriculum may be learned on application to the Professors of the Faculty of Medicine.
$\dagger$ Students taking Practical Biology and Natural History are admitted to both Classes on payment of a fee of $£ 3$.
$\ddagger$ These Lectures are delivered in the last week of November, and in December, January, and February. Students may attend these lectures alone, and obtain a certificate.
§ The Class in Practical Physics begins at the beginning of the Second Term, and lasts till the end of the Session.
|| At hours to be arranged.

## Attendance on Lectures is strictly obligatory.

The Lectures of the Professors in the Medical School of Queen's College, Galway, and the Clinical Instruction in the Galway Hospitals, are recognised as qualifying for the Diplomas of the Royal College of Physicians and Surgeons of Ireland, England, and Scotland, and for the Medical Degrees of the University of London, and the Royal University of Ireland.

## III.-CLINICAL TEACHING.

Clinical Teaching is carried on in Tee Gaiway Hospital, established as a Public General Hospital (in the place of the County Galway Infirmary) by Act of Parliament (1892).
The appointment of the Medical Staff being vested, by the Act, in the Local Government Board, that Board has made the following appointments :-

## Physicians-

Profrssor Kinkead.
Professor Lynham.
Surgeons-
Professor Pre. Professor Colahiav. Professor Breretox.

> GynacologistProfessor Kinkead.

The interests of Students are expressly recognised and secured by section 2 of the Act, which provides that-
"The Hospital shall be available as a Clinical School for Medical Students attending the Queen's College, and such Students may attend the Hospital at such times, and subject to such regulations, as may be prescribed."
For further information application may be made to-
Professor Pyb, Hon. Secretary of the Medical Staff of Galway Hospital.
In addition to this, the Gaiway Feyer Hospitai* is open to Students of the Clinical Class.

[^11]Medical Officers-<br>Professor Colahan.<br>M. A. Lyden, l.r.c.s., l.b.c.p. edin.<br>Apothecary-N. Grealy, l.r.c.s., L.r.c.p. edin.

Here opportunities are afforded for studying the various forms of Fever and Zymotic disease admitted during the College Session.

The Medical Faculty has also made arrangements with the Medical Officers for the admission of Students to the Galway Union Hospital.

## Medical Officers-

Professor Colahan.
M. A. Liden, l.r.c.s., l.r.c.p. edin.

Apothecary-N. Grealy, t.r.c.s., l.b.c.p. edin.
This Hospital affords an extensive field for the study of all classes of disease, acute and chronic. A special ward is set apart for the diseases of children, in which Students will have an opportunity of studying this important class of cases.

Students whose names are on the Clinical Roll of The Galway Hospital may attend any of the above-named Institutions without further charge.*

## IV.-COURSES OF LECTURES.

## I.-NATURAL PHILOSOPHY.

(For Courses see Faculty of Arts, p. 34.)

## II.-CHEMISTRY.

(1) Lecture Course.

First Year Course for Pass and Honours. Inorganic and Organic Chemistry.-The class meets at 12 o'clock on Mondays, $^{\prime}$

[^12]Wednesdays, and Fridays throughout the Medical Session. The Lectures embrace a consideration of the leading facts of Inorganic and Organic Chemistry, and include both the Pass and Honour subjects required for the First Examination in Medicine of the Royal University, or for other corresponding Examinations.

About forty Lectures are devoted to a detailed study of the non-metallic elements, their reactions, and the constitution of the compounds they form. The general facts established are then reviewed, including the weight and volume relation in chemical reactions, the molecular hypothesis, the atomic hypothesis, and the relative weight of molecules and atoms. The leading metals and their more important compounds are briefly considered, and the remaining Lectures are devoted to Elementary Organic Chemistry, embracing the general methods of study of organic compounds, their identification, qualitative and quantitative composition, the constitution of molecules, isomerism, and including the reactions of the chief members of the fatty and aromatic groups.

## (2) Laboratory Courses, Practical Chemistry.

Second Year Course for Pass.-This course consists of about forty Lectures of two hours each, commencing early in the first term, and ending at the close of the second term. The class works from 3 to $50^{\prime}$ 'clock on Mondays, Wednesdays, and Fridays. The experiments are adapted to the requirements of the Pass Second Examination in Medicine of the Royal University, and of other corresponding Examinations. A Second Year Six Months' Course for Honours, adapted to the Honour Second Examination in Medicine of the Royal University, will be arranged for Students who desire it.

## (3) Техт-Boors.

For Lecture Course.-Newth, Inorganic Chemistry; Holleman, Inorganic Chemistry (trans. Cooper); or Richter, Inorganic Chemistry (trans. Smith); Turpin, Organic Chemistry, and Perkin and Kipping, Organic Chemistry (vol. ii.); Holleman, Organic Chemistry (trans. Walker); or for Elementary Examinations, Luff and Page, Manual of Chemistry.

For Laboratory Courses.-Clowes and Coleman, Elementary Qualitative Analysis, or Clowes, Practical Chemistry; also Rideal, Practical Organic Chemistry.

## III.-NATURAL HISTORY.

(For Courses see Faculty of Arts, p. 40.)

## IV.-MODERN LANGUAGES.

(For Courses see Faculty of Arts, p. 46.)

## V.-ANATOMY AND PHYSIOLOGY.

A. The Course laid down for Students in Axatomy comprises:-
(a) Descriptive Anatomy.-A Course of Systematic Lectures on the Human Body. In the First Term, Osteology and Arthrology are taken up, and special attention is paid to the cultivation of a power of accurate observation and precise description.

Later on, more attention is gradually directed to the Topographic Anatomy of regions that are of medical or surgical importance.

The dissections for these Lectures are made by Prosectors appointed from amongst the best Students.

Casts, plates, and permanent dissections are used, sparingly at first, to a larger extent towards the end of the Course.
(b) Dissections, made by each Student independently, under the supervision of the Professor and Demonstrator. The Students are advised to learn Topographic Anatomy by means of a series of mental pictures; and, in order to secure vivid pictures, it is pointed out that careful and methodical dissections must be made.

The results of dissections are compared with the special information obtained by frozen sections, as well as with surface Anatomy of the living body, and the knowledge of its deeper organs obtained by auscultation and percussion.
B. In Physronogy three Classes are formed:-Junior, Senior, and Practical.

To the Junior Class Lectures are delivered on the Histology and functions of the tissues, and of the organs of vegetable life, to which is added a special account of the structure and functions of muscle and nerve.

In the Senior Class the highest animal functions are taken first, beginning with a study of the nervous system and organs of sense.

The great facts of Physiology are studied by an examination of the original evidence, and, when practicable, by a repetition of the experiments that establish them.

For this purpose special portions of Physiology are taken each year.
The Practical Class meets in the second and third terms, on three days weekly. Each meeting occupies two hours. A separate table in the Laboratory is provided for each Student. In succession the Students undertake:-
I. Practical Hrstology.-A Microscope and accesbories are at the disposal of each Student.

About 60 preparations of the tissues and organs are made, which become the property of the preparer.
II. Practical Experimentat Peysiology.-The phenomena of muscle and nerve, of circulation and respiration, and of the sense organs, are studied experimentally.
III. Practical Chemical Pexsiology.--Analyses of the various animal substances and fluids referred to in the General Course of Lectures are made by each Student, special attention being paid to work that is important from a clinical point of view.
A dark room for photographic work and for the use of the Laryngoscope and Ophthalmoscope is in readiness.
The Laboratory contains an excellent collection of instruments used in physiological work.

## Museun.

To the Physiological Department is attached the Maseum of Human and Comparative Anatomy. The preparations in this Museum are arranged in physiological series according to functions of organs.

They form a valuable addition to the teaching facilities in Physiology; enabling the Professor to illustrate hisLecture by extended references to Comparative Physiology.

This Museum was founded by the late Dr. Crofer King, some time Professor of Anatomy and Physiology in this College, afterwards Medical Commissioner of the Local Government Board. It was remodelled and enlarged by his successor in the Chair, Professor Cleland, f.r.s., now Professor of Anatomy in the University of Glasgow. To Professor Cleland the College is indebted for many valuable specimens which form a permanent record of his work here.

## VI.-PRACTICE OF MEDICINE.

## Six Months' Course.

On Tuesdays, Thursdays, and Saturdays, at 2 o'clock. The Course is divided into two parts. The first comprises a general introduction to the study of Medicine, and a series of Lectures on the classification of diseases; the general principles of ætiology, semeiology, diagnosis, and therapeusis; the method of clinical examinations; body temperature, and pulse in disease, and kindred subjects.

In the second and longer portion, the specific infections and constitutional diseases, and the diseases of the various systems and organs of the body, are taken up in regular order. The morbid anatomy and pathology, the symptoms, course, duration, and treatment are reviewed; and in addition, the causation, complications, and sequelæ, prognosis, vital statistics, differential diagnosis, prophylaxis, \&c., receive attention.

The Lectures are illustrated by pathological preparationsboth macroscopic and microscopic-apparatus, instruments, drawings, \&c.; and the Professor, being one of the Physicians to the Galway Hospital, has an excellent opportunity of demonstrating to the Class the facts and methods treated of in the Lectures.

Examinations are frequently held during the Session, and by this means attention is paid to the progress of each member of the Class.

## VII.-SURGERY.

The Surgical Lectures are delivered by the Professor of Surgers, at the College, on three days each week during the Session.

During the First Term, inflammation, general Surgical diseases, theory of treatment of wounds, \&c., furnish the subjects of the Lectures. The class-books recommended are "Walsham's Surgery," "Erichsen's Surgery," and "Green's Pathology."

Early in the Second Term, fractures and dislocations form the subject of the Lectures, where much assistance is given by dry specimens of bones, both normal and abnormal.

Special injuries and surgical diseases form the subjects of Lecture during the remainder of the Session.

Treves' System of Surgery and Cassell's Clinical Manuals in connection with the subjects of the Lectures are recommended.

Surgical instruments are shown in connection with the Lectures, so as to give the Students the opportunity of learning the special use of each instrument.

At the termination of the Session an Examination is held, the questions being taken from different portions of the Course, and prizes given for high answering.

## VIII.-MATERIA MEDICA.

Lectures are delivered at 2 p.m. on Tuesdays, Thursdays, and Saturdays. The Course comprises a study of the Drugs, organic and inorganic, of the British Pharmacopœia, and a review of the more important Drugs that are not officinal.

The earlier Lectures include a study of :-

1. The general method of classifying drugs.
2. The sources and natural conditions of medicines.
3. The selection and collection of medicines.
4. The active principies of medicines derived from the vegetable kingdom.
5. The modes of administration of drugs.
6. The several circumstances that influence the action of drugs in the system.
7. Prescription-reading and prescription-writing.

Several Lectures are next devoted to a critical study of the Official Pharmacopeeia.
The succeeding Lectures include the study of individual drugs, organic and inorganic, according to a pre-arranged therapeutical grouping, and after the following method:Source (geographical, botanical); characters and tests; impurities and incompatibilities; preparations and doses ; therapeutic ralue.

At the commencement of each Lecture the Class are examined on the previous day's work.

The Moseom is enlarged and replenished from year to year, so that the drugs exhibited may be as fresh and characteristic as possible, and contains a complete set of the official drugs, and an extensive collection of drugs not official. These are exhibited to Students during Lecture, and ample opportunity is given them to investigate the physical properties and characteristic appearance of each specimen.

## Text-Books.

Whitla-Pharmacy, Muteria Medica and Therapeutics (6th edition): White-Materia Medica, \&c.; Mitchell Bruce-Materia Medica, \&c.: F. T. Roberts-The Officinal Materia Medica; C. L. Semple-Elements of Materia Medica.

## Works of Reference.

Ringer-Therapeutics; Farquharson-Guide to Therapeutics; BinzElements of Therapoutics; Lauder Brunton-Pharmacology, Therapeutics, and Materia Medica, Tables of Materia Medica.

## Practical Pharmacy.

Lectures commence early in the first Term, and continue for three months. Not less than two Lectures are delivered in each week on Tuesdays and Saturdays at 3 o'clock.

The new Laboratory is fitted up with all the appliances, and supplied with all the drugs necessary for a comprehensive study of the subject.

Each Student is expected to carry out personally the different manipulations and experiments suggested by the Professor in the course of study followed.

The earlier Lectures are devoted to a study of the more important pharmaceutical processes-

Sub-division of Drugs.
Weighing.
Measuring.
Sifting.
Elutriation, Suspension, Emulsions. Solution (Pharmacopoial Solvents).
Crystallization, Evaporation, Precipitation, and Sublimation.

During the study of the above the Students are expected to prepare some of the more important pharmaceutical preparations involving the processes enumerated.

Attention is next directed to the study of incompatibility, after which several Lectures are devoted to the preparation of plants for pharmaceutical purposes, separation of active principles, \&c.

The concluding Lectures are devoted to the practical study of prescribing, compounding, and dispensing.

The Professor, at the commencement of each Lecture, supplies the notes necessary for the day's work.

## IX.-MIDWIFERY.

## 1. Obstetrics.

The Course occupies six months, and covers:-Anatomy of pelvic organs, mechanism of delivery, conception, pregnancy (including diseases of pregnancy), abortion, normal and abnormal labour, obstetric operations, puerperal diseases.

> Gynacology.

Instruments; methods of examination; operations; and diseases peculiar to women.
Lectures are delivered on Mondays, Wednesdays, and Fridays, from 2 to 3 r.m., during the Session.

The Museta.

The important Museum, collected by the late Dr. Mont gomery, and purchased for this Department, contains many very raluable Physiological and Pathological specimens, models, and diagrams. A large collection of Obstetric and Gynæcological instruments has been added.

The Library of the Department is very complete, and to it are added each year, as they are published, the best books and journals on Obstetrics, Gynæcology, and Pædiatrics.

## Text-Books.

Playfair's or Leishman's Midwifery.
Barnes-Obstetric Operations.
MacNaughton Jones-Diseases of Women.
Hart and Barbour-Diseases of Women.
Goodall-Lessons on Gynæcology.
Lawson Tait-Diseases of Women and Abdominal Surgery.
Kelly-Operative Gynæcology.

## X.-MEDICAL JURISPRUDENCE.

A. Forensic Medicine.-From 12 to 1 on Mondays and Wednesdays.

Poisoning, Suspicion and Symptoms of ; Process of Law; Evidence ; Signs of Death; Post-mortem Examinations; Crimes against the Person; Starvation; Suicide; Heat and Cold; Insanity, \&c.
B. Toxicology.-At hours to be arranged with the Professor of Chemistry at the commencement of the Session. The Lectures are based on experiments made partly by the Lecturer and partly by the Students, and embrace the methods of detecting the leading poisons.

The Library in this department includes not only the standard works on Forensic Medicine, but those on Criminal Anthropology, on Public Health, Inebriety and Insanity. The Law Library is also arailable for reference.

## Text-Books.

Luff's Text-Book of Forensic Medicine and Toxicology; Taylor's Medical Jurisprudence (Stevenson) ; Tidy's Legal Medicine; Guy and Ferrier's Medical Jurisprudence; Kinkead's Medical Practitioner's Guide.
XI.-FEVER.

This Course of Lectures, including Clinical Instruction, will be delivered at days and hours to be arranged.

## XII.-PATHOLOGY.

The Course for 1902-1903 was for three months-two Lectures a week in Theoretical Pathology, and three meetings of the Class weekly in Practical Pathology.

The Laboratory is supplied with Microscopes, Apparatus, and Re-agents.

There is an extensive and valuable collection of Pathological preparations and specimens at the disposal of the Lecturer for use in the Class.

## V.-COURSES FOR SCHOLARSHIP EXAMINATIONS.

## I.-First Year Scholarships.*

For one Scholarship the Course is the same as that prescribed for the Literary Scholarships of the First Year; for the other Scholarship the Course is the same as that prescribed for Science Scholarships of the First Year, in the Faculty of Arts. $\dagger$

A Scholar or Exhibitioner of the First Year shall attend the following Coursesf :-

Anatomy, Chemistry, Natural History.

French or German.
Natural Philosophy, treated Experimentally.

[^13]
## II. Second Year Scitolarships.

A Student, in order to compete for a Scholarship of the Second Year, must have Matriculated, and must be of one year's standing, and not more.

## Subjects of Examination.

1. Anatomy (100).-Osteology and Arthrology; also the Myology of the Limbs.

Candidates may be examined on specimens placed before them.
2. Chemistry (100).-The First Year Lecture Course in Chemistry, for which see page 68.
3. Natural History (100).-Vertebrata and Invertebrata.

Structural and Physiological Botany ; Principles of Classification; Characters of the more common Natural Orders.
4. Natural Philosophy (50). - Elements of Mechanics, Hydrostatics, Pneumatics, Acoustics, Optics, Heat, Electricity, and Magnetism, treated principally from an Experimental point of view.
5. Practical Physics (50).-The First Year Practical Course, see pages 34, 52.

And either of the following-
6. French (50).* German (50).*

For the Courses, see the Second Year Scholarship in Arts; pages 50,51 .

No mark under one-fifth of the maximum shall be taken into account in any subject.

Scholars or Exhibitioners of the Second Year shall attend the following Courses:-

Physiology.
Practical Chemistry (if not taken in the First Year).

Practical Anatomy. Materia Medica.

[^14]
## III. Third Year Scholarships.

In order to compete for a Scholarship of the Third Year a Student must-
(a) Have Matriculated.
(b) Be of two years' standing and not more.
(c) Have attended in this, or some Medical School recognised by the College Council, Courses of Lectures in at least four of the following subjects:-

Anatomy and Physiology.
Chemistry.
Botany.
Zoology.

Practical Chemistry. Practical Anatomy. Materia Medica.

## Subjects of Examination.

1. Physiology (100).-Physiology of Muscle and Nerve, Organs and Functions of Digestion, Absorption, Circulation, Respiration, and Urination, together with the Blood and its Elaboration. The Examination will include practical work.
2. Practical Anatomy (100).—Joints, Muscles, Vessels, Viscera, and Brain.

During the Examination, Candidates may be called on to make dissections, or to describe structures placed before them.
3. Materia Medica and Therapeutics (100).-The Medicines and Compounds in the British Pharmacopœia. Candidates will be required to identify specimens and write prescriptions.
4. Laboratory Experiments (Practical Chemistry) (100).The Second Year Laboratory Course for Pass described, page 39 .

No mark under 30 shall be taken into account in any subject.

A Student to whom a Third Year Scholarship has been awarded shall attend, during the year of his election, four at least of the following Courses:-

[^15]
## IV. Fourth Year Scholarships.

In order to compete for a Scholarship of the Fourth Year, a Student must-
(a) Have Matriculated.
(b) Be of three years' standing and not more.
(c) Have attended in this or some School recognised by the College Council, Lectures in Anatomy and Physiology, and three at least of the following Courses :-

Materia Medica and Therapeutics. $\mid$ Theory and Practice of Surgery. Medical Jurisprudence.
Theory and Practice of Medicine.
Subjects of Examination.

1. Anatomy and Plyssiology (100).-Functions of Cerebrospinal Axis, Cranial Nerves, Sense Organs and Larynx. Analysis of Bile, Urine, Blood (including quantitative determination of Grape-sugar and Urea, and the use of the Spectroscope).

And any three of the following in which he has attended Lectures:-
2. Materia Medica and Therapeutics (100).-The Medicines and Compounds of the British Pharmacopœia, together with the Physiological action and Therapeutical effects of the following substances:-Iron, Mercury, Iodine, Arsenic, Aconite, Opium, Digitalis, Alcohol, Nux Vomica, Cinchona. [Candidates will be required to write prescriptions, and identify specimens.]
3. Medical Jurisprudence (100).-Abortion; Wounds; Insanity; the Principal Poisons.
4. Theory and Practice of Medicine (100).-Diseases of the Digestive, Urinary, and Nervous Systems.
5. Theory and Practice of Surgery (100).-Wounds and their treatment; Fractures and Dislocations; Surgery of the Abdomen.
6. Obstetrics and Gynacology (100).-Normal and Abnormal Labour ; Obstetric operations; Menstruation.

No mark under 30 shall be taken into account in any subject. When entering his name with the Bursar, the Candidate shall declare the subjects which he selects for Examination.

Scholars of the Fourth Year shall attend during the year of their election two at least of the following Courses, viz. Medicine, Surgery, Obstetrics, Medical Jurisprudence.
V. Senior Scholarship in Anatomy and Peysiology.

The Scholar will be required to act as Demonstrator in these subjects, and the Examination will be directed to ascertaining his fitness for that position. The Examination will be on the structure and functions of the Human Body, and will include the preparation and recognition of specimens and the description of Museum preparations. Candidates are recommended to practise diagram work. An Examination will be held in the Physiological Laboratory, at which Candidates will be required to show a practical acquaintance with the working of Physiological apparatus.
[See footnote, p. 14.]

## SCHOOL OF CIVIL ENGINEERING.

Students in the School of Engineering can obtain in the Royal University of Ireland, the Degree of Bachelor of Engineering, Master in Engineering, or a Diploma in Engineering ; for the regulations regarding these, see Appendix.

## I.-PRESCRIBED COURSE OF STUDY.

## First Session.

Mathematics ; Chemistry; *Experimental Physics; Practical Physics; Geometrical Drawing and Descriptive Architecture; Office Work.

## Second Session.

Mathematics; Mathematical Physics ; Practical Chemistry; Civil Engineering and Constructive Architecture; Office Work and Field Work.

## Third Session.

Mathematical Physics; Civil and Mechanical Engineering ; Office Work and Field Work ; Geology and Physical Geography.

Attendance on these Courses in ail cases includes passing such Examinations as may be appointed by the College Council, as well as the Catechetical parts of the Courses of Lectures.

Some modification of the order in which the subjects shall be studied will be admitted on the recommendation of the Council.

[^16]
## II.-TIME TABLE OF LECTURES.

| Subjects | Terms. | Mon. | Tues. | Wed. | Thrs. | Fri. | Sat. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1st YEAR. |  |  |  |  |  |  |  |
| Experimental Physics, . | 1, 2, 3, | - | 12 | - | 12 | - | 12 |
| Practical Physics, | 2, 3 | $\square$ | 3 | - | 3 | - | - |
| Chemistry (Pass and Honour), | 1, 2, 3, | 12 | - | 12 | - | 12 | - |
| Mathematics, . | 1, 2, 3, | 1 | - | 1 | - | 1 | - |
| Mathematics (Honour), | 1, 2, 3, | - | 1 | - | 1 | - | 1 |
| Geometrical Drawing and Descriptive Architecture, . | 1, 2, 3, | 11 | - | 11 | - | 11 |  |
| Office Work, . . | 1, 2, 3, | 2 | - | 2 | - | 2 | - |
| 2nd YEAR. |  |  |  |  |  |  |  |
| Civil Engineering, | 1, 2, 3, | 1 | - | 1 | - | 1 | - |
| Office Work and Field Work, | 1, 2, 3, | 2 | - | 2 | - | 2 | - |
| Chemistry, Laboratory (Pass or Honour), | 3 Mths. | 3 | - | 3 | - | 3 | - |
| Mathematical Physics (Pass), | 1, 2, 3, | 10 | 9 | - | - | 10 | - |
| Mathematical ", (Honour), | - | 11 | 9 | - | - | - | 9 |
| Matbematies (Honour), | $1,2,3,$ | 11 | - | 11 | - | 11 | - |
| Mathematics (Pass), - | $1,2,3$ | - | 1 |  | 1 |  | 1 |
| 3rd YEAR. |  |  |  |  |  |  |  |
| Civil and Mechanical Engineering, | 1,2,3, | 12 | - | 12 |  | 12 |  |
| Office Work and Field Work, | 1, 2, 3, | 2 | - | 2 | - | 2 | 9 |
| Mathematical Physics, | 1, 2, 3, | - | - | 9 | --- | - | 9 |
| Geology and Physical Geography, | 1, 2, | 10 | - | 10 | - | 10 | - |

## III.-COURSES OF LECTURES.

## I.-MATHEMATICS.

The Lectures given are the same as in the Faculty of Arts (pp. 32, 33); but as the Royal University course in Engineering is not entirely the same as in Arts, it is usual for Students to attend two of the Arts Classes.*

[^17]Thus, Engineering Students of the First Year are recommended to take Classes I. and II. of the Arts Course; * Pass Students require only Solid Geometry, Mensuration, and Plane Trigonometry from amongst the subjects studied in Class II. ; Honour Students require also Analytical Geometry and Spherical Trigonometry.

Engineering Students of the Second Year should attend Class II., and may attend Class III. of the Arts Course; * Pass Students require, in addition to the subjects given in Class II., the Elements of the Integral Calculus; the Coursc for Honour Students is practically the same as in the Faculty of Arts.

The Library contains some copies of Bottomley's FourFigure Mathematical Tables, which will be useful to Students for practice in Computation; but Students are strongly recommended to provide themselves with copies of these tables, and a Slide-Rule (Thornton's, or any other) may be found an advantage.

## II.-NATURAL PHILOSOPHY.

(For Courses see Faculty of Arts, p. 34.)

## III.-CHEMISTRY.

(1) Lecture Course.

First Year Course for Pass and Honours. Inorganic Chemistry.-The class attends the Lectures given to Students of the Faculty of Arts at 12 o'clock on Mondays, Wednesdays, and Fridays throughout the Session. Attendance will, however, not be required on Mondays between the Christmas recess and the close of the Medical Lectures. The Lectures embrace a consideration of the leading facts of Inorganic Chemistry, and include both the Pass and Honour subjects required for the Second Professional Examiuation in Engineering of the Royal University, or for other corresponding Examinations. For syllabus see Faculty of Arts.

[^18]
## (2) Laboratory Courses, Practical Chemistry.

Second Year Pass Course.-This course consists of about forty Lectures of two hours each, commencing in the first term, and ending at the close of the second term. The work done is adapted to the requirements in Practical Chemistry of the Pass Second Professional Examination in Engineering of the Royal University. A Second Year six months' Course for Honours, adapted to the Honour Second Professional Examination of the Royal University, will be organized for Students who desire it.

## (3) Text-Books.

For Lecture Course.-Thorpe, Inorganic Chemistry; Newth, Inorganic Chemistry; Remsen, College Chemistry: or Richter, Inorganic Chemistry (trans. Smith).

For Laboratory Courses.-Clowes and Coleman, Elementary Qualitative Analysis, or Clowes, Practical Chemistry.

For Reference.-Blount and Bloxam, Chemistry for Engineers; Butterfield, Gas Manufacture; Thorpe, Dictionary of Applied Chemistry.

## IV.-MINERALOGY AND GEOLOGY.

(For Courses see Faculty of Arts, p.43.)

## Y.-CIVIL ENGINEERING.

> First Year-Subjects of Lectures.

Scales, Curves, Descriptive Geometry, Orthographic and Isometric Projections, Shadows, Perspective and Descriptive Architecture.

## Text-Books and Works of Reference.

Miller's Descriptive Geometry. Winter's Geometrical Drawing. Buck on Oblique Bridges. Clarke on Perspective. Carpenter's and Joiner's Assistant. Engineer and Machinists' Drawing Book. Rickman's Gothic Architecture. Ferguson's History of Architecture-(chapters
on Greece, Rome, and England). Stuart and Revett's Antiquities of Athens. Oxford Glossary. Classic and Early Christian ArchitectureSmith and Slater. Gothic and Renaissance Architecture-Smith. An Introduction to the Study of Gothic Architecture by Parker.

## Second Year--Subjects of Lectures.

Instruments, Surveying, Levelling, Railway Curves, Measurement of Earthwork, Constructive Architecture, Measurement of the Flow of Water, Roads, Tramways, and Streets (excluding electrical theory of Electric Tramways). Materials-including, stone, brick, concrete, timber, and iron (their composition, production, and uses).

## Text-Books and Works of Reference.

Rankine's Civil Engineering. Gillespie's Surveying. Rivington's Building Construction, Parts I., II., III. Bidder's Tables. Sir John M 'Neill's Tables. Turner and Brightmore-Yrinciples of Water Supply Engineering. (Chapter on Hydraulics.) Carpenter's and Joiner's Assistant. Clarke on Tramways. Clarke on Roads. Carriage-ways and Footways by Boulnois. Moore's Sanitary Engineering.

## Thibd Year-Sobjects of Lectures.

Materials used in Construction, Stresses in Structures, Principles of Construction of Bridges, Roofs, Canals, Sewerage Works, Harbours, Arterial and Thorough Drainage, Waterworks, Locomotive Engine, Pumping Engines and Pumps, Railways, County and Municipal Work.

## Text-Books and Works of Reference.

Fairbairn's History of the Manufacture of Iron. Rankine's Civil Engineering. Rankine on the Steam Engine. Rivington's Building Construction, Parts III. and IV. Redgrave's Calcareous Cements. Stoney on Stresses. Cotteril's Applied Mechanics, chaps. xii., xiii., xiv., xy., xx. Humber on Bridges. Strength of Materials by Ewing. Buck on the Oblique Arch. Simms on Tunnelling. Latham on Sanitary Engineering. Moore's Sanitary Engineering. Hill on Thirlmere Works. Deacon on Vyrnwy Works, Proc. I. C. E., vol. cxxvi. Drainage of Lands, Towns, and Buildings, by Dempsey, with recent Practice by D. R. Clarke. Purification of Sewage and Water, by W. J. Dibdin. Turner and Brightmore-Principles of Water Supply Engineering. Colyer-Pumps and Pumping Machinery, Part I. Vernon Harcourt on Harbours. Vernon Harcourt on Canals and Rivers. Steam Engine By Holmes omitting Thermodynumical Theory). Bowen Cook, British Lqcomotives. Mills' Railway Construction. Barry's

Railway Appliances. Fairbairn on Mills and Millwork. Bodner's Hydraulic Motors. Tredgold on Carpentry. Carpenter's and Joiner's Assistant. Timber and Timber Trees by Ward. Shelly's Workshop Appliances. Records of Modern Engineering.

The Students of each year are engaged during each term in preparing working drawings of Structures in Architecture and Engineering.

Students of the Second and Third Years make Surreys and Sections in the field.

## VI.-ELECTRICAL ENGINEERING.

Second and Third Years.
Lectures, with Demonstrations, are delivered on three days in the week on the following subjects:-General principles of Dynamo and Motor design. Direct and Alternating Currents. Testing and efficiency of Electrical plant. Generating and Sub-stations: their arrangement and fittings. Transmission and distribution of power. Management of Accumulators. Electric Traction: Tramways and Railways. Permanent-way and Current-distributing systems. Transformers.

## IV.--SCHOLARSHIP EXAMINATIONS.

> I.-Junior Scholarships.

Two are tenable by Students of the First Year.
Two $, \quad, \quad, \quad$ Second Year.

One is " a Student " Third Year.

## First Year Scholarships.

To compete for a Scholarship of the First Year a Student must have Matriculated.

The Course is that prescribed for Science Scholarship of the First Year in the Faculty of Arts (see p. 49).

## Second Year Scholarships.

To compete for a Scholarship of the Second Year a Student must have Natriculated, and be of one year's standing, and not more.

The Course consists of the subjects of study prescribed for Honour Students of the First Year (see p. 83). French or German may be taken as a voluntary subject.
The subjects of Examination in French or German, and Experimental Physics, are the same as those prescribed for Medical Scholarships of the Second Year (see p. 79). Candidates are also required to show efficiency in Physical Manipulation and Measurements.

## Third Year Scholarship.

To compete for a Scholarship of the Third Year a Student must have Xatriculated, and be of two years' standing, and not more.

The Course consists of the subjects of study prescribed for Honour Students of the Second Year (see p. 83).
II.-Senior Scholarship.*

The Course for the Examination consists of the Civil and Mechanical Engineering, Office Work and Field Work, prescribed for Engineering Students of the Third Year (see pp. 83, 87).

* For Regulations see pp. 13, 14.


## FORMER PROFESSORS AND OFFICERS.

Appointed. Vacated.
1845. Very Rev. J. W. Kirwan, President, ..... Died, 1849
1845. Edward Berwick, Vice-President, appointed President, . ..... Resigned, 1849
1849. Thomas Drane, m.A., Professor of Civil Engineering, . . . . . Resigned, ..... 1849
1850. Very Rev. J. P. O'Toole, Vice-President, Resigned, ..... 1852
1849. Morgan W. Crofton, m.A., Professor of Natural Philosophy, . . . . Resigned, ..... 1852
[Fellow of the Royal Society, 1868 ; late Pro- fessor of Mathematics, R.M. Academy, Woolwich; late Fellow of the Royal Uni- versity of Ireland ; Author of Papers in Philosophical Transactions, 1868-69.]
1849. Patrick G. Fitzgerald, Bursar, ..... Died, 1853
1849. John Mulcahy, Ll.d., Professor of Mathe- matics, ..... Died, 1853[Author of "Principles of Modern Geometry,"1852.]
1849. W. E. Hearn, m.A., ll.d., Professor of the Greek Language, . . . . Resigned, 1854
[Late Dean of the Faculty of Law in the University of Melbourne. Author of " Plu- tology," 1864 : "The Government of Eng- land"; and "The Aryan Family."
1849. William Nesbitt, m.A., Professor of the Latin Language, appointed to the Greek Professor- ship, ..... Resigned, 1854
1849. Cornelius Mahony, Professor of the Celtic Languages, . . . . . Resigned, ..... 1854

Former Professors and Officers.
Appointed. 1849. Bernard O'Flaherty, Registrar, . . Resigned, 1855
1849. James Hardiman, Librarian, ..... Died, 1855[Author of " History of Galway," 1820 ; andof "Irish Minstrelsy or Bardic Remains ofIreland,' 1831.]
1849. Edmond Ronalds, PH.D., Professor of Che- mistry, . . . . . . Resigned, 1856
[Editor of the Journal of the Chemical Society,joint Editor with Dr. T. Richardson ofKnapp's 'Chemistry in its applications tothe Arts and Manufactures," 1848-1851.Author of papers :-" Ueber die Oxydationdes Wachses durch Salpetersäure,' LiebigAnn. 1842, and "Excretion of Phosphorus,"1853, Phil. Trans.]
1853. G. Johnstone Stoney, m.A., Professor of Natural Philosophy, appointed Secretary of the Queen's University, . . . Resigned, 1857
[Fellow of the Royal Society, 1861; lateSecretary to the Queen's University in Ire-land. Author of numerous Scientific andPhilosophical Papers in Phil. Trans., Trans.of Royal Dublin Society, and PhilosophicalMagazine.]
1849. H. Law, b.A., Professor of English Law, Resigned, 1858 [Solicitor-General, 1873; m.p. for London- derry, 1874 ; Attorney-General, 1880 ; Lord Chancellor of Ireland, 1881.]
1849. Denis C. Heron, ll.d., Professor of Jurispru- dence and Political Economy, . . Resigned, ..... 1859[Serjeant-at-Law ; m.p. for county of Tip-perary, 1870. Author of "An Introductionto the History of Jurisprudence," 1860, and"History of the University of Dublin."]
1849. Wm. B. Blood, b.a., Professor of Civil Engi- neering, ..... Resigued, 1860[Author of Paper on "Stresses in Girders,"Min. Proc., I.C.E.]
1849. Charles Croker King, m.d., Professor of Ana- tomy and Physiology, ..... Resigned, 1863[m.r.i.n.; late Medical Commissioner, LocalGovernment Board for Ireland. Author ofnumerous Papers on Anatomy and Physio-logy.]
Appointed. $\nabla$ acated.
1852. Joseph O'Leary, в.a., Vice-President, Pro- fessor of History and English Literature, . Died, 1864[Author of various Legal works.]
1853. Arthur Ireland, Bursar, ..... Died, 1864
1852. William Nesbitt, M.A., Professor of the Greek Language, ..... Resigned, 1864
[Late Professor of Latin, Queen's College,Belfast. Author of the Article, "HoraeTaciteae " in Hermathena, Vol. III.]
1849. Thos. Skilling, Professor of Agriculture, . Died, 1865
1849. Augustus Bensbach, m.d., Professor of Modern Languages, ..... Died, 1868
[Author of " Sketch of German Literature."]
1854. Richard Blair Bagley, m.A., Professor of Latin, Died, 1869
1859. John E. Cairnes, m.a., Professor of Jurispru- dence and Political Economy, . . Resigned, ..... 1870
[Sometime Whately Professor of PoliticalEconomy in the University of Dublin ; lateProfessor of Political Economy in the Uni-versity College, London. Author of "TheDefinition and Logical Method of PoliticalEconomy," 1875, 2nd Edition; "TheSlave Power," 1862; Essays on PoliticalEconomy; Political Essays; Some LeadingPrinciples of Political Economy; and ofother works.]
1853. William Lupton, M.A., Registrar, appointed Professor of Jurisprudence and Political Economy, . . . . . . Resigned, ..... 1870
1849. Simon M'Coy, Professor of Materia Medica, Resigned, ..... 1873[Author of numerous papers on Medical andSurgical Science.]
1849. Richard Doherty, m.d., Professor of Midwifery, Died, ..... 1876
[Author of papers on Obstetric Science.]
1870. William Lupton, m.A., Professor of Jurispru- dence and Political Economy, . . . Died, ..... 1876
1856. John H. Richardson, b.A., Librarian, . Resigned, ..... 1876
1849. Edwurd Berwick, B.A., President, . . . Died, ..... 1877
Appointed.Vacated
1863. John Cleland, m.D., D.sc., LL.D., Professor of Anatomy and Physiology. . . Resigned, ..... 1877
[Fellow of the Royal Society, 1872. Professorof Anatomy in the University of Glasgow.One of the Editors of the 7th Edition ofQuain's " Elements of Anatomy; "Authorof "Scala Naturae and other Poems," 1887;and of "Animal Physiology," "Variationsof the Skull," and other important papersin the Philosophical Transactions.]
1870. Thomas W. Moffett, ll.D., Registrar, ap- pointed President, . . . . Resigned, ..... 1877
1873. Joseph P. Pye, m.d., м.cн., Professor of Materia Medica, ..... Resigned, 1877
1849. Nicholas Colahan, m.D., Professor of Practice of Medicine, ..... Resigned, 1879
1857. Arthur Hill Curtis, m.A., Ll.d., Professor of Natural Philosophy, . . . . Resigned, ..... 1879[Late Assistant Commissioner of IntermediateEducation; late Senator of the Royal Uni-versity of Ireland. Author of Papers:-"On the Integration of Linear and PartialDifferential Equations," in the Cambridgeand Dublin Mathematieal Journal, 1854 ;"Sur la Surface Lieu des Centres de Cour-bure Principaux d'une Surface Courbe," inLiouville's Journal de Mathématiques pures etappliquées, 1858; A Mathematical Deductionof the principal properties of the Gyroscope,Dublin, 1862 ; and of numerous Papers inThe Oxford, Cambridge, and Dublin Messengerof Mathematics, The Messenger of Mathe-matics, New Series; The Quarterly Journalof Pure and Applied Mathematics; and ThePhilosophical Magazine.]
1877. Arthur Hill Curtis, m.a., Ll.d., Registrar, Resigned, ..... 1879
1869. Thomas Maguire, Ll.D., Professor of Latin, Resigned, ..... 1880
[Late Fellow of Trinity College, Dublin, and Professor of Moral Philosophy in the Uni- versity of Dublin. Author of "An Essay on the Platonic Idea," 1866 ; of "Essays on the Platonic Ethics"; of "Lectures on Philosophy" ; and of numerous Articles in Hermathena, Vols. I.-VI. Editor of "The Parmenides of Plato,' 1882.]

## Appointed.

Vacated:
1849. Alexander G. Melville, m.D., $\mathbf{~ D . s c . , ~ P r o t e s s o r ~}$
of Natural History,
[Joint Author of "The Dodo and its kindred," and of papers on Anatomy and kindred subjects.]
1876. Robert Cather Donnell, m.a., ll.d., Professor of Jurisprudence and Political Economy, . Died, 1883
[Sometime Professor of Political Economy in the University of Dublin.]
1849. William King, d.sc., Professor of Mineralogy and Geology and Natural History, : Resigned, 1883
[Author of "Monograph of Permian Fossils of England," published by the Palæontographical Society, 1850 ; and of " Report on the Superinduced Divisional Structure of Rocks, called Jointing, and its Relation to Slaty Cleavage," Transactions of the Royal Irish Academy, Vol. XXV., 1875, and of numerous Papers in the Annals of Natural History, and in other Scientific Journals. Also Author in conjunction with Dr. T. H. Rowney of a Paper on "Eozoon Canadense" in the Quarterly Journal of the Geological Society, and of other Papers on the same subject in various Scientific Journals.]
1880. Joseph Larmor, m.A., D.sc., Professar of
Natural Philosophy, $\quad \cdot \quad: \quad: \quad$ Resigned, 1885
[Secretary of the Royal Society, 1901; Lucasian Professor of Mathematics in the University of Cambridge; late Fellow of the Royal University of Ireland ; Fellow of St. John's College, Cambridge. Author of various Papers in the Proceedings of the Cambridge Philosophical Society; Philosophical Transactions of the Royal Society; Proceedings of the London Mathematical Society; The Quarterly Journal of Pure and Applied Mathematics; The Messenger of Mathematics, New Series; The Philosophical Magazine.]
1868. Charles Giesler, ph. D., P. Lff., Professor of Modern Languages, . . . . . Died,1886
[Late Fellow of the Royal University of Ireland.]
1849. James V. Browne, m.D., Professor of Surgery, Died, 1887

# Former Professors and Officers. 

Appointed.
Vacated.
1880. John Fletcher Davies, m.A., D.LIT., Professor of Latin, . ..... Died, 1889[Late Fellow of the Royal University of Ire-land. Editor of "The Agamemnon, TheChoephoroe, and The Eumenides of Fischy-lus." Author of several Articles in Herma-thena, contributed largely to Kottabos andDublin Translations.]
1856. Thomas H. Rowney, ph.d., D.sC., Professor of Chemistry, ..... 1889[Author of numerous memoirs in Organic Che-mistry, especially on the Fatty Acids andtheir Amides, Journal of the ChemicalSociety; and in conjunction with Dr. Wm.King of a Paper on "Eozoon Canadense",in the Quarterly Journal of the GeologicalSociety, and of other Papers in variousScientific Journals.]
1889. Augustus E. Dixon, m.d., Professor of Che- mistry' ..... Resigned, 1891
[Professor of Chemistry, Queen's College, Cork. Author of Papers on Organic Chemistry in the Journal of the Chemical Society.]
1853. George Johnston Allman, Ll.d., d.sc., Pro-fessor of Mathematics, Senator of the RoyalUniversity of Ireland, Fellow of the RoyalSociety, 1884,Resigned, 1893
[Member of the Senate of the Queen's Dni-versity in Ireland, 1877. Editor of theLectures of Professor MacCullagh on "TheAttraction of Ellipsoids," Transactions of theRoyal Irish Academy, Vol. XXII., 18 ä3.Author of a Paper, "On Some properties ofthe Paraboloids," The Quarterly Journal ofPure and Applied Mathematics, 1874; ofArticles on "Greek Geometry from Thalesto Euclid" in Hermathena, Vols. III.-VI.,1878-1887, subsequently published as aVolume of the Dublin University PressSeries, 1889 ; also of "Ptolemy (ClaudiusPtolemaeus) " and other Articles in the 9thedition of the Encyclopadia Britannica.]
1864. George Johnston Allman, LL.d., D.sc., Bursar, . . . . . . Resigned, 1893

| Appointed. Vald |  | Vacated. |
| :---: | :---: | :---: |
| 1849. | Sir Thomas Moffett, Ll.d., d.ditr., Professor |  |
|  | of Logic and Metaphysics ; Professor of |  |
|  | History, English Literature, and Mental |  |
|  | Science, 1863; Registrar, 1870 ; President, |  |
|  | 1877, . . . . . . Resigned, | 1897 |
|  | [Senator of the Royal University of Ireland. |  |
|  | Author of "Selections from Bacon's |  |
|  | Works," translated with commentary, and |  |
|  | numerous Literary and Philosophical |  |
|  | Papers.] |  |
| 1897. | William Joseph Myles Starkie, m.A., d.litt.; |  |
|  | President, and Professor of History, English |  |
|  | Literature, and Mental Science, 1897, Resigned, | 1899 |
|  | [Late Scholar of Trinity College, Cambridge ; |  |
|  | ex-Fellow of Trinity College, Dublin; |  |
|  | Senator of the Royal University of Ireland; |  |
|  | Resident Commissioner of National Educa- |  |
|  | tion (Ireland); Editor of "Aristophanes' |  |
|  | Vespae,' and Author of many Papers on |  |
|  | Classical Subjects.] |  |

1893. Alfred Cardew Dixon, sc.d., m.A., Professor of
Mathematics, . . . . . Resigned, ..... 1901
[Late Fellow of Trinity College, Cambridge; Fellow of the Royal University of Ireland. Author of the "Elementary Properties of Elliptic Functions," 1894 ; and of numerous papers in Philosophical Transactions, Quarterly Journal of Mathematics, Proceedings of London Mathematical Society, and Messenger of Mathematics.]
1894. D'Arcy W. Thompson, m.a., D.litt., Pro-
fessor of Greek, and Librarian, . . . Died, 1902
[Late Fellow of the Royal University of Ireland. Author of " Daydreams of a Schoolmaster," "Sales Attici, the wit and wisdom of the Athenian Drama," "Wayside Thoughts," being lectures delivered in the Lowell Institute in Boston, and numerous literary papers.]

## Former Professors and Officers. 97

1883. Charles Francis Bastable, ll.D., b.l., Pro-
fessor of Political Economy and Jurispru-
dence, . . . . . . Resigned, 1903
[Professor of Political Economy and of Jurisprudence and International Law, Trinity College, Dublin. Author of "Theory of International Trade," "Commerce of Nations," "Public Finance," contributor to Encyolopedia Britanniea, Dictionary of Political Economy, and Economic Journal.]
1884. Philip Sandford, m.A., Professor of Latin, . Died, 1903
[Fellow of the Royal University of Ireland. Author of "The Quasi-Cæsura in Virgil," Hermathena; Editor of the Aeneid of Virgil, Book iII., in Blackie's Illustrated Latin Series; Editor of Xenophon, Hellenica, Books I. and II., Ponsonby, Dublin.]

## FORMER DEANS OF RESIDENCES.

Appointed. Vacated.
1857. Rev. Wm. Lough, Resigned, 1860
1860. Rev. Robert Huston, Resigned, ..... 1863
1863. Rev. John Duncan, ..... Resigned, 1866
1866. Rev. B.ugh Moore, ..... Resigned, 1867
1858. Rev. John Lewis, Resigned, ..... 1867
1867. Rev. James Murdock, ..... Resigned, 1868
1849. Rev. John Treanor, Resigned, ..... 1868
1868. Rev. Wm. Jarrett, Resigned, ..... 1868
1868. Rev. Mortlock Long, Resigned, ..... 1871
1871. Rev. Oliver M'Cutcheon, Resigned, ..... 1874
1874. Rev. J. C. Moore, в.A., Resigned, ..... 1878
1874. Rev. Colin M‘Cay, ..... Resigned, 1876
1876. Rev. F. Elliot, ..... Resigned, 1879
1879. Rev. T. W. Baker, Resigned, ..... 1882
1880. Rev. J. G. Robb, LL.B., D.D., ..... Died, 1881
1880. Rev. John Kydd, Resigned, ..... 1881
1882. Rev. Thomas C. Maguire, ..... Resigned, 1885
1885. Rev. John Carson, ..... Resigned, 1887
1868. Venerable Archdeacon O'Sullivan, Resigned, ..... 1890
[Bishop of Tuam, 1890.]
1887. Rev. Henry Shire, Resigned, ..... 1890
1890. Rev. Richard Little, Resigned, ..... 1893
1893. Rev. Robert Boyd, m.A., ..... Resigned, 1896
1896. Rev. Wm. Crook, D.d., ..... Died, 1897
1897. Rev. Henry J. F. Ranson, Resigned, 1901

## ( 99 )

## GRADUATES.



$a$ With First Honours. $\quad b$ With Second Honours.
${ }^{1}$ Harbour Engineer and Borough Surveyor of Galway.
${ }^{2}$ Army Medical Service.
${ }^{3}$ Naval Medical Service.
Demonstrator, Queen's College, Galway.

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a 1 Burkitt, James P., .. .. B.A. 1891; в.e. 1892.
    Cairnes, John E., .. .. B.A. 1887; m.A. 1889.
    Caldwell, William H., .. m.d., m.cH., Dip. Obs. }1880
    a Campbell, James A., .. .. в.А. 1879; m.A. }1882
    2}\mathrm{ Carbery, Edward 0. B., .. м.в., в.сн., в.A.о. }1897
        Card, David, .. .. .. в.А. 1887.
        Card, William, .. .. .. B.a. 1886.
        Carey, Patrick, .. .. .. B.A. 1868.
    a Carmichael, John S., .. .. в.A., в.e. 1897.
a 3}\mathrm{ Carpenter, William, .. .. M.D. }1862
    Carroll, Henry, .. .. B.A. 1884.
    Carroll, James, .. .. .. m.D., м.сн. 1883; в.A.o. 1889.
    Carroll, Richard, .. .. m.D. }1862
    Carroll, William S., .. .. m.в., в.сн., в.а.о. }1895
    Charlton, Robert J., .. .. в.A. 1887.
    a Chestnutt, Joseph W., .. .. в.A. 1860; m.D. 1865; м.A. }1882
b4}\mathrm{ Clancy, John J., .. .. в.A. 1866; m.A. }1868
    Clarke, John A., .. .. в.A. 1898.
    a Clarke, Margaret, .. .. B.A. 1900.
    b Clarke, Samuel B., .. .. в.А. 1880; м.А. }1882
        Clarke, Thompson R., .. .. M.D., м.cн. 1866.
        Clarke, William, .. .. в.A. 1859.
        Clarke, William A., .. .. в.a. 1886; ll.в. }1890
        Clements, Francis H., .. .. m.в., в.сн., в.А.о. 1892.
        Clements, John, .. .. м.в., в.ch., R.A.o. 1902.
        Clements, Joseph A., .. .. м.в., в.сн., в.A.о. }1895
        Clements, Robert W., .. .. в.а. 1894; м.в., в.сн., в.А.о.1895.
    { } ^ { 5 } \text { Clements, Robert, .. .. m.D. } 1 8 7 3 .
    3}\mathrm{ Climo, William H., .. .. м.р. 1860.
    Clinch, Patrick J., .. .. в.E. 1882.
    Coates, George J., .. .. м.D., м.сн., Dip. Obs. }1880
    Coates, William, .. .. m.D., м.сн., Dip. Obs. 1876;
        M.A.о. 1887.
b3}\mathrm{ Colahan, John, .. .. .. m.d. 1857.
    6}\mathrm{ Colahan, Nicholas W., .. .. м.d., м.сн. 1872.
    2 Colahan, William H. W., .. m.d., м.ch. }1870
    b Cole, James A., .. .. B.A. 1901.
    3}\mathrm{ Comerford, Henry, .. .. m.d., м.сн. 1865.
    a Concannon, Patrick, .. .. B.A. 1871; M.A. 1874.
    bCondon, Daniel E.,' .. .. b.e. 1879; м.e. 1882.
    b Connolly, Thomas J., .. .. в.А.1891; м.в.,в.сН.,в.A.o. }1893
    Conolly, James, .. .. в.A. 1858; m.d. }1866
b7}\mathrm{ Conolly, Patrick W., .. .. в.A. 1861; M.A. }1865
```

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ County Surveyor of Fermanagh.
${ }^{2}$ Naval Medical Service.
${ }^{3}$ Army Medical Service.
${ }^{4}$ B.L. (Ireland) ; M.P. for North Dublin County.
${ }^{5}$ Medical Inspector Local Government Board (Ireland).
${ }^{6}$ Professor of Materia Medica, Queen's College, Galway.
${ }^{7}$ Civil Service of Ceylon, Second Place.

| Considine; P. Oswald; .. <br> ${ }^{1}$ Conway, John K., <br> a Copithorne, James G., <br> a Corley, Anthony H., | .. M.D. 1878. <br> . . м.D. 1866. <br> .. в.А. 1879 ; М. А. 1882. <br> .. м.D. 1863 ; D.sc. Honoris Causa, 1882. |
| :---: | :---: |
| Corry, John G., | .. M.B., B.CH., B.A.O. 1897. |
| Costello, Michael J. B., | .. M.B., B.CH., B.A.O. 1891. |
| Costello, Thomas B., | .. M.D., B.CH., B.A.O. 1888. |
| Craig, Samuel R., | . В.A. 1869. |
| Crean, Martin J., | M.D. 1857. |
| Creighton, Robert W., | B.E. 1883. |
| $b$ Croke, J. O'Byrne, | . В.A. 1871 ; м.А. 1874. |
| Crone, Alexander, | - B.A. 1877. |
| Crooks, William, | B.A. 1865. |
| 2 Crotty, Richard D., | B.A. 1861. |
| Crowley, Patrick, | , м.B., В.CH., B.A.o. 1890. |
| Cuilin, Henry C., | . B.A. 1871. |
| $b$ Cummins, Robert J., | .. B.E. 1900 ; B.A. 1901. |
| Cuningham, John S. A., | M.D. 1866. |
| $b$ Cunningham, William, | B.A. 1861 ; M.A. 1882. |
| Cuppage, William B., . | м.D., м.CH. 1871 ; Dip. Obs. 1877. |
| Curran, Anthony, | B.A. 1902. |
| Curry, David S., | B.A. 1898. |
| a Curry; Samuel, .. | B.A. 1893. |
| Daly, John H. C., | M.в., В.СН., В.A.o. 1897 . |
| $b$ Davidson, Andrew G., | B.A. 1887. |
| Davies: W. Naunton, | .. M.D. 1880 ; м.ch., Dip. Obs. 1881. |
| ${ }^{3}$ Davis, John N., .. | . M.D. 1862. |
| Davis, John W., .. | - M.D. 1869. |
| Davis, William, | M.D. 1874 ; M.CH. 1875. |
| Davy, Alfred, .. | Dip. Eng. 1867 ; м.D. 1870 ; в.в. 1882. |
| ${ }^{3}$ Davy, Francis A., | M.D. 1867. |
| Davjs, Frank, . | B.A. 1858. |
| 4 Daxon, William, | M.D. 1862. |
| ${ }^{5}$ Deane, Henry, . | . В.A. 1865 ; М.А. 1882 . |
| Deans, John, . . | B.A. 1890. |
| Deans, William, | B.A. 1891. |
| 1 Delmege, Alfred G., | M.D. 1868. |
| ${ }^{3}$ Delmege, J. P. De G., | . M.D. 1862. |
| Dempsey, Alexander, | . M.D. 1874. |
| $b$ Dick, James, | В.A. 1864 ; М.A. 1866. |
| ${ }^{6}$ Dick, John, . . | . M.D. 1869. |

${ }^{1}$ Naval Medical Service.
${ }^{2}$ Resident Magistrate.
${ }^{3}$ Army Medical Service.
${ }^{4}$ Resident Physician, District Asylum, Ennis.
${ }^{5}$ Engineer-in-Chief of Railways inder the Government, Victoria.
${ }^{6}$ Surgeon, Mount Ida Distriet Hospital, Otago, New Zealand,

```
    \({ }^{1}\) Dickenson, Frederick F., .. m.d. 1863.
        Dickey, Samuel, .. .. м.d., м.сн., Dip. Obs. 1879.
        Dickson, John D., .. .. M.D., M.CH., Dip. Obs. 1876.
    \({ }^{2}\) Divers, Edward, .. .. m.d. 1860 ; d.sc. Honoris Causa,
        1897.
    \(a\) Dobbyn, John S., .. .. м.D. 1875.
    \(a\) Dodds, Robert, .. .. .. в.А. 1878; м.A. 1879.
    Dooley, John L., .. .. в.A. 1873.
    \({ }^{3}\) Dooley, Michael S., .. .. b.a. 1865; Dip. Eng. 1865; m.e.
        1882.
    Dougan, George, .. .. м.D., м.cy., Dip. Obs. 1875.
    Dowling, Jeremiah J., .. .. B.A. 1853; м.D. 1858.
    Dowling, Patrick A. S., .. B.A. 1895 ; в.e. 189 א.
    \(b\) Downard, Thomas, .. .. в.A. 1890 ; м.в., в.сн., в.A.o., 1898.
    Doyle, Peter John, .. .. м.D. 1883.
\(b^{4}\) Drummond, Michael, .. .. в.A. 1869 ; м.A. 1870.
    Drury, Richard J., .. .. в.A. 1869 ; m.D. 1873 ; Dip. Obs.
        1874.
    \({ }^{1}\) Drury, Robert, .. .. .. м.d. 1870.
    \(b\) Duffy, Francis, .. .. .. м.d. 1864 ; м.сн. 1865.
\(a^{5}\) Duggan, Charles W., .. .. B.A. 1852 ; м.A. 1853.
        Duke, Alexander W., .. .. m.d. 1867.
        Dundee, Isaac C., .. .. в.A. 1874; м.d. 1877; м.сн. 1878.
        Dwyer, Peter J., .. .. M.D. 1869 .
    a Eagleton, John F., .. .. м.в., 1885 ; м.сн. 1886.
    Eakin, Mary 1)., .. .. B.A. 1903.
    \({ }^{6}\) Eaton, Richard, .. .. м.d. 1855.
    \& Eaton, Thomas, .. .. .. в.а. 1868 ; м.A. 1871.
        Edge, John D., .. .. .. м.D. 1870.
    \(b\) Ekin, Edward, .. .. .. в.А. 1880; м.A. 1881.
    Eldon, Joseph, .. .. .. м.в., в.сн., в.А.о. 1889 ; м.d.,
        м.CA. 1895.
    Emerson, T. Gilbert, .. .. м.D., m.ch. 1875.
    \({ }^{7}\) Emerson, Thomas, .. .. B.A. 1891.
    8 England, William G., .. .. B.A. 1880.
    b Entrican, Samuel W., .. .. в.A. 1894 ; м.A. 1896.
        Evans, Isaac Rennison, B.a. 1885.
    Evans, John, .. .. .. B.A. 1852.
    \({ }^{1}\) Evatt, George G. J. H., .. M.D. 1863.
    \({ }^{9}\) Evatt, Humphrey, .. .. в.A. 1859.
    a With First Honours.
                    \(b\) With Second Honours.
    \({ }^{1}\) Army Medical Service.
    \({ }^{2}\) F.R.S.; Emeritus Professor of Chemistry in the Imperial Uni-
versity, Tokio, Japan.
    \({ }^{3}\) Telegraph Department, India.
    \({ }^{4}\) K.C. (Ireland) ; Crown Prosecutor, North-West Circuit.
    \({ }^{5}\) Inspector National Schools.
    \({ }^{6}\) Resident Physician, Asylum, Ballinasloe.
    \({ }^{7}\) Civil Service of India.
    \({ }^{8}\) B.L. (Ireland).
    \({ }_{9}\) Surveyor-General, Sierra Leone.
```


$a$ With First Honours. $b$ With Second Honours.
${ }^{1}$ Engineer, Public W orks of India.
${ }^{2}$ B.L. (Ireland) ; formerly Member of Senate of the Royal University.
${ }^{3}$ Army Medical Service.
${ }_{5}^{4}$ B.L. (England); Editor of the Belfast Northern Whig.
${ }^{5}$ Naval Medical Service.
${ }^{6}$ Civil Service of India.
${ }^{7}$ First Place, Indian Medical Service.

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b \(^{1}\) Gannon, William J., .. .. в.А. 1889 ; м.А. 1882.
    Garry, Thomas G., .. .. м.D., м.сн., Dip. Obs. 1883 ;
        M. A.о. 1886.
    \(b\) Gaston, James, .. . .. в.A., в.e. 1897.
    Geoghegan, A. Osmond, .. м.d. 1878 ; м.сн. 1879.
    Geoghegan, F. Meagher, .. м.D. 1876.
    Gibson, William W., .. .. м.д. 1881 ; м.сн. 1882.
    Gilchrist, Andrew, .. .. B.A. 1891.
    Gill, Peter T., .. .. .. в.A., в.e. 1897.
    bGillespie, George, .. .. в.A. 1884 ; м.A. 1885.
        Gillespie, James J., .. .. в.A. 1880.
        Gillespie, Michael, .. .. в.A. 1867; м.t. 1872, м.сн.,
    Dip. Obs. 1873.
    Gillespie, William H., .. .. в.土. 1889 ; м.A. 1890.
    b Glover, R. Francis, .. .. B.A. 1869 ; m.a. 1882.
    \(a\) Glover, R. Stephen, . . .. B.e. 1869 ; м.е. 1882.
    Glynn, John, .. .. .. м.D. 1883.
    \({ }^{2}\) Gordon, John, .. .. .. B.A. 1873 ; LL.B. 1876 ; LL.D.
        1882.
    \({ }^{3}\) Gore, Albert A., .. .. м.D. 1860.
    \({ }^{4}\) Gorham, Anthony, .. .. M.D. 1866.
    \(b\) Gorham, James J., .. .. в. A. 1872 ; м.D., м.cн., Dip. Obs.
        1875 ; м.А. 1882.
        Gorham, John, .. .. .. B.A. 1877.
        Gormley, John, .. .. .. в.A. 1861.
    \({ }^{3}\) Gormley, Joseph A., .. .. м.d., м.сн. 1873.
    \({ }^{3}\) Gouldsberry, V. Skipton, .. m.d. 1862.
        Graham, George, .. .. м.в., в.се., в.А.о. 1900.
        Grealy, John, .. .. .. B.A. 1861.
        Green, Joseph J., .. .. в.a. 1862.
        Greenfield, John K., .. .. B.A. 1875.
    \({ }^{5}\) Greenway, Alfred G., .. .. м.D. 1870; м.cн. 1895.
    Gregg, Andrew C., .. .. в.A. 1886.
    Gregory, William J., .. .. м.в., в.сн., в.А.о. 1889.
    Griffin, John, .. .. .. B.A. 1863.
    bGriffin, Thomas, .. .. B.A. 1867; m.A. 1882.
    Griffith, William, .. .. в.A. 1860.
\(a^{6}\) Hackett, Edward A., .. .. в.е. 1880; м.в. 1882.
\(\boldsymbol{a}^{3}\) Hackett, Robert I. Dalbey, .. в.A. 1877; м.D., м.сн. 1880; м.A.
    1882.
```

a With First Honours.
$b$ With Second Honours.
1 Elected to Science Research Scholarship by H.M. Exhibition (1851) Commissioners; Lecturer, the Owens College, Manchester ; Head Master of the Municipal School of Science, Stafford; Science Master and Inspector to the Staffordshire County Council.
${ }^{2}$ K.C. (Ireland) ; M.P. for South Derry.
${ }^{3}$ Army Medical Service.
${ }^{4}$ Fleet-Surgeon, R.N.
${ }^{5}$ House Physician, General Hospital, Birmingham.
${ }^{6}$ County Surveyor of Tipperary.

$a$ With First Honours.
${ }^{1}$ Army Medical Service.
${ }^{2}$ Civil Service of India.
${ }^{3}$ Consular Medical Service, China.
${ }_{5}^{4}$ President, Wesleyan College, St. John's, N.B.
${ }^{5}$ Elected to Science Research Scholarship by H. M. Exhibition (1851) Commissioners, 1896; Demonstrator of Physics, Queen's College, Galway; Junior Fellow in Natural Philosophy, R.U.I., 1899; Assistant in Electrical Engineering in the Technical Institute, Auckland, New Zealand.


## $a$ With First Honours.

$b$ With Second Honours.
${ }^{1}$ Professor of Anatomy, Royal College of Surgeons in Ireland; Consulting Surgeon to the Coombe Lying-in Hospital, Dublin; Consulting Surgeon to the Cripples' Home, Bray; Surgeon to the Adelaide Hospital, Dublin ; Member of the Council, Royal College of Surgeons in Ireland.
${ }^{2}$ Demonstrator of Physics, Queen's College, Galway; Civil Service of India.
${ }^{3}$ Army Medical Service.
${ }^{4}$ Consular Service of China.
${ }^{5}$ Engineer, Public Works of India.
${ }^{6}$ B.L. (Ireland).
${ }^{7}$ Naval Medical Service.
${ }^{8}$ Civil Service of India.

Kane, John, .. .. .. B.A. 1866.
$a$ Kane, Thomas, .. .. .. B.A. 1891.
a Keane, C. Marceet, .. .. B.A. 1853 ; Dip. El. Law, 1865.
Kearney, Daniel, .. .. B.A. 1854.
b Keating, William H., .. .. в.A. 1882; м.A. 1883.
$b$ Keegan, David M., . . .. B.A. 1894.
b Keegan, James M., .. .. в.А. 1886 ; м. А. 1887; м.в., в.СН., B.A.O. 1890 .
$b^{5}$ Keenan, John F., .. .. в.A. 1892.
Keers, James, .. .. .. B.A. 1886.
a Kelly, Michael, .. .. .. в.А. 1874; м.А. 1876 ; M.D. 1882 ;
m.ch., Dip. Obs. 1883.

Kelly, Patrick J., .. .. M.D. 1857.
Kennedy, John, .. .. .. м.D., м.сн., Dip. Obs. 1881.
$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Ceylon Civil Service, First Place; Acting Colonial Secretary for Ceylon, 1891.
${ }^{2}$ Army Medical Service.
${ }^{3}$ Civil Service of India, Third Place.
${ }^{4}$ Head Master, Royal School, Banagher.
${ }^{5}$ Demonstrator of Chemistry, Queen's College, Galway.

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ University Student, R.U.I.; B.A. (with Gold Medal in Classics), T.C.D., 1893 ; Madden Prizeman, 1899 ; F.'T.C.D., 1901.
${ }^{2}$ B.L. (Ireland).
${ }^{3}$ District Judge, Ceylon.
${ }^{4}$ Staff of Indian Geological Survey.
${ }^{5}$ Lecturer and Surgeon, St. Mary's Hospital, London.
${ }^{6}$ Army Medical Service.
${ }^{7}$ Civil Service of Ceylon.
${ }^{8}$ Clerk of the General Assembly of the Presbyterian Church.


Macartney, James, .. .. M.D. 1865.
$b^{8}$ Macaulay, Colman P., .. .. в.A. 1867 ; м.A. 1868.
${ }^{9}$ Macauley, Charles A., .. m.D., M.ch., Dip. Obs. 1872.
b Macauley, Roger, . . .. м.d. 1873.
$a^{10} \mathrm{MacDonnell} ,\mathrm{Sir} \mathrm{Antony} \mathrm{P.}, \mathrm{.}. \mathrm{B.A}$.1864 ; M.A. 1873; D. Lit. Honoris causa, 1882.

м.D., м.сн. 1886.
". в.А. 1879 ; м.в., м.сн. 1887
.. м.D., M.CH. 1884.
Madden, Henry M., .. .. m.d. 1868; м.сн. 1870
Madden; Henry J., .. .. M.D. 1865.
Madden, Thomas P., . . .. м.d., м.ch. 1879.
Madill, Thomas, ... .. B.A. 1861; Ll.b. 1878; LL.D. 1879.
Maguire, Connor J. O'L. .. m.d., м.ch., Dip. Obs. 1882 ; м.A.o. 1892.

Maguire, Joseph P., .. .. м.в., в.сн., в.A.о. 1895.
Maher, Newenham E., .. м.D. 1866.
$a$ With First Honours.
1 Inspector of Board of Works (Ireland).
${ }^{2}$ Fellow of the Royal College of Preceptors; Inspector of National
Schools (Ireland), 1893 .
${ }^{3}$ First Place, Civil Service of Ceylon; County Surveyor of Louth.
${ }^{4}$ Engineer, Public Works of India.
${ }^{5}$ County Surveyor of North Tyrone, 1895 .
${ }^{6}$ Professor of Medicine, Queen's College, Galway ; F.R.U.I.
${ }^{7}$ Inspector, Imperial Chinese Custıms, Swatow.
${ }^{8}$ Civil Service of India; Financial Secretary, Government of Bengal.
${ }^{9}$ Naval Medical Service.
10 Civil Service of India; K.C.S.I. ; Member of Council of the Viceroy
of India; Lieutenant-Governor of the North-West Provinces and Oudh;
Cnder-Sucretary to the Lord-Lieutenant of Ireland.
11 Indian. Medical Service.
${ }^{12}$ B.L. (England).

Maxwell, George, .. .. B.A. 1903.
Maxwell, Sydney L., .. .. B.A. 1883.
b Marwell, William H., .. .. в.A. 1872 ; м.A. 1874.
May, William G., .. .. в.a. 1859.
б Maybin, Hugh, .. .. .. B.A. 1896.
${ }^{6}$ Maybin, W., .. .. .. в.A. 1873 ; м.A. 1882.
a Maybury, Lysander, .. .. м.D., м.Cн., Dip. Obs. 1878.
Maybury, Willian A., .. м.d., м.cн. 1871; Dip. Obs.
1872.
$\begin{array}{llll}\text { M‘Afee, Alexander, } & \text {.. } & \text {. } \\ \text { M•Afee, William, } & \text {.. } & \text {. } & \text { м.d., м.Cн., Dip. Obs. } 1876 .\end{array}$
M‘Aleer, John, .. .. .. м.D., M.Ch. 1885; в.A.o 188؛
M•Askie, William J., .. .. B.A. 1890.
$a$ M‘Auliffe, Michael, .. .. в.A. 1860 ; m.A. 1882.
M‘Auliffe, Thomas B., . . . m.D., м.сн. 1868.
M‘Bride, John B., .. .. в.a. 1856.
${ }^{7}$ M'Call, Robert A., .. .. в.A. 1867 ; м.A. 1868 ; LL.d.
Honoris causa, 1882.
$5^{5}$ M'Carthy, David J., , . .. м.d. 1862 ; м.cн. 1875.
${ }^{5}$ M'Carthy, James, .. .. m.d., м.сн. 1871.
M‘Causland, Joseph, .. .. B.A. 1901.
M‘Cay, Daniel, .. .. .. B.E. 1893 .
a With First Honours.
1 Inspector of National Schools, First Place.
${ }^{2}$ Inspector of National Schools.
${ }^{3}$ Late Professor of Anatomy and Physiology, Royal College of Surgeons, Ireland.

4 Surveyorship, Demarara.
${ }^{5}$ Army Medical Service.
${ }^{6}$ Principal of Belfast Academy.
${ }^{7}$ K.C. (England) ; Bencher of the Middle Temple.

112 Queen's College, Galway.

| a M‘Cay, Francis, $a^{1}{ }^{1}$ ('Clelland, John A., . . | - в.А. 1889 ; в.е. 1890. <br> - B.A. 1892; м.А. 1893 (with Special Prize). |
| :---: | :---: |
| ${ }^{2} \mathrm{M} \times$ Conaghey, John, | м.d., м.CH. 1871. |
| M'Conaghy, William, | M.D. 1869. |
| M ${ }^{\text {connell, }}$, Edward, | m.d. 1881 ; м.CH. 1882. |
| M'Connell', Thomas S., | м.D. 1881 ; м.СН. 1882. |
| M‘Cormick, John J., | $\begin{aligned} & \text { м.D., Dip. Obs. } 1879 \text {; м.сн. } \\ & \text { 1882. } \end{aligned}$ |
| M'Cormick, Henry, | m.d., Dip. Obs. 1879. |
| M ${ }^{\text {corry, Peter, }}$ | m.d. 1861. |
| $b$ M ${ }^{\text {c Cosh, John, }}$ | в.А. 1876 ; м.А. 1881. |
| M ${ }^{\text {chea, Samuel, }}$ | m.d. 1864. |
| M'Cully, William J., | B.A. 1866. |
| a M ${ }^{\text {c Cune, Thomas H., }}$ | в.А. 1883 ; м.А. 1884. |
| ${ }^{3} \mathrm{M}$ 'Dermott, B. P. Sarsfield, | в.A., M.D., M.CH. 1878. |
| b M'Dermott, Cornelius, . . | в.А. 1878 ; м.A., м.D., М.сН. 1882. |
| $b^{4} \mathrm{M}$ 'Dermott, Dominick L., | в.А. 1853 ; м.А. 1882. |
| $b \mathrm{M}$ •Donagh, Redmond, | в.А. 1882 ; м.А. 1883. |
| M'Donagh, Thomas J., | B.A. 1894. |
| ${ }^{5}$ M'Donnell, James O'M., | м.D., м. Сп. 1869. |
| ${ }^{3} \mathrm{M}$ 'Donnell, Joseph R., | м.d. 1881 ; м.сн. 1882. |
| ${ }^{6} \mathrm{M}$ 'Donnell, Mark A., . . | M.D., M.CH., Dip. Obs. 1876. |
| M ${ }^{\text {d }}$ Dowell, Thomas H., | в.А. 1879. |
| M'Elfatrick, 'Lhomas A., | в.А. 1896. |
| $b \mathrm{M}$ 'Elney, Robert, | в.А. 1884 ; м.А. 1887. |
| M'Ehrea, William, | в.E. 1879. |
| M•Elwaine, Robert, | м.d. 1883 ; м.сн. 1884. |
| $b^{3} \mathrm{M}$ 'Elwee, John, | в.А. 1884 ; м.d., м.СН. 1887. |
| M•Farland, Beattie, | м.d. 1881 ; м.CH. 1883. |
| $b$ M'Farlane, Hugh, | в.А. 1878 ; м.А. 1879. |
| a M•Farlane, Robert A., | в.А. 1867 ; м.А. 1869. |
| M'GGennis, John, | м.D., в.Сн., в.A.o. 1890. |
| M'Gloin, Patrick F., | м.d. 1863 ; м.CH. 1865. |
| M'Granahan, James, | B.A. 1882. |
| M'Granahan, William, | B.A. 1876. |
| M'Grath, Edward H., | в.А. 1901 ; м.А. 1902. |
| MacGregor, William, . . | .. B.A. 1893 ; M.A. 1894 ; LL.B. 1897, $b$. |
| M‘Ilroy, John, | м.D., B.A.O. 1883. |

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Elected to Science Research Scholarship by H. M. Exhibition (1851) Commissioners, 1894 : Junior Fellow in Natural Philosophy, R.J.I., 1895 ; B.A. Research Degree, Cambridge, 1898; Professor of Natural Philosophy in University College, Dublin, 1900; F.R.U.I., 1901.
${ }^{2}$ Army Medical Service.
${ }^{3}$ Naval Medical Service.
4 War Office.
${ }^{5}$ Indian Medical Service.
${ }^{6}$ M.P. for Leix division of Queen's County.

| M‘Ilveen, John, ${ }^{1}$ M‘Ilwaine, Robert, |  |
| :---: | :---: |
| $a^{2} \mathrm{M}$ 'Kane, John, . ${ }^{\text {c }}$ | .. в.А. 1860; м.А. 1862. |
| $b$ M'Kee, William J., | . . . B.A. 188 |
| M'Kelvey, Thomas, | .. M.в., в.CH., в.A.O. 1898. |
| M'Kenzie, John, | .. в.А. 1865 ; м.A. 1871. |
| M'Kinlay, John, | - M.D., Dip. Obs. 1878; m.ck. 1879. |
| M'Kinley, David, | B.A., 1896 ; B.E. 1898. |
| ${ }^{3}$ M'Kinney, Hugh G., .. | Dip. Eng. 1867; M.E. 1882. |
| b M‘Kinney, Samuel B. G., | в.А. 1870 ; м.A. 1882. |
| M'Lachlan, John S., . ${ }^{\text {c }}$ | в.А. 1902; в.е. 1903, b. |
| M ${ }^{\text {Lachlan, }}$ Robert B., | . B.E. 1903. |
| a M'Laren, James B., . . | в.А. 1881 ; M.A. 1882. |
| M ${ }^{\text {c/Laughlin, John, }}$, . | M.D. 1880. |
| M‘Lean, Andrew H., | в.е. 1899. |
| M‘Lean, Robert J., | ..A. 1898. |
| $b \mathrm{M}$ 'Loughlin, Francis, . | . m.d. 1881. |
| $b^{4} \mathrm{M}$ 'Mahon, George Y., .. | - b.A., Dip. El. Law, 1852 ; m.A. |
| $6^{5} \mathrm{M} \times \mathrm{Mahon}$, William, | m.d. 1862. |
| M•Manus, Leonard S., . . | .. м.d., м.CH. 1882. |
| M'Millan, Hugh, | m.d., m.CH., Dip. Obs. 1873. |
| M'Millan, John, | в.A. 1875. |
| M'Mordie, Elijah, | в.А. 1873 ; М.А. 1874. |
| M‘Mullan, Hugh S., | B.A. 1892. |
| ${ }^{1}$ M'Nally, Christopher J., | m.d., M.CH. 1871. |
| $b$ M $\times$ Namara, John W., | в.А. 1873 ; м.D. 1879. |
| ${ }^{7}$ M $\times$ Namara, Joseph C., | B.A. 1874. |
| ${ }^{8}$ M'Namara, William J. U., | .. в.А. 1875; м.D., м.сн. 1878 ; м.А. 1880. |
| M'Neill, John R., | м.d., м.CH. 1881. |
| M'Quaid, Peter J., | м.D., M.CH. 1872. |
| M Sherry, Edward H., | M.D., M.CH., M.A.o. 1886. |
| M'Swinney, George H., | .. M.D., M.CH. 1871. |
| a ${ }^{\text {M M }}$ 'Swinney, Robert F., | .. в.A. 1866 ; M.A. 1868 ; LL.b. 1870; LL.D. 1882. |
| M'Vittie, R. Blake, | .. м.d. 1876. |

$a$ With First Honours.
${ }^{1}$ Assistant Magistrate, Salisbury, British South Africa.
${ }^{2}$ Late Barrington Lecturer; Professor of English Law, Queen's College, Belfast ; B.L. (Treland) ; M.P. for Mid-Armagh.
${ }^{3}$ Engineer, Public Works of India.
${ }^{4}$ Late Professor of Modern Languages, Royal College, Mauritius.
${ }^{5}$ Naval Medical Service.
${ }^{6}$ Army Medical Service.
${ }^{7}$ Inspector of National Schools.
${ }^{8}$ Demonstrator, Queen's College, Galway; Indian Medical Service, First Place.
${ }^{9}$ First Law Student, Inns of Court, London, 1871 ; B.L. (England).

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ District Inspector, R.I.C.
${ }^{2}$ Demonstrator of Chemistry, Queen's College, Galway ; elected to Science Research Scholarship by H. M. Exhibition (1851) Commissioners, 1900.
${ }^{3}$ Late Inspector of National Schools; Inspector, Registrar-General's Office, Ireland.

4Student, Inns of Court, London; Judge of High Court of Ireland. James Hardiman Library, NUI Galway


Moore, Willam D., $\quad$ Moore, Willam Irwin, $\quad$.. $\quad$ в.A., 1899.
$a$ Moorhead, William R., .. в.A. 1865 ; м.A. 1866 ; м.D. 1869. 1874.
1865.

Mor,
.

- bec. 1896

Moylan, Michael J., .. .. в.a. 1873.
Moynan, Joseph, .. .. в.e. 1881.
Moynan, Richard M., .. .. m.d., м.ch. 1882.
Moynan, William A., .. .. м.D., м.сн. 1881.
${ }^{4}$ Moynan, W. E. Bonsall, $\quad$.. m.d., m.ch., Dip. Obs. 1872.
$b^{5}$ Mulholland, William, .. .. в.A. 1863 ; м.А. 1882.
$a^{2}$ Mullally, Michael, .. .. в.A. 1871 ; m.A. 1873.
Mullally, William T., .. .. м.ı., м.сн. 1880.
${ }^{3}$ Mullen, Douglas, .. .. m.d. 1872 ; m.ch., Dip. Obs. 1873.
${ }^{4}$ Mullen, Jarlath J., .. .. m.d., м.ch., Dip. Obs. 1873.
Mullen, St. Laurence, .. .. м.D., м.сн. 1868.
${ }^{4}$ Mullen, Thomas F., .. .. м.d. 1864 ; м.сн. 1865.
$a^{6}$ Mulligan, James, .. .. в.A. 1869; м.s. 1871.
b Mullin, James, .. .. .. в.А. 1874 ; м.d., м.сн., Dip. Obs. 1880; м.А 1882.
м.d. 1880 ; м.сн. 1881.
b Munro, William H., $\quad . . \quad$.. $\quad$ в.А. 1880 ; м.А. 1882 ; м.d., м.с․ 1885.

Murphy, Michael E., .. .. m.D. 1868.
Murray, G. Stanley, $\quad . \quad$... м.D., м.c. 1875.
$a$ With First Honours. $\quad b$ Wilh Second Honours.
${ }^{1}$ First Place Indian Medical Service.
${ }^{2}$ Inspector of National Schools.
${ }^{3}$ Naval Medical Service.
${ }^{4}$ Army Medical Service.
${ }^{5}$ Barrington Lecturer ; K.C. (England).
${ }^{6}$ B.L. (England); Bancher of Gray's Inn, NUI Galway


a With First Honours.
$b$ With Second Honours.
${ }^{1}$ Inspector of National Schools.
${ }^{2}$ Engineer, Public Works of India.
${ }^{3}$ Late Judge of Superior Court, British Guiana.
${ }^{4}$ Army Medical Service.
${ }^{5}$ M.P. for Scotland Division of Liverpool.
${ }^{6}$ Chief Engineer and Secretary to the Government, North Western Provinces, in the Public Works Department, India.
${ }^{7}$ Civil Service of India.
${ }^{8}$ Late M.P. for Dungarvan.
${ }^{9}$ Naval Medical Service.
${ }^{10}$ B.L. (Ireland).


$a$ With First Honours. $\quad b$ With Seoond Honours.
${ }^{1}$ Civil Service of India.
${ }^{2}$ B.L. (England).
${ }^{3}$ Inspector of National Schools.
4 B.L. (Ireland).
${ }^{5}$ Late Professor in the University of King's College, Windsor, Nova Scotia; late Librarian and Chief Clerk, R.U.I.
${ }^{6}$ Anmy Medical Service.
${ }^{7}$ Naval Medical Service.
${ }^{8}$ Indian Medical Service
${ }^{9}$ Professor of Anatomy and Physiology, Queen's College, Galway; F.R.U.I. James Hardiman Library, NUI Galway

Quinn, Martin, .. .. .. в.А. 1863.
Quinton, John H., .. .. в.A. 1871; в.e. 1872.
Quirk, Martin, .. .. .. м.D., м.сн., Dip. Obs. 1875.

Raddin, George H., .. .. в.A., b.e. 1892
Rankin, William J., .. .. m.d. 186 ..
${ }^{1}$ Rathborne, Charles A., .. m.D., м.CH. 1870.
${ }^{2}$ Raye, Daniel O'C., .. .. m.D. 1865.
$a^{3}$ Rea, Thomas, .. .. .. в.A. 1899 ; m.A. 1900.
Read, Richard, .. .. .. м.D., м.CH. 1872.
Reade, Hector M., .. .. в.А. 1877.
$a^{4}$ Reed, Sir Andrew, .. .. B.A. 1859; LL.b. 1877; Ll.D.1878;
m. A. 1882.
${ }^{1}$ Reed, Matthew, .. .. м.D., м.cн. 1870.
${ }^{2}$ Reid, Robert, .. .. .. в.А. 1854.
bReid, William Joseph, .. .. в.А. 1861 ; м.A. 1882.
Reidy, Charles, .. .. .. в.А. 1880.
${ }^{5}$ Rentoul, Robert R., .. .. м.D. 1880.
$b^{6}$ Rentoul, James Alex., .. .. B.A. 1869 ; LL.b. 1874; LL.d. 1875.
Reynolds, T. Taylor. .. .. м.D., м.сн. 1879.
Richards, Henry E. S., .. м.в., в.сн., в.A.о. 1901.
Richardson, John H., .. .. в.A. 1852.
Riordan, Daniel, .. .. m.d. 1878 ; Dip. Obs. 1879.
$b^{7}$ Rishworth, Frank S., .. .. в.e. 1898; в.A. 1899.
${ }^{8}$ Roe, William, .. .. .. м.d. 1863.
Roseingrave, Thomas W., .. в.E. 1881.
Ross, David R.,
.. м.D., м.сн. 1875.
Ross J., Alexander, .. .. м.d. 1868; м.сн. 1869.
Ross, John R., .. .. .. в.A. 1863; м.d. 1866.
Rosten, William M., .. .. m.d. 1874.
Roulston, Robert J., .. .. м.d., м.ch., Dip. Obs. 1880.
Rowney, George A.H., .. в.А. 1882 ; в.е. 1883.
Rusk, John, ..
Rutherford, Robert L.,
.. в.А. 1886 ; м.в., в.св., в.А.о. 1894.

Rutherford, William, .. .. м.d., м.cн. 1871; Dip.Obs. 1873; м.A.o. 1885.
$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Naval Medical Service.
${ }^{2}$ Army Medical Service.
${ }^{3}$ Junior Fellow in Modern Languages, R.U.I., 1901 ; B.A. Research Degree, Cambridge, 1903.
${ }^{4}$ K.C.B. ; Inspector-General, R.I.C.
${ }^{6}$ Direct Represertative of the Registered Practitioners of England on the General Medical Council.
${ }^{6}$ K.C. (England) ; Judge of the City of London Court, 1901; late M.P.for East Down.
${ }^{7}$ Instructor in Engineering under the Egyptian Ministry of Education.
${ }^{\theta}$ Professor of Midwifery, Royal College of Surgeons, Ireland; late Examiner in the Queen's University.

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Demonstrator of Chemistry, Queen's College, Galwar ; elected to Science Research Scholarship by H. M. Exhibition (1851) Commissioners, 1898 ; University Student R. U.I., 1898 ; Professor of Chemistry in the Catholic University School of Medicine (Dublin), 1899 ; F.R.U.I., 1900.
${ }^{2}$ Demonstrator of Anatomy, Queen's College Galway.
${ }^{3}$ Army Medical Service.
${ }^{4}$ University Student; Examiner, R.U.I.
${ }^{5}$ Civil Service of India.
${ }^{6}$ Indian Medical Service.
7 Professor of Botany and Zoology, Catholic University Medical School; F.R.U.I.
${ }^{8}$ Director of Model Farm, Royal Park, Melbourne.


Talbot, Bertram H., .. .. в.A. 1869.
Tate, Davis D., .. .. м.D. 1868.
$a$ With First Honours.
${ }^{1}$ B.L. (Australia).
${ }^{2}$ County Surveyor, Cavan.
${ }^{3}$ Travelling Medical Scholar, R.U.I., 1890.
${ }^{4}$ Travelling Medical Scholar. R.U.I., 1889; Demonstrator of Anatomy, Queen's College, Galway.
${ }^{5}$ Surgeon, Richmond Hospital; F.R.U.I. ; late Professor of Practical Anatomy, and late President, R.C.S.I.
${ }^{6}$ Late Surgeon, City of Dublin Hospital; late Demonstrator, R.C.S.I.
${ }^{7}$ Demonstrator of Physics, Queen's College, Galway; B.A. Research Degree, Cambridge, 1902; Junior Fellow in Mathematical Science, R.U.I., 1902 ; Lecturer in Mathematics in the University College of South Wales and Monmouthshire ${ }^{1903}$. NUI Galway

| Tatham, Garnett G., .- | м.D. 1877. |
| :---: | :---: |
| Taylor, William J., . | м.в., B.CH., B.A.O. 1888. |
| Thomas, William R., .. | M.D., M.CF. в.в. 1886 ; в.А. 1887. |
| a Thompson, Atwell, | B.E. 1886 ; в.A. 1887. b.A. 1871. |
| Thompson, David, | B.A |
| ${ }^{1}$ Thompson, George, | B.A. 1865. |
| Thompson, Henry G., | M.D., M.CH. 1877. |
| Thompson, James, | B.A. l (1883. 1883 ; Dip. for Mental |
| $a^{2}$ Thompson, William H., | .. m.d., M.CH. 1883 ; Dip. for Mental Diseases, 1886. |
| $b$ 'Thompson, William J., | .. в.в. 1882. |
| ${ }^{3}$ Thomson, Sir William, | в.A. 1867 ; M.D., M.CH. Dip.\}Obs. 1872 ; м.A. Honoris Causa 1881. |
| Thorpe, Joseph C, | M.d. 1864. |
| Threfall, Richard B., | M.в., B.CH., В |
| $a^{4}$ Thynne, Henry, | в.А. 1859 ; LL.B. 1873 ; м.А. 1882 ; LL.D. 1882. |
| Tierney, Daniel, | . в.a. 1856 ; Dip. Eng. 1857 ; b.e. 1882. |
| $a^{5}$ Todd, Andrew, .. | в.А. 1876 ; цц.в. 1879 ; м.А. 1882 ; LL.D. 1882. |
| $b$ Todd, Robert H., | в.А. 1870 ; м.A. 1871 ; LL.в. 1873 ; LL.D. 1875. |
| $a$ Torrens, James, | $\begin{aligned} & \text { в.А. } 1866 \text {; м.А. } 1867 \text {; м.D. } 1883 \text {; } \\ & \text { м.СН. } 1884 . \end{aligned}$ |
| ${ }^{\text {b }}$ Townsend, Thomas A., | в.е. 1869 ; м.е. 1882. |
| Twigg, William, .. | M.D. 1862. |
| Vance, George, | м.d., м.СН. 1886 ; в.А.о. 188 |
| $a$ Vance, Robert, | в.А. 1879 ; м.А. 1880. |
| Vinrace, Felix C., | .. m.d. 1881. |
| Waddell, Sydney | .. м.в., в.сн., в.А.о., 1900. |
| Wadsworth, William A., | .. м.d. 1884 ; в.СН. 1888. |
| ${ }^{6}$ Walker, Andrew J., .. | B.A. 1895. |

$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Master, Doveton College, Calcutta.
${ }^{2}$ Late Dunville Professor of Physiology, Queen's College, Belfast; King's Professor of the Institutes of Medicine, T.C.D.
${ }^{3}$ Surgeon, Richmond Hospital; Examiner, R.C.S.I.; Member of Senate, R.U.I.; Examiner in the Queen's University; President R.C.S.I ; Direct Representative for Ireland on the General Medical Council ; Surgeon in Ordinary to his Excellency the Lord Lieutenant. ${ }^{4}$ C.B. ; Deputy Inspector-General, R.I.C.
${ }^{5}$ B.L. (Ireland).
${ }^{6}$ Demonstrator of Chemistry, Queen's College, Galway; Pr.D., Heidelberg, 1898 ; Lecturer in Chemistry, Borough Polytechnic Institute, London ; Head of Chemistry Department, Municipal Technical College, Derby.

Walker, Cuthbert F., .. .. в.a. 1897.
Walker, William, .. .. в.A. 1894; в.e. 1895.
Waller, Edmund W., .. .. Dip. Eng. 1861 ; в.e. 1882.
$b^{1}$ Walsh, Michael, .. .. в.A. 1867 ; м.D., м.сн., Dip. Obs. 1873.
${ }^{2}$ Walsh, Thomas,
Ward, Peter,
$a^{3}$ Warnock, James,
Warnock, William,
Warren, J. Monteith,
Warren, William E.,
Warren, William H.,
$b$ Waters, Eaton W., .
Waters, George A.,
Waters, Horace R., .
Waters, Joseph J., .. .. м.в., в.ch., в.A.o. 1899.
$a$ Waterworth, Hugh, .. .. в.А. 1877 ; м.А. 1879.
$a$ Watson, Edwin, .. .. B.E. 1903.
Watson, John, .. .. .. в.A. 1897.
b Watt, George, .. .. .. в.a. 1896.
Watters, Francis 0. M.,
.. B.A. 1880 ; М.А. 1881.
$b$ Watters, William, .
${ }^{4}$ Watts, Walter A., ..
Wells, Charles, .. ..
Wenyon, Charles, .. .. m.D., м.сн. 1880
West, John D., .. .. в.А. 1859.
$a^{5}$ West, Sir Raymond, .. .. B.A. 1855; м.A. 1869; ll.d. Honoris causa, 1882.
White, James F., .. .. м.d. 1880; м.ch., Dip. Obs. 1881.
White, Michael, .. .. м.D., м.сн. 1873.
White, Patrick B., .. .. м.D., м.сн. 1883 ; Dip. Obs. 1884; M.A.O. 1885 .
$a^{6}$ White, Sinclair,
b White, Thomas R., .. .. . . . 1862
Whitton, Joseph, .. .. в.е. 1899; в.A. 1900.
Williams, J. O'Brien, .. .. м.д., м.сн. 1877
Williams, William, .. .. M.D., M.ch. 1869.
$b$ Wilson, David, .. .. .. в.A.; в.е. 1895.
Wilson, James, .. .. .. м.D. 1879.
$a$ With First Honours.
$b$ With Second Honours.
${ }^{1}$ Demonstrator of Anatomy, Queen's College, Galway.
${ }^{2}$ Demonstrator of Chemistry, Queen's College, Galway; Robert Platt Physiological Research Scholar in the Owens College, Manchester, 1901.
${ }^{3}$ Demonstrator of Physics, Queen's College, Galway.
${ }^{4}$ Late Professor, Training College, Toronto.
${ }^{5}$ K.C.I.E. ; Judge of the High Court of Bombay : Vice-Chancellor, University of Bombay; Member of the Council of the Government of Bombay.
${ }^{6}$ Lecturer on Physiology and Hygiene, Firth College, Sheffield.

```
    Wilson, John, .. .. .. в.A. 1865; м.A. 1866.
    1 Wilson, J. Bower, .. .. m.D. 1871.
    bWilson, Robertson B.S., .. B.A. 1869; m.A. }1870
b}\mp@subsup{}{}{2}\mathrm{ Wilson, Samuel L., .. .. B.A. 1875; m.A. 1876.
a}\mp@subsup{}{}{3}\mathrm{ Wilson, Thomas N., .. .. B.a. 1861; м.A. }1882
    bWilson, William N., .. .. в.A. 1865; м.A. }1866
    b Winder, James, .. .. .. в.а. I865; м.а. }1882
    Wise, Charles H., .. .. m.D. }1882
    Wood, George V.,, .. .. m.D., M.cH. 1866.
b4}\mp@subsup{}{}{4}\mathrm{ Wood, John E., .. .. в.A. 1864; м.A. }1882
b}\mp@subsup{}{}{5}\mathrm{ Woods, Richard J., .. .. в.e. 1874; м.е. }1882
    b Zouche, Isaiah de, .. .. m.D. 1865.
        a}\mathrm{ With First Honours. b}\mathrm{ With Second Honours.
        1 Army Medical Service.
    2 Professor in the Assembly's College, Belfast.
    3 Civil Service of India.
    4 Inspector of National Schools.
    5 Engineer, Public Works of India.
```


## SCHOLARS.

SESSION 1849-50.

## Faculty of Arts.

JUNIOR SCHOLARSHIPS.
First Year.
Literary Division.
Richardson, John H.
Norton, Bernard G. M'Mahon, George Y. M‘Dermott, Dominick. Fynn, Peter J. Murphy, Thadeus. Power, Richard. M•Mullen, James A. Kyle, Christopher. O'Maher, William. Fitzgerald, Nicholas. Johnston, William. Eaton, Richard. Hughes, Patrick J. Kelly, Patrick. Gibson, John. O'Kelly, Edmond.
Irwin, George.
Pall, Joshua.
Hearne, John Henry.
Dopping, James H.
Hurly, Joseph.
Scott, William A.

## Science Division.

Duggan, Charles W. Ford, Patrick F. Ryan, Dominick D. M'Grath, John. Powell, John. Scott, Patrick. Howze, John. 0 'Feely, Timothy 0'B. Eames, Richard F. Blake, Joseph V. Evans, John. Johnston, John. Ferguson, Robert. Tully, Joseph. Skerrett, Peter. Duggan, Joseph. Walkinshaw, Robert. King, William. St. George, Henry. M'Mahon, Thomas A.

School of Engineering.
Drysdale, Charles. $\quad{ }^{\text {First }} \quad$ Year. $\quad$ Gardiner, Martin.

School of Agriculture.
Firgt Year.
Skilling, Thomas.
O'Hara, Thomas. James Hardiman Library, NUI Galway

## SESSION 1850-51.

Faculty of Arts.
Second Year.

Literary Division. Richardson, John H. M‘Dermott, Dominick. Kyle, Christopher. M'Mahon, George. Murphy, Thadeus. Johnston, William. Irwin, George. Hughes, Patrick J.

Science Division.
Scott, Patrick.
Powell, John.
Ryan, Dominick D.
Duggan, Charles W.
Howze, John.
Duggan, Joseph.
Johnston, John.
Evans, John.
$0^{\prime}$ Feely, Timothy $0^{\prime} \mathrm{B}$.
King, William.
Walkinshaw, Robert.
Fynn, Peter J.

Frest Yrar.

Literary Division.
M‘Gowan, Robert.
Smith, J Anderson.
M‘Grath, Thomas.
Montgomery, James.
Mitchell, Robert J. \} equal.
Berwick, John.
Browne, William A.
Kilkelly, Garrett H.
Perrin, Patrick.
Lalor, James.

Science Division.
Warrell, James.
Stephens, Robert.
Moorhead, John.
Jackson, Burton.
Comyns, William.
Hurly, Joseph.
Roach, Edward.
Slater, James.
Gardiner, Martin.
O'Doherty, John.
Gilmore, Charles.

Faculty of Law.
Second Year.
Ryan, Dominick D.
First Year.
Keane, C. Marceet.

## Faculty of Medicine.

Second Ygar.
Eaton, Riehard.


First Year.
Skerrett, Peter. | Keily, Patrick J.

126 Queen's College, Galway.

School of Engineering.<br>Second Year.<br>Drysdale, Charles.<br>First Year.<br>Eames, Richard F.

School of Agriculture.
Second Year.
Skilling, Thomas. ! O'Hara, Thomas. First Yeak.
O'Hara, Charles. I Comyns, Patricl J.

Scholars.

## SESSION 1851-52.

## Faculty of Arts.

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.
Richardson, John H. Johnston, William. Murphy, Thadeus.

Science Division.
Duggan, Charles.
Scott, Patrick.
Evans, John.
Howze, John.
Walkinsbaw, Robert.
King, William.
Duggan, Joseph.

Sbcond Ybar.

Literary Disision. Mitchell, Robert J.
Browne, William A. Berwick, John. Smith, J. Anderson. Hughes, Patrick J. Mahony, John. Fynn, Peter J. Kilkelly, Garrett.

Literary Division. Moffett, James. Fleming, William. Dunlop, Charles. Hurley, Francis B. Jackson, Burton. Hooper, Charles J. \} equal. Arthur, John.
Ireland, Arthur J.

Science Division.
Ford, Patrick F.
Breen, Michael. Maguire, Edward. Roach, Edward.

First Year.


Science Divisinn. M‘Shane, John. Kearney, Daniel. Johnson,J. Wesley. , equal. Colahan, John. Atkinson, Samnè \}equal.

Faculty of Law.
Third Year.
Ryan, Dominick D
Second Year.
Keane, C. Marceet.
Fiast Year.
Stephens, Robert.

Faculty of Medicine.
Third Year.
Eaton, Richard. 1 0'Leary, John.
Second Yrak.
Kelly, Patrick J. | Skerrett, Peter.
First Ypak.
Joynt, Christopher.
Moorhead, John.

School of Engineering.
Seconl Year.
Powell, John,
First Year.
O'Doherty, John.

School of Agriculture.
Second Year.
O'Hara, Charles.
First Year.
Short, William. | M‘Grath, John.

## SESSION 1852-53.

Faculty of Arts.
SENIOR SCHOLARSHIPS.

| Ancient Classics, | .. | .. | .. | Richardson, John, b.A. |
| :--- | :--- | :--- | :--- | :--- |
| Metaphysical and |  |  |  |  |
| Natural History, | .. | .. | .. | .. |
| Johnston, William, b.A. |  |  |  |  |

> JUNIOR SCHOLARSHIPS. Third Year.

| Literary Division. | Science Division. |
| :--- | :--- | Hughes, Patrick J. Mitchell, Robert J. Browne, William A. Berwick, John. Mahony, John.

M‘Dermott, Dominick.
Smith, John A.
Powell, John. Ford, Patrick F. Roach, Edward.

Sbcond Year.
Literary Division. Jackson, Burton. Hooper, Charles J. Hurley, Francis B. Johnson, John W. Clarke, William.

|  | Science Division. Maguire, Edward. Kearney, Daniel. Atkinson, Samuel. Colahan, John. |
| :---: | :---: |
| First ; Year. |  |
| y. \}equal. | Science Division. <br> * West, Raymond. Breen, Daniel. Gilmore, Stewart. Stephens, Samuel. Dillon, Gerald. |

Faculty of Law.

SENIOR SCHOLARSHIPS.<br>Ryan, Dominiek D., b.A.<br>Third Year.<br>Keane, C. Marceet.<br>Second Year.<br>0'Feely, Timothy 0'B.<br>First Ybar.<br>Walkinshaw, Robert.

[^19]Faculty of Medicine.
SENIOR SCHOLARSHIP.
Therapeutics and Pathology, .. .. 0'Leary, John.
Third Year.
Blake, James V. | Kelly, Patrick.
Second Year.
Moorehead, John. | Joynt, Christopher.
First Year.
*West, Raymond. Crinnian, $\mathbf{P}$.

Ireland, Arthur J.

School of Engineering.
Second Year.
Breen, John.
First Year.
Howze, John.

School of Agriculture.
Second Year.
M‘Grath, John. | Hardiman, James.
First Ybar.
M•Donagh, William. | M•Mahon, Thomas.

* Resigned.


## SESSION 1853-54.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, $\quad \because \quad$ - | Dowling, Jeremiah J., B.A. |
| :---: | :---: |
| Modern Languages and Modern History, | Hughes, Patrick J., B.A. |
| Metaphysical and Economic Science, .- | Browne, William A., B.A. |
| Natural History, .. | M ${ }^{\text {dermott, Dominick, B.A. }}$ |

## JUNIOR SOHOLARSHIPS.

Third Year.

Literary Division.

+ Charters, William. Clarke, William. Hooper, Charles J. Johnston, John W. Jackson, Burton.

Science Division.
Maguire, Edward. Hurley, Francis B. Colahan, John. Kearney, Daniel. Atkinson, Samuel.

Second Year.

Literary Division.
*West, Raymond.
Treanor, W. Stanley. Fleming, William. Arnold, Pierce. Davys, Frank.

Science Division.
*West, Raymond. Tierney, Daniel. Dillon, Gerald. Stephens, Samuel. Short, William.

## First Year.

Literary Division.
Thomson, Alfred B. Coffie, Edward.
Henry, John W. R. \}equal. Stirke, Julius W. Conolly, James.

Seience Division. Adair, James J. Dowman, William. Gormley, John. Watts, Walter A. Breen, John.

[^20]Faculty of Law.<br>SENIOR SCHOLARSHIP.<br>Keane, C. Marceet, в.A.<br>Third Yrar.<br>Stephens, Robert.<br>Second Yrar.<br>Mason, William.<br>First Year.<br>Perrin, Patrick.

Faculty of Medicine.
SENIOR SCHOLARSHIP:
Anatomy and Physiology, .. .. .. Blake, Joseph V. Therapeutics and Pathology, .. .. Kelly, Patrick J.

Third Year.
Moorhead, John. $\mid$ Joynt, Christopher.
Second Year.
Ireland, Arthur J. | Pureell, Patrick J.
First Year.
Mahony, John.

School of Engineering.
Second Year.
M'Donagh, William.
First Year.
Meharg, William.

School of Agriculture.
Second Yrar.
M‘Donagh, William.
First Year.

Scholars.

## SESSION 1854-55.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
*West, Raymond. Arnold, Pierce. Treanor, W. Stanley. Davys, Frank.

Science Division. *West, Raymond.
Tierney, Daniel.

Second Year.

Literary Division. Henry, John W. R. Conolly, James.

Science Division.
Gormley, John.
Watts, Walter A.
Dowman, William. O'Hara, Thomas.
First Ybar.
Literary Division.
Lane, George.
Hooper, Robert. Monroe, John. Reddan, John. Stewart, Robert F.

Science Division.
Moore, John H.
Bateman, Richard C.
Bruen, Patrick.
Ross, Cornelius P.
Thane, Charles H.

Faculty of Law.
Third Year.
Mason, William.
Second Year.
Pertin, Patrick.
First Year.
Hooper, Charles J.

[^21]Faculty of Medicine.
SENIOR SCHOLARSHIP.
Therapeutios and Pathology, .. .. Duggan, Joseph.
Second Year.
Colahan, John. | Crean, Martin J.
First Year.
Hurley, Francis B. | O'Brien, James.

School of Engineering.
Sbcond Year.
0 'Kinealy, Michael.
First Year.
O'Kinealy, James.

School of Agriculture.
Second Year.
Carrick, Daniel.
1 Keane, John E.
First Year.
Gouldsberry, V. Skipton. $\mid$ Wall, Walter S.

Scholars.

## SESSION 1855-56.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


JUNIOR SCHOLARSHIPS.
Third Yrar.

| Literary Division. | Science Division. <br> Conolly, James. |
| :--- | :--- |
| Henry, John W. R. | Watts, Walter A. |
|  | Gormley, John. |
|  | O'Hara, Thomas. |
|  | Breen, John. |

Second Yrar.

Literary Division.
Monroe, John.
Treanor, Arthur.
Bateman, Richard C.
West, John D.
Stewart, Robert F.

Science Division. Thane, Charles H. Adair, James J. Burke, Martin J. Moore, John H.

First Year.

Literary Division. Hunter, John.
Stewart, Washington S. Evatt, Humphrey. Hart, James C.

Science Division. Thynne, Henry. $0^{\prime}$ Kinealy, James. Quinn, Martin. $0^{\prime}$ 'Neill, George $\mathbf{F}$. Grealy, John.

## Faculty of Law.

Thimd Year.
0'Feely, Timothy 0'B.
Firgt Yrar.
Arnold, Pierce.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Therapeutics and Pathology, .. .. Morris, Michael 0'K., b.L.

| Third Year. |  |
| :---: | :---: |
| Colahan, John. | Crean, Martin J. |
| Skcond Year. |  |
| Hurley, Francis B. | $0^{\prime}$ Flaherty, Thomas |
| Ftret Year. |  |
| Sigerson, George. | M'Bride, John B. |
| School of Engineering. |  |
| Second Year. |  |
| Quinn, Michael. |  |
| First Year. |  |
|  |  |
| School of Agricalture. |  |
| Second Year. |  |
| Gouldsberry, V. Skipton. I O'Donohoe, Patrick. |  |
| First $\mathrm{Y}_{\text {ear }}$ |  |
| Bradshaw, George B | Killery, Henry. |

Scholars.

## SESSION 1856-57.

## Faculty of Arts.

SENIOR. SCHOLARSHIPS.


## JUNIOR SCHOLARSHIPS. Third Year.

Literary Division. Monroe, John. Bateman, Richard C. Stewart, Robert F. West, John D.

Science Division. Adair, James J. Moore, John H. Greene, Joseph R. Burke, Martin J.

Sbcond Year.

Literary Division.
0 'Neill, George $\mathbf{F}$. Hunter, John H. Hart, James C.

Seience Division.
$\left.\begin{array}{l}\text { Thynne, Henry. } \\ 0 \text { 'Kinealy, James. }\end{array}\right\}$ equal. Grealy, John. Quinn, Martin.

First Year.

Literary Division.
Lawson, Charles H.
(Also a prize of \&10.)
M'Mahon, William.
*Martin, William T.
Martin, William. ${ }^{\prime}$ ' equal.
0 'Brien, Julius.
Lynam, James.

Science Division.
Reed, Andrew A.
Weir, John.
Martin, William T
May, William G.
*Lawson, Charles H. 0 'Hara, Charles.

Faculty of Law.
SENIOR SCHOLARSHIP.
Parker, James D., b.A.
Third Year.
Perrin, Patrick.
First Year.
*Lawson, Charies E. I 0'Hara, Thomas.

[^22]
## Faculty of Medicine.

SENIOR SCHOLARSHIPS.

Anatomy and Physiology, .. .. Reid, Robert, b.a. Therapeutics and Pathology, .. .. Colahan, John.


School of Engineering.
Second Year.
Blake, Martin P.
Finst Year.
Cullen, Alexander.

## School of Agriculture.

Second Year.
Bradshaw, George B. | King, Nicholson.
Fikst Year.
Bligh, John. 1 Clarke, Denis

## SESSION 1857-58.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


## JONIOR SCHOLARSHIPS.

Third Year.
Literary Division. Science Division. 0 'Neill, George F. Hart, James C.

O'Kinealy, James.
Thynne, Henry. Quinn, Martin.

Second Year.

Literary Division.
Stewart, Washington S . Martin, William T. Lynch, Martin. Lynam, James. Conolly, Patrick W.

Science Ditision. Reed, Andrew 4. May, William G. Griffith, William. Weir, John.

First Year.

Literary Division.
Nicoll, Robert. M'Auliffe, Michael. Hopkins, Jacob B. Potter, Robert. Smith, Robert J.

Science Division. Cunningham, William. Murray, John. Davison, William. Burdge, William E. 0 'Farrell, William.

Faculty of Law.
SENIOR SCHOLARSHIP.
$0^{\prime}$ Feely, Timothy 0 'B., b.A.
Sbcond Year.
Madill, Thomas.
Fingt Year.
West, John D.


School of Engineering.
Second Year.
Connolly, Michael.
First Year.
Mac Farlane, Mlexander.

## School of Agriculture.

Second Year.
Bligh, John.

Rorke, Patrick.
Burke, John R.

Scholars.

## SESSION 1858-59.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.

|  | Mitchell, Robert J., в.a. |
| :---: | :---: |
| Modern Languages a |  |
| Mathematics, | O'Kinealy, James, b.a. |
| Natural Philosop | (oore, John H., B.A |
| Metaphysical and Economic Science, |  |
|  |  |
| atural Histor | Bateman Richard |

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.
Norton, Bernard G. Conolly, Patrick W. Martin, William T.

Seience Division.
Reed, Andrew A. May, William G. Griffith, William.
Evatt, Humphrey. Grealy, John.

Second Year.

Literary Division.
M‘Auliffe, Michael.
0 'Brien, Julius.
Smith, Robert J.

Science Division. Davison, Thomas. Ireland, Edward. 0 'Farrell, William. 0'Hara, Charles.

Flrbt Year.

Literary Division.

* Wilson, Thomas N. Greer, James R. Blood, Bindon. Greer, John H. Madill, Thomas.

Science Division.

* Wilson, Thomas N.
$\dagger$ Blood, Bindon.
Dowman, Charles. Atkinson, John.
$\dagger$ Greer, James R. M•Dermott, Brian. 0'Farrell, Thomas. \}equal.

[^23]```
                    Faculty of Law.
            SENIOR SCHOLARSHIP.
            Hooper, Charles J., в.A.
                    Second Year.
                West, John D.
                    Firbt Year.
M`Kane, John. | Monroe, John.
```


## Faculty of Medicine.

```
SENIOR SCHOLARSHIPS.
Anatomy and Physiology, .. .. Maguire, Edward, в.a. Therapeutics and Pathology, .. .. Burke, Martin J., в.A.
    Third Year.
Climo, William H. . | Hooper, Robert.
    Second Year.
M`Mahon, William. | Davis, John N.
    Firgt Year.
    Literary Division.
M`Kane, John.
M`Cracken, Thomas.
```

Science Division. White, Thomas R.

School of Engineering.
Skcond Year.
Thynne, Henry.
First Yrar.
Galwey, Charles.

School of Agriculture.
Second Year.
Bright, William A.
Firgt $\mathrm{Y}_{\text {bar. }}$
Mullins, John.
1 Rentoul, James.

## SESSION 1859-60.

Faculty of Arts.
SENIOR SCHOLARSHIPS.
Ancient Classics, \&c., .. .. M•Mahon, George Y., b.a. Modern Languagesand Modern History, Mitchell, Robert J., B.A. Natural Philosophy, .. .. .. Thrnne, Henry, B.A. Metaphysical and Economic Science, O'Neill, George F., b.A. Chemistry, .. .. .. .. 0'Kinealy, James, b.A.

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division. M‘Aulife, Michael.

Science Division.
0'Hara, Charles.
Davison, Thomas.
Ireland, Edward.

Second Year.

Literary Division.
*Wilson, Thomas N. Cunningham, William. Crotty, Richard D. Madill, Thomas. Smith, Washington.

Science Division.

* Wilson, Thomas N. Atkinson, John. Dowman, Charles. $\}$ equal. M•Dermott, Brian. Reid, William J.

First Year.

Literary Division. Hurley, Patrick. $0^{\prime}$ 'Connor, John. \}equal. Saunderson, James E. Mills, Samuel. Madden, Henry M.

Science Division. Burke, Micbael J. King, ※lian A. Stokes, George. $\left.\begin{array}{l}\text { Falkiner, Richard D. } \\ \text { M‘Enery, Edward. }\end{array}\right\}$ equal.

## Faculty of Law.

JUNIOR SCHOLARSHIPS.
Second Ybar.
Monroe, John, b.a.
Firbt Year.
Louden, John J.

[^24]Faculty of Medicine.
SENIOR SCHOIARSHIPS.


School of Engineering. Second Year. Waller, Edmund W.

First Year.
Grealy, John.

School of Agriculture.
Second Year.
Killery, Henry. | Mullins, John. Firet Year.
Greaven, Dominick. | Burke, Edward.

## SESSION 1860-61.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

|  |  |
| :---: | :---: |
| Modern Languages and Modern His | y, Conolly, James, в.A. |
| Mathematics, .. .. .. Thynne, Henry, b.a. |  |
| Natural Philosophy, | O'Kinealy, James, b.A. |
| Metaphysical and Economic Science, .. $0^{\prime}$ Hara, Thomas, b.a. |  |
| JUNIOR SCH |  |
| Third Year. |  |
| Literary Division. | Science Division. |
| Cunningham, William. | Atkinson, John. |
| Wilson, Thomas N. | 0 'Farrell, Thomas. |
| Crotty, Richard D. | Reid, William J. |
| Madill, Thomas. | Johnson, John. |
| Smith, Washington. |  |
| Sbcond Yrar. |  |
| Literary Division. | Science Division |
| Greene, Joseph J. | King, 佐lian A |
| Leary, Joseph W. | * Leary, Joseph W. |
| Hurley, Patrick. | Burke, Michael J. |
| Mills, Samuel. |  |
| Saunderson, James E. |  |
| M ${ }^{\text {'Kenzie, John. }}$ |  |
| Firet Year. |  |
| Literary Division. <br> Sharkey, Edmund de la Garde <br> Feeny, Dominick. <br> $\dagger$ Mac Donnell, Antony P. <br> Crooks, William. <br> Padin, Thomas. | Science Division. |
|  | Saunderson, William H. |
|  | Young, Robert. |
|  | Griffin, John. |
|  | Callaghan, Patrick. |
|  | Daly, William. |

> Faculty of Law.
> JUNIOR SCH OLARSHIPS.
> Third Year.
> Monroe, John.
> Sbcond Ybar.
> Louden, John J.
> Frret Year.
> Costigan, Thomas J.

[^25]
## Faculty of Medicine.

SENIOR SCHOLARSHIPS.
Anatomy and Physiology, .. .. Davis, John N. Therapeutics and Pathology, .. .. Gouldsberry, V. Skipton.

| Comerford, Michael. | Third Year. |  |
| :---: | :---: | :---: |
|  | 1 | Potter, Robert. |
|  | Second Yea |  |
| King, Charles E. | \| | Hughes, John H |
|  | First Year. |  |
| Literary Division. |  | Science Division |

School of Engineering.
Skcond Year.
Falkiner, Richard D.
First Year.
Stoney, Edward W.

School of Agriculture.
First Year.
O'Flynn, John T. $^{\prime}$.
i
Kearney, Ambrose.
SESSION 1861-62.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.
Ancient Classics, .. .. .. Wilson, Thomas N., b.A.
Modern Languages and Modern History, Conolly, Patrick. $\mathbf{M}^{\wedge}$ Auliffe, Michael. $\}$ equal.
Mathematics, .. .. .. .. Atkinson, John, B.A.
Natural Philosophy, .. .. .. O'Hara, Charles, B.A. Metaphysical and Economic Science, Cunningham, William, b.A. Chemistry, .. .. .. .. Reid, William J., в.土. Natural History, .. .. .. 0'Farrell, Thomas, B.A.

## JUNIOR SCHOLARSHIPS. <br> Third Year.

Literary Division.
Leary, Joseph W. Greene, Joseph J. Hurley, Patrick. Mills, Samuel. Saunderson, James.

Science Division. Leary, Joseph W. King, Elian A.

Second Year.
Literary Division. $\mid$ Science Division.
Sharkey, Edmund de la Grade
Hare, Gustavus J. C.
Mulholland, William.
Feeny, Dominick.
Padin, Thomas.

Griffn, John. Saunderson, William H. Daly, William. Moody, Samuel. M‘Enery, Edward.

Firat Year.

Literary Division.
Wood, John E.
Smylie, Archibald.
Mac Donnell, Antony P.
Thynne, Andrew.
Droughton, Edward.

Science Division.
Foreman, Robert L.
Winder, James.
Thompson, George.
Burke, John.
Dooley, Michael S.

Faculty of Law.
SENIOR SCHOLARSHIP.
Monroe, John, m.a.
Third Year.
Louden, John J.
Sbcond Year.
Costigan, Thomas J.
First Year.
M•Dermott, Brian.

Faculty of Medicine.
SENIOR SCHOLARSHIPS.
Anatomy and Physiology, .. .. White, Thomas R. (£40). Therapeutics and Pathology, .. .. Davis, John N.

Third Yiar.
M•Mahon, William. | Dickenson, Frederick F.
Skcond Year.
Bligh, John. | Lightbody, William H.
First Year.
Literary Division.
Lynch, Martin.

## School of Engineering.

Second Year.
Stoney, Edward W.
First Year.
Stanley, Alexander.

School of Agriculture.
First Year.
Corbett, Thomas. | Nally, William.

## SESSION 1862-63.

## Faculty of Arts.

SENYOR SOHOLARSHIPS.
Ancient Classics, .. .. .. .. Conolly, James, b.A.
Modern Languages and Modern History, Conolly, Patrick W., в.A.
Mathematics, .. .. .. .. King, Ælian A., в.A.
Natural Philosophy, .. .. .. Atkinson, John, B.A.
Metaphysical and Economic Science, .. Wilson, Thomas N., b.a.
Chemistry,.. .. .. .. .. O'Farrell, Thomas, в.A.
Third Year.
Literary Division. Science Division.
Hare, Gustavus J. C. Mulholland, William.
Feeny, Dominick. Crooks, William. M‘Kenzie, John.

Griffin, John. Saunderson, William H. Moody, Samuel.

Second Year.

Literary Division.
Wood, John E. Mac Donnell, Antony P. Smylie, Archibald. Wallace, John.
Droughton, Edward.

Science Division.
Foreman, Robert L. *Wallace, John. Burke, John. Winder, James. $\left.\begin{array}{l}\text { Dooley, Michael S. } \\ \text { Thompson, George. }\end{array}\right\}$ equal.

First Year.

Literary Division.
Wilson, William N.
M'Farlane, Robert A.
Persse, William D.
Killen, John M.
Torrens, James.

Science Division.
Deane, Henry.
Moorhead, William R
$\left.\begin{array}{l}\text { Gaynor, William. } \\ \text { Gibbons, Thomas. }\end{array}\right\}$ equal.
Greaven, Dominick.

## Faculty of Law.

Third Year.
Costigan, Thomas J.

Second Yrar.<br>M•Dermott, Brian.

[^26]
## Faculty of Medicine.

SENIOR SCHOLARSHIPS.
Anatomy and Physiology, .. .. .. Hinds, William R. G.
Therapeutics and Pathology, .. .. .. Dwyer, Peter J.


School of Engineering.
Second Year.
Stanley, Alexander.
First Yeak.
Odling, Charles W.

School of Agriculture.
First Year.
Chambers, Thomas. I Boyd, John S.

Scholars.

## SESSION 1863-64.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, | .. | . | . | Sharkey, Edmund de la Garde, |
| :--- | :---: | :---: | :---: | :--- |
| Modern Languages and Modern |  |  |  |  |

Second Year.

Literary Division.
M•Farlane, Robert A. Wilson, William N. \}equal. Persse, William D. Mac Donald, Francis. Meharry, John B.

Seience Division. Deane, Henry. Moorhead, William R. \}equal. Forsyth, Samuel M'C. Greaven, Domiuick. Grealy, Nicholas.

Finst Year.

Literary Division. M'Swinney, Robert F. Legate, George W. Macaulay, Colman P. $0^{\prime}$ 'Connor, Thomas P. Gillespie, Michael.

Science Division. Walsh, Thomas. Hughes, William. Hoctor, William F. Griffin, Thomas. Brooke, John.

Faculty of Law.
Third Year.
Atkinson, John, b.A.
First Year.
Atkinson, Nicholas

## Faculty of Medicine.

Fourth Yrar.
Anatomy and Physiology, .. .. Comerford, Henry (£25).
Therapeutics and Patbology, .. .. Wilson, William J. (£25). Therapeutics (Special Extibition), .. Lupton, Henry (£18).

Third Year.


School of Engineering.
Third Year.
M'Kelvey, Thomas.
Second Year.
Odling, Charles W. I Potter, Michael.
First Year.
Synam, William P. I Walker, Richard.

## SESSION 1864-65.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.
Ancient Classics, .. .. .. Dick, James, b.a.


Natural Philosophy, .. .. Griffin, John, b.a.
Metaphysical and Economic Science, Conolly, Patrick W., b.a.
Chemistry, .. .. .. Conolly, James, b.A.
Natural History, .. .. .. Wood, John E., b.A.
Third Year.

Literary Ditision.
Wilson, William N . M•Donald, Francis. Persse, William D. Meharry, John B. M'Farlane, Robert A.

## Science Division.

Winder, James.
Burke, John.
Deane, Henry.
Forsyth, Samuel M‘C.
Moorhead, William R.

Sbcond Ybar.
Literary Division. $\mid$ Science Division.
Moffett, Samuel.
M•Swinney, Robert F. Killen, John M. Clancy, John J. Dickey, Conly.

Brooke, John.
Hughes, William. Griffin, Thomas. Lough, William J. Walsh, Thomas.

## First Year.

Literary Division.

* Ward, Peter.

Maguire, Thomas M.

Seience Division.

* Ward, Peter.

Brooke, William. Matthews, William. Ievers, Henry. Walsh, Michael. Colahan, William H. W.

Faculty of Law.
SENIOR SCHOLARSHIP.
Atkinson, John, b.A.
Third Year.
Mulholland, William.
Second Year.
Atkinson, Nicholas.
Firet Year.
Crooks, William.

[^27]
## Faculty of Medicine.

Fourth Year.

| Bligh, John. | Saunderson, James E. |
| :---: | :---: |
|  | Third Year. |
| Burke, Michael J. | 1 Gorham, Anthony. |
|  | Second Year. |
| Sharpe, William. | 1 Warde, Michael. |
|  | First Year. |
|  | Literary Division. |
| Reed, Matthew. | Cleary, Michael J. |

## School of Engineering.

Third Year.
Odling, Charles W.
Second Year.
Lynham, William $P$.
First Year.
Davy, Alfred.
1 Taaffe, Michael.

## SESSION 1865-66.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


Faculty of Law.
SENIOR SCHOLARSHIP.
Mulholland, William, b.s.
Third Year.
Atkinson, Nicholas.
Second Year.
[None.]
Firbt Yrar.
M•Donald, Francis, b.s.

# Faculty of Medicine. 

Fourth Year.
Conway, John K. | Conolly, James.
Third Year.
Davy, Francis A. | Sharpe, William.
Second Year.
Saunderson, William H. | Sugars, John C.
First Year.
Literary Division.
Murphy, Michael E.

$|$| Science Division. |
| :---: |
| Hegarty, John. |

School of Engineering.
Third Year. Lynam, William P.

Second Year.
Davy, Alfred. $\quad$ Grealy, Nicholas.
First Year.
Nightingale, Walter H. | Chaster, Walter T

Scholars.

## SESSION 1866-67.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, $\quad \because \quad . \quad . \quad \mathrm{M}$ 'Swinney, Robert F., в.A.
Modern Languages and Modern History, $0^{\prime}$ Connor, Thomas P., в.a.
Mathematics, .. .. .. .. Foreman, Robert L., B.A.
Natural Philosophy, ... :. .. Hughes, William, в.a.
Metaphysical and Economic Science, M•Donald, Francis, в.a.
Chemistry, .. .. .. .. Hoctor, William F., в.a.
Thimd Yeak.

Literary Division. Macaulay, Colman P. Maguire, Thomas M. Gillespie, Michael. Marshall, John. Agnew, Samuel.

Science Division.
Brooke, William. Colahan, William H. W. Walsh, Michael. Ward, Peter. Gaynor, William.

Sbcond Year.

Literary Division.
Fitzpatrick, John. M'Donald, Charles. , equal. Howley, James. Craig, Samuel R. Dooley, John L.

Science Division.
Smith, Oliver. Colahan, Nicholas W. Fahy, Edward. M‘Ilveen, John. Eaton, Thomas.

First Year.

Literary Division.
Drummond, Michael.
Henry, William E. Mitchell, Robert. Ievers, Robert W. Drury, Richard J.

Science Dicision.
Drury, H. D'Olier. Glover, Ralph F. M‘Kinney, Samuel B. G. \}equa Nealon, William. Duncan, James.

Faculty of Law.

Firgt Year.<br>M•Farlane, Robert A.

Faculty of Medicine.<br>Fourth Year.<br>Kearney, Ambrose. | Clayton, Nicholas.<br>Third Year.<br>Saunderson, William H. | Sugars, John C.<br>Second Year.<br>M‘Donnell, James O'M. ! O'Brien, Daniel.<br>First Year.<br>Literary Division.<br>Pye, Joseph P.<br>Science Divisio\%.<br>M'Swinney, George H.

## School of Engineering.

Third Year. M•Kinney, Hugh G.

Second Ybar.
Nightingale, Walter H. | Oram, John E. First Year.
Concannon, Patrick. i Glover, R. Stephen.

Scholars.

## SESSION 1867-68. <br> Faculty of Arts.

SENIOR SCHOLARSHIPS.

| Ancient Classics, | Marsh |
| :---: | :---: |
| Modern Languages and Modern History, | M ${ }^{\text {Donald, Francis, b.a. }}$ |
| Natural Philosophy, | Brooke, William, b.a. |
| Metaphysical and Economic Science, | M•Farlane, Robert A. |
| Chemistry, | Walsh, Michael, |
| Natural History, | Gillespie, Michael, b.A |

> JUNIOR SCHOLARSHIPS.
> Third Year.

Literary Division. Fitzpatrick, John. M•Donald, Charles. Howley, James. Craig, Samuel R. Dooley, John L.

Science Division. Colahan, Nicholas W. Fahy, Edward. M‘Ilveen, John. Eaton, Thomas. Huey, John.
Second Year.
Literary Division.
Drummond, Michael.
Henry, William E.
Ievers, Robert W.
Drury, Richard J.
Talbot, Bertram H.

Science Division. Drury, H. D'Olier. Glover, Ralph F. M‘Kinney, Samuel B. G. Lewis, W. Llewellyn. Matthews, William.

First Year.
Literary Division.
Thompson, David.
Hart, Raphael.
Foreman, William J.
Clarke, John J.

| Science Division. |
| :--- | :--- |
| Harrison, John H. |
| Moran, John. |
| * Clarke, John J. |
| * Thompson, David. |
| Patterson, William. |
| O'Connor, P. Fenelon. |

## Faculty of Law.

Third Year.
M•Donald, Francis, b.A.
Sccond Year.
M•Swinney, Robert F., b.A.
Firet Yrar.
Maguire, Thomas M., в.土.

* Ineligible, having obtained Scholarship in other division.

| Faculty of Medicine. |  |
| :---: | :---: |
| Fourth Year. |  |
| Saunderson, William H. | M‘Auliffe, Thomas B. |
| Third Year. |  |
| M ${ }^{\text {d }}$ onnell, James $0^{\prime} \mathrm{M}$. | 0'Brien, Daniel. |
| Second Year. |  |
| Pje, Joseph P. | Torrens, James. |
| First Year. |  |
| Literary Division. Simpson, William. | Science Division. Hegarty, John. |
| School of Engineering. |  |
| Third Year. <br> Nightingale, Walter H |  |
|  |  |
| Stcond Year. |  |
| Glover, R. Stephen. | Townsend, Thomas A. |
| First Year. |  |
| Falkiner, George A. | Stratford, John. |

Ścholars. 161

## SESSION 1868-69.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. M'Donald, Charles, b.A.
Modern Languages and Modern History, Gillespie, Michael, b.A.
Mathematics, .. .. .. .. Brooke, William, в.A.
Natural Philosophy, .. .. .. Walsh, Michael, в.a.
Metaphysical and Economic Science, .. Eaton, Thomas, b.s.
Chemistry, .. .. .. .. Huey, John, в.A.

## JUNIOR SCHOLARSHIPS

Third Year.

Literary Division. Drummond, Michael. Henry, William E. Ievers, Robert W. Drury, Richard J. Talbot, Bertram H.

Seience Division.
Drury, H. D'Olier. Glover, Ralph F. M‘Kinney, Samuel B. G. Lewis, W. Llewellyn Matthews, William.

Second Year.

Litevary Division. Mitchell, Robert, Thompson, David. Foreman, William J.

Science Division. Harrison, John H. Concannon, Patrick. Moran, John. Patterson, William. O'Connor, P. Fenelon. Clarke, John J.

Firgt Year.

Literary Division. Shiel, Joseph R.
Warren, William E. Cullin, Henry $\mathbf{C}$. Moorhead, James. Milward, William H.

Science Division.
Croke, J. 0'Byrne. Anderson, Adam. Mullally, Michael. Somerville, Richard N.

* Moorhead, James. Milward, George R.
* Ineligible, having obtained Scholarship in other division.

Faculty of Law.
SENIOR SCHOLARSHIP.
M•Donald, Francis, m.a.
Third Yeal.
M'Swinney, Robert F., m.A.
Second Yeak.
Maguire, Thomas M., ,.A.
First Year.
Mulligan, James.

## Faculty of Medicine.

## Fourth $\mathbf{Y}_{\text {ear }}$.

O'Brien, Daniel. | M‘Donnell, James 0'M.
Third Yeak.
Pye, Joseph P. $\quad$ Drury, H. D'Olier.
Colahan, William H. W.
Second Year.
Blood, Robert.
1 Simpson, W.
First Yeak.
Science Division.
Clements, Robert.

## School of Engineering.

Third Year.
Glover, R. Stephen.
Second Year.
Falkiner, George A. | Stratford, John.
First Year.


Scholars.

## SESSION 1869-70.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, .. | Henry, William E., в.A. |
| :---: | :---: |
| Modern Language |  |
| Mathema |  |
| Natural Philosophy, | alte |
| Met |  |
|  |  |
| isto |  |

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.
Mitchell, B.obert. Thompson, David. Foreman, William J.

Science Division.
Harrison, John H. Concannon, Patrick. Moran, John. Patterson, William. $0^{\prime}$ Connor, P. Fenelon.

Second Year.

Literary Division. Cullin, Henry C. Moorhead, James. Shiel, Joseph R. Warren, William E. 0'Shaughnessy, John F. A.

Science Division.
Croke, J. O'Byrne. Anderson, Adam. Mullally, Michael. Somerville, Richard N. Milward, George R.

First Yrar.

Literary Division. Maxwell, William H. Lynam, James. $0^{\prime}$ Callaghan, Matthew Q. O'Neill, Peter J. Byrne, Nicholas.

Science Division.
Freyer, P. Johnson. Gorham, James J. $\dagger$ Lynam, James. Bourke, Palmer A. M‘Loughlin, James. Joyce, Patrick K.

[^28]
## Faculty of Law.

SENIOR SCHOLARSHIP.
M•Swinney, Robert F., m.s.
Third Year.
Maguire, Thomas M., b.A.
Second Pear.
Dooley, John L.
First Year.
Todd, Robert H.

## Faculty of Medicine.

Fourth Year.
Colahan, William H. W. | Pye, Joseph P.
Third Year.
Walsh, Michael. | Colahan, Nicholas W. Second Year.
Melville, Andrew S. $\quad$ Brooke, William.
First Year.

Literary Division.
Barker, Christopher F.

Science Division. White, Michael.

School of Engineering.
Third Year.
Falkiner, George A.
Second Year.
Quinton, John H.
I
Holmes, Robert F.
First Year
Lynam, Patrick.
| Templeton, John W.

## SESSION 1870-71.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.



## JUNIOR SCHOLARSHIPS.

| Third Yrar. |  |
| :---: | :---: |
| Literary Division. | Science Division. |
| Moorhead, James. | Croke, J. O'Byrne. |
| Shiel, Joseph R. | Anderson, Adam. |
| Warren, William E. | Mullally, Michael. |
| 0 'Shaughnessy, John F. A. | Somerville, Richard N |

Second Year.

Literary Division.
Lyaam, James.
Maxwell, William H. 0 'Neill, Peter.

Science Division.
Freyer, P. Johnson.

* Lynam, J,

Gorham, James J.
Joyce, Patrick K.
Ellison, James.
Megarry, James.

## Firest Xear.

Literary Division.
$\dagger$ Adams, David 0.
Milward, Edwin 0. M'Namara, John W. Molony, Henry $\mathbf{G}$. Dill, John.

Science Division.
$\dagger \underset{\text { Gordon, John. }}{\text { Adams, David }}\}^{\text {Gequal. }}$ Hickman, James. Moylan, Michael J. Connolly, William E. S.

[^29]Faculty of Law.
SENIOR SCHOLARSHIP.
Maguire, Thomas M., b.A.
Third Year.
Drummond, Michael, m.A.
Second Year.
Rentoul, James Alex., в.A.
First Year.
Concannon, Patrick.

## Faculty of Medicine.

Foubth Year.
Colahan, Nicholas W. | Fleming, William.
Third Year.
Holland, John J.
| Gillespie, Michael.
Second Year.
White, Michael. | Morris, John J.
First Yrar.
Literary Division.
Warren, J. Monteith.

Science Division. Leitch, Josias.

School of Engineering.
Third Year.
Darcy, William E.
Second Year.
Lynam, Patrick.
1 Kain, Thomas.
Firgt Ybar.
Prendergast, Patrick J. | M‘Auliffe, John.

## SESSION 1871-72.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient | Moorbead, James, |
| :---: | :---: |
| Modern Languages and Modern History, | Mullally, Michael, e |
| Mathematics, | Concannon, Patrick, B.A. |
| Natural Philosop | Harrison, John H., в.a. |
| Metaphysical and Economic Science, | Moran, John, B.A. |
| Chemistry, | Brooke, William, b.A. |

JUNIOR SCHOLARSHIPS.

## Third Year.

Literary Division.
Lynam, James.
Maxwell, William H. 0'Neill, Peter.

Seience Division.
Freyer, P. Johnson.

* Lynam, James.

Gorham, James J.
Joyee, Patrick R.
Eilison, James.
Megarry, James.

Second Year.

Literary Division. $\dagger$ Adams, David 0. Milward, Edwin O. M'Namara, John W. Molony, Henry G. M•Mordie, Elijah.

Science Division.
$\dagger$ Adams, David 0. Gordon, John. Hickman, James. $\}$ equal. $\left.\begin{array}{l}\text { Monroe, Samuel H. } \\ \text { Moylan, Michael J. }\end{array}\right\}$ equal.

First Yrar.

Literary Division.
$0^{\prime}$ 'Connor, George. $\mathrm{M}^{\prime}$ Namara, Joseph C. Mullin, James. Ambrose, Robert. Molony, John.

Science Division.
O'Kinealy, Peter.
Dundee, Isaac C.
Wallace, Hugh.
Kelly, Michael.
Hallowell, James.

* Ineligible, having obtained Scholarship in other division.
+ Having obtained First Place in both divisions, retains both Scholarships.

Faculty of Law.

## SENIOR SCHOLARSHIP.

Mulligan, James, m.A.
Third Year.
Rentoul, James Alex., b.A
Second Year.
Shiel, Joseph R.
Finst Year.
0'Neill, George F., m.A.

## Faculty of Medicine.

## Fourth Year.

| Holland, John J. | 1 | Gillespie, Michael J., в.A. |
| :---: | :---: | :---: |
|  | Third Yeak. |  |
| White, Michael. | \| | Morris, John J. |
|  | Second Year. |  |
| Maguire, Daniel. | 1 | $0^{\prime}$ Connor, Peter F., b.a. |
|  | Frist Yeale. |  |
| Literary Division $0^{\prime}$ Connor, Patrick. |  | Science Division. Lynham, John I. |

## School of Engineering.

Third Year.
Lynam, Patrick.
Second Year.
Prendergast, Patrick
First Year.
Kerin, John.

## SESSION 1872-73.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.

| Ancient Classics, |  | Maxwell, William H. |
| :---: | :---: | :---: |
| Mathematics, |  | Mullally, Michael, в.A. |
| Natural Philosophy, |  | Concannon, Patrick, b.A |
| Metaphysical and Economi | cience, | Shiel, Joseph R., в.a. |
| Chemistry, .. |  | Freyer, P. Johnson, B. |
| Natural History, | .. | Walsh, Michael, в.A. |

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.

* Adams, David 0. Milward, Edwin 0. M'Namara, John W. Molony, Henry G. M'Mordie, Elijah.

Science Division.

* Adams, David O. Gordon, John. Hickman, James. $\left.\begin{array}{l}\text { Monroe, Samuel H. } \\ \text { Moylan, Michael J. }\end{array}\right\}$ equal.

Sbcond Year.

Literary Division. O'Connor, George. M'Namara, Joseph C. Mullin, James. Molony, John. Watters, William.

Science Division.
O'Kinealy, Peter. Fisher, John M. Kelly, Michael. Dundee, Isaac C. Parker, John William.

Firat Year.

Literary Division. Geoghegan, Joseph. M'Millan, John. Lavertine, Charles. M‘Namara, William J. U. Wilson, Samuel L.

Science Division.
Shore, Robert.
$\left.\begin{array}{l}\text { Kelly, William. } \\ \text { Lewis, John P. }\end{array}\right\}$ equal.
Glassford, Charles 0.
Goudy, James.

[^30]
## Faculty of Law.

SENIOR SCHOLARSHIP.
Rentoul, James Alex., B.a.
Third Year.
0 'Neill, Peter J., b.a.
Second Year.
Moran, John, b.A.
Firbt Year.
Hanna, James.

Faculty of Medicine.
Fourth Year.


School of Engineering.<br>Third Year. Prendergast, Patrick J.<br>Skcond Year.<br>Woods, Richard J.<br>First Year.<br>FitzGerald, Henry.

Scholars.

## SESSION 1873-74.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.

| Ancient Classics, |  |  |  | Milward, Edwin O., |
| :--- | :--- | :--- | :--- | :--- | :--- |
| M.A. |  |  |  |  |

JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
O'Connor, George.
M‘Namara, Joseph C.
Mullin, James.
Molony, John.
Watters, William.

Science Division.
O'Kinealy, Peter. Fisher, John M. Kelly, Michael. Dundee, Isaac C. Parker, John William.

## Second Year.

Literary Division. Lavertine, Charles. Wilson, Samuel L. Love, George C. M'Millan, John. M'Namara, William J. J.

Science Division. Shore, Robert. M‘Auliffe, Daniel. Goudy, James. Fisher, Joseph R.

Firgt $\mathbf{Y}_{\text {bar }}$

Literary Division. Molohan, John P. Kerr, 左neas. Farrelly, Michael J. Minniken, John. Dripps, James T.

Science Division. M•Master, James. M‘Dermott, Cornelius. Constable, Samuel. Corry, Patrick. $\}$ equal. Horan, Timothy.

Faculty of Law.
SENIOR SCHOLARSHIP.
Mullally, Michael, b.A.
Third Year.
Shiel, Joseph R., B.A.
Second Year.
Hanna, James.
First Year.
Greenfield, John K.

Faculty of Medicine.
Fourth Year.
Freyer, P. Johnson, b.A. | Maguire, Daniel.
Third Year.
Lynham, John I. | 0'Sullivan, Patrick J.
Second Year.
Stokes, William. | M‘Afee, William.
First Year.
Science Division.
Eakins, George R. 1 Delahunt, James J.

School of Engineering.
Third Year.
Woods, Richard J.
Second Year.
Mahon, Thomas.
Firet Year.
Davern, John P.

Scholars.

## SESSION 1874-75.

## Faculty of Arts.

| Modern Languages and Modern History, | Mullin, James, в.A. |
| :---: | :---: |
| Mathematics, | O'Kinealy, Peter, b.a. |
| Natural Philosophy, .. .. | Kelly, Michael, в.A. |
| Metaphysical and Economic Science, | Hanna, James, в.s. |
| Chemistry, .. | Molony, John S., b. |
| Natural History, | Milward, Edwin 0., в. |

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division. Lavertine, Charles. Wilson, Samuel L. Love, George C. M'Millan, John. M‘Namara, William J. U.

Science Division. Shore, Robert. M‘Auliffe, Daniel. Fisher, Joseph R.

Skcond Year

Literary Division. Kerr, 压neas. Farrelly, Michael J. Todd, Andrew. Megaw, Robert T.

Science Division.
M‘Master, James. Constable, Samuel. Smith, John. Lewis, John P. M'Dermott, Cornelius. Morris, Richard H.

FIRST YEAR.

Literary Division.

* Henry, Augustine. Hunter, Charles W. Anderson, Joseph R. Geoghegan, Alfred.

Science Division.

* Henry, Augustine. Waterworth, Hugh. Sheedy, Thomas. Henderson, Thomas. \}equal. Hackett, Robert I. Dalbey. Gorham, John.

[^31]Faculty of Law.
SENIOR SCHOLARSHIP.
Shiel: Joseph R., m.a.
Third Year.
Gordon, John, B.A.
Second Year.
Greenfield, John K.

## Faculty of Medicine.

Fourth Year.
Lynham, John I.
O'Sullivan, Patrick J.
Third Year.
Beattie, Robert. | Stokes, William.
Sbcond Year.
Love, Robert L. | Delahunt, James J.
First Year.
Literary Division.
M‘Kinlay, John.
Science Division.
Young, William J.

## School of Engineering.

Third Year.
Fisher, John M.
Second Year.
Davern, John P.
| Glassford, Charles 0.
First Year.
Barker, Alexander A. | Condon, Daniel

Scholars.

## SESSION, 1875-76.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, ... .. O'Connor, George, m.A. Modern Languages and Moderr History, Lavertine, Charles E., B.A. Mathematics, .. .. .. .. Kelly, Michael, н.A. Natural Philosophy, .. .. .. Shore, Robert, B.A. Metaphysical and Economic Science, .. Gordon, John, r.a. Chemistry, .. .. .. .. M‘Namara, John W., B.A. Natural History, .. .. .. M‘Namara, William J. U., в.A.

JUNIOR SCHOLARSHIPS.
Third Ybar.

Literary Division.
Kerr, 尼neas.
Farrelly, Michael J. Todd, Andrew.
Megaw, Robert T.

Science Division.
M'Master, James. Cunstable, Samuel. Smith, John. Lewis, John P. Morris, Richard H.

Sbcond Year.

Literary Division.
Hunter, Charles W.
Henry, Augustine.
Condon, William 0.

Science Division.
Waterworth, Hugh.
Henderson, Thomas.
Hackett, Robert I. Dalbey. James, Arthur.
Gorham, John.

First Year.

Literary Division.
Dodds, Robert.
Thompson, George.
Hume, George A.
Campbell, James A.
Watters, Francis 0. M.

Seience Division.
Henderson, Johs.
Sullivan, John.
Gahan, Garner.
Andrews, James.

## Faculty of Law.

SENIOR SCHOLARSHIP.
0'Kinealy, Peter, m a., ll.b.
First Year.
Card, Thomas D., b.a


## SESSION 1876-77.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. Farrelly, Michael J., b.a. Modern Languages and Modern History, M'Namara, Joseph C., b.A. Mathematics, .. .. .. .. Shore, Robert, в.a.
Natural Philosophy, .. .. .. Hickman, James, в.A. Metaphysical and Economic Science, .. McGranahan, William, b.a. Chemistry, .. .. .. .. M•Namara, William J. U., B.A.

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division. Hunter, Charles W. Henry, Augustine. Condon, William 0.

Science Division.
Waterworth, Hugh. Henderson, Thomas. Hackett, Robert I. Dalbey. James, Arthur. Gorham, John.
Sbcond Year.
Literary Division. Dodds, Robert. Hume, George A. Anderson, Joseph R.

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Sullivan, John. Henderson, John. Gahan, Garner.
First Year.
Literary Division.
Brown, John I. Shine, Eugene. Gleeson, Edward J. Nolan, Herbert, m.b. Hanly, John J.

Science Division. Anderson, Alexander. Brown, William. Moreland, Robert. Vance, Robert. Moorhead, John R.

Faculty of Law.
SENIOR SCHOLARSHIP.
Gordon, John, b.A.
Sbcond Year.
Card, Thomas D., b.A.
Firbt Year.
Todd, Andrew, b.A.
K 2

## Faculty of Medicine.

Fourth Year.
Mitchell, Robert
Delahunt, James J.
Third Year.
$\left.\begin{array}{l}\text { M‘Kinlay, John. } \\ \text { Riordan, Daniel. }\end{array}\right\}$ equal.
Srcond Year.
Martin, John. | O'Malley, David J.
First Year.

Literary Division.
Sheridan, Thomas M.

Science Division. Elliott, John H.

School of Engineering.
Third Year.
Barker, Alexander A.
Second Year.
Lynam, Edward W. | Gahan, Michael.
First Year.
M‘Elrea, William.

## SESSION 1877-78.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


JUNIOR SCHOLARSHIPS.


## Faculty of Law.

First Year.
England, William G.

[^32]Faculty of Medicine.
Fourth Year.


## School of Engineering.

Third Year.
Lynam, Edward W.
Second Year.
M•Elrea, William. | Koseingrave, Thomas W.
First Year.
Flatley, William P. | Horneck, Samuel.

## SESSION, 1878-79.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.

| Ancient Classics, |  | Dodds, |
| :---: | :---: | :---: |
| Modern Languages and | Modern History, | Fisher, Joseph R., B.A. |
| Natural Philosophy, |  | Henderson, John, B.a. |
| Metaphysical and Econ | nomic Science,.. | Hume, George A., b.a. |
| Chemistry, | .. .. .. | Gahan, Garner, в.a. |
| Natural History, | .. .. | Henry, Augustine, R.A. |

JUNIOR SCHOLARSHIPS. Third Year.

Literary Scholarships. Brown, John 1. Gleeson, Edward J. Shine, Eugene. Hanly, John J.

Science Scholarships. Vance, Robert. Brown, William. M'Dowell, Thomas $\mathbf{H}$. Andrews, James.

Second Year.

Literary Division.
Jackson, William J. Gillespie, James J. Morton, John H. Munro, William H. Bain, John A.

Science Division. Lowe, William J. Anderson, Alexander. Clarke, Samuel B. Talbot, Thomas J. Moorhead, John R.

Firit Year.

Literary Division.
Kirker, H. Fitzwalter. M‘Laren, James B. Millar, William J. Morrow, Henry W. O'Sullivan, Patrick.

Seience Division.
Patterson, Samuel.
Rowney, George A. H. Blackall, Patrick. Gahan, Charles J. sH Card, William.

## Faculty of Law.

Third Year.
Todd, Andrew, b.a.
Second Year.
England, William G.
Firgt Year.
Donnell, William, b.A.

Faculty of Medicine.<br>Fourth Year.<br>White, Sinclair.<br>1 Cochrane, Robert.<br>Third Year.<br>M'Loughlin, Francis. $\quad$ Pritchard, Thömás.<br>Second Year.<br>Gibson, William W. .- 1 . Fisher, Walter M.<br>First Year.<br>Literary Division.<br>Copithorne, James G. | Farrelly, Thomas.<br>School of Engineering.<br>Thisid Yeatr $^{\text {m }}$<br>M‘Elrea, William.<br>Skcond Ybar.<br>Hackett, Edward A. | Flathey, William P.<br>First Ybar.<br>Mac Namara, Robert J.

Scholars.

## SESSION 1879-80.

Faculty of Arts.
SENIOR SCHOLARSHIPS.
Ancient Classics, .. .. .. Brown, John I., b.a. Modern Languages and Modern History, Campbell, James A., b.A. Mathematics, .. .. .. .. Vance, Robert, в.a. Natural Philosophy, .. .. .. Brown, William, в.a. Metaphysical and Economic Science, ., Currie, William S., b.A. Natural History, .. .. .. M‘Farlane, Hugh, m.a.

## JUNIOR SCHOLARSHIPS. Third Year.

Literary Division. Jackson, William J. Gillespie, James J. Morton, John H. Munro, William $H$. Bain, John A. Science Division. Lowe, William J. Anderson, Alexander. Clarke, Samuel B. Talbot, Thomas J. Moorhead, John R.
Second Year.
Literary Division.
M‘Laren, James B. Millar, William J. Kirker, H. Fitzwalter. M•Donagh, Redmond. Molloy, Mark.

Science Division. Patterson, Samuel. Gahan, Charles J. Foy, Alexander R. M'Neill, David. Rowney, George A. H.

First Year.
Literary Division.
Shute, Charles C. Newell, Peter. M‘Keague, Thomas M. Watters, John.

## Science Division.

 Carroll, Henry. Buckley, Thomas. MacMillan, Robert. Gillespie, Alexander P. Freyer, John. M'Dermott, James. Faculty of Law. SENIOR SCHOLARSHIP.Todd, Andrew, LI..b.
Third Year.
Hume, George A., m.a.
Second Year.
Donnell, William, B.A.
First Ygar.
Brown, James.

## E 3

| Faculty of Medicine. |  |
| :---: | :---: |
| M ${ }^{\text {chaughlin, Francis. }}$ | Shore, Robert, m.A. |
| Third Year. |  |
| Gibson, William W. | O'Connell, David V. |
| Sbcond Year. |  |
| Wise, Charles H. | Mitchell, William J. |
| First Yrar. |  |
| Literary Division. Clarke, Joseph J. | Science Division. Thompson, William H. |
| School of Engineering. |  |
| Third Year. |  |
| Hackett, Edward A. |  |
| First Year. |  |
| Hardy, Earle A. | Long, James L. S. |

## SESSION 1880-81.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, .. | Jackson, William J., b.A |
| :---: | :---: |
| Modern Language | Bain, John A., |
| Mathematics, | Lowe, William J., b.a. |
| Natural Philosophy, | Anderson, Alexander, |
| Metaphysical and Economic Science, | Brown, John I., в.A. |
| Chemistry | Clarke, Samue |
| Natural Histor | Munro, Willia |

JUNIOR SCHOLARSHIPS.

## Third Year.

Literary Division.
M‘Laren, James B. Millar, William J. Kirker, H. Fitzwalter. M•Donagh, Redmond. Molloy, Mark.

Science Division. Patterson, Samuel. Gahan, Charles J. Foy, Alexander $R$. M'Neill, David. Rowney, George A. H.

Second Year.

Literary Division. Newell, Peter. Moody, John.
Keating, William H.

Seience Division. Buckley, Thomas. M'Dermott, James. Card, William. M'Granahan, James. Freyer, John.

First Year.
Literary Division. Maxwell, Sydney L. Hamilton, William. Shannon, 0 wen J. *Freyer, Samuel.
Hoge, T. Simpson.

Science Division. Freyer, Samuel. Kane, Hugh. Morton, David. M'Cune, Thomas H . Stewart, John. Waugh, Hugh.

[^33]
## Faculty of Law.

SENIOR SCHOLARSHIP.
Hume, George A., m.a.
Third Fear.
Donnell, William, b.a.
Sbcond Year.
Brown, James.

Faculty of Medicine.
Fourth Year.
Gibson, William W. | O'Connell, David V.
Third Year.
Mitchell, William J. | 0'Gorman, Patrick.
Second Year.
Thompson, William H. I M‘Glynn, John.
Fikst Year.

Literary Disision.
Lennau, Vincent F.

Science Division. Bartley, William.

Schonl of Engineering.
Hardy, Earle A. Second Year. Thompson, William J.

First Year.
Binns, Henry A.

## SESSION 1881-82.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.



## JUNIOR SCHOLARSHIPS. <br> Third Year.

Literary Division.
Newell, Peter.
Moody, John.
Keating, William H.

Science Division. -
Buckley, Thomas. M•Dermott, James. Card, William. M'Granahan, James. Freyer, John.

Second Year.

Literary Division.
Shannon, Owen J. Thompsun, James. Hamilton, Walter M. Hogg, T. Simpson. Maxwell, Sydney L.

Science Division. Morton, David. Freyer, Samuel. M'Cune, Thomas H. Mahon, William. Kelly, Michael 0.

## First Year.

Literary Division.
Evans, Isaac R. M'Elwee, John. Laing, John. M ${ }^{\text {F Farland, Andrew. }}$ Moody, William.

Science Division.
Card, David. Finucane, Thomas E. Frame, Arthur. Gillespie, George. Atkinson, Hugh L.

## Faculty of Law.

SENIOR SCHOLARSHIP.
Farrelly, Michael J., b.a.
First Year.
Nelson, Thomas E., m.A

Faculty of Medicine.
Fourth Year.
Mitchell, William J. | O'Gorman, Patrick.
Third Year.
Thompson, William H. | Henderson, Robert W.
Sbcond Year.
Bartley, William. | Muaro, William H., b.a. First Year.
Literary Division. Wade, Hugh E. Science Division.
Condon, Richard T.

School of Engineering.
Third Year.
Thompson, William J.
Second Year.
Binns, Henry A.
First Year.
Lynam, Francis J.

## SESSION 1882-83.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.



## JUNIOR SCHOLARSHIPS. <br> Third Ybar.

Literary Division.
Shannon, Owen J.
Thompson, James.
Hamilton, Walter M.
Hogg, T. Simpson. Maxwell, Sydney L.

## Science Division.

Morton, David. Freyer, Samuel. M'Cune, Thomas H. Mahon, William. Kelly, Michael 0.

Second Year.
Literary Division.
Evans, Isaac R. M•Elwee, John. M‘Coy, Daniel. Gamnon, William C. Davison, Robert H.

Science Division.
Gillespie, George.
Finucane, Thomas E.
Carroll, Henry.
M‘Elney, Robert.
Frame, Arthur.
Flrat Year.
Literary Division. Clarke, William A. M‘Nulty, Thomas.

* Benson, Arthur T. M‘Afee, Alexander. Jordan, Michael J. Gregg, Andrew C.

Science Division.
Martin, John.
Humphreys, John.
Hopkins, Samuel.
Oldham, Thomas C. H.
Benson, Arthur T.

> Faculty of Law.
> Third Year. Millar, William J., M.A.

> Skcond Year.
> Nelson, Thomas E.
> First Year.
> M‘Donagh, Redmond, в.a.

[^34]Faculty of Mredirine.
Fourth Year.
Thompson, William H. I Henderson, Robert W.
Thilld Year.
Mahon, Ralph B. I MacNamara, Robert J. Sécond Year.
Condon, Ricbard T. | Milligan, William.
First Year.
Science Division.
Noble, William.
1 Reynolds, James S.

## School of Engineering.

Third Year.
Rowney, George A. H., в.A.
Second Year.
Lynam, Francis J. | O'Shaughnessy, Michael M. First Year.
Allman, Alfred.
Joyce, Rataul.

Scholars.

## SESSION 1883-84.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.

| Modern Languag |  |
| :---: | :---: |
| Mathematies, | Morton, Da |
| Natural Philosophy, |  |
| Metaphysical and Economic Science, | Smith, Henry, в. |
|  | M ${ }^{\text {C }}$ |
| Natural History |  |

JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division. Evans, Isaac R. M‘Elwee, John. $\mathrm{M}^{\circ} \mathrm{Coy}$, Daniel. Gannon, William C. Davison, Robert H.

Science Division. Gillespie, George. Finucane, Thomas E. Carroll, Henry. M•Elney, Robert. Frame, Arthur.

Second Year.

Literary Division. Clarke, William A. Benson, Arthur J. Jordan, Michael J. Gregg, Andrew C. M•Afee, Alezander.

Science Division. Humphreys, John. Martin, John. Card, David.

Firgt Year.

Literary Division.
Dugan, Charles W. Meeke, William M•E.
Loftus, Joseph J.
Hession, Nicholas J. M. Davidson, Andrew G.

Science Division. Keers, James. $\mathrm{D}_{0}$ wd, Henry L. Cowan, Moses $\mathbf{H}$. Keegan, James M. Campbell, Richard J.

## Faculty of Law.

## JONIOR SCHOLARSHIPS.

Third Year.
Nelson, Thomas E.
Second Y $_{\text {Rar. }}$
M•Donagh, Redmond
Firgt Year. Moorhead, John R.

Faculty of Medicine. SENIOR SCHOLARSHIP. Thompson, William H.<br>Fourth Yrar.<br>MacNamara, Robert J. | Waters, George d.<br>Third Year.<br>Eagleton, John F.<br>Sbcond Year.<br>Hamilton, James. | Waters, Eaton W.<br>First Year.<br>Literary Division.<br>Stewart, Joseph. | M‘Cormick, Edward.<br>School of Engineering.<br>Third Year.<br>0'Shaughnessy, Michael M.<br>First Year.<br>Thompson, Atwell.

Scholars.

## SESSION 1884-85.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.
Ancient Classics, .. ... .. .. Evans, Isaac R.
Modern Languages and Modern History.. Thompson, James, b.A.
Natural Philosophy, .. .. .. M‘Cune, Thomas H., в.A.
Metaphysical and Economic Science, .. Sloane, George, b.a.
Chemistry, .. .. .. .. .. M'Elney, Robert, в.A.
Natural History, .. .. .. .. M'Elwee, John, B.A.
JUNIOR SCHOLARSHIPS.
Third Ybar.
Literary Division. Clarke, William A. Benson, Arthur J. Jordan, Michael J. Gregg, Andrew C. M'Afee, Alexander.

Science Division.
Humphreys, John. Martin, John. Card, David.

Second Year.

Literary Division. Davidson, Andrew G. Dugan, Oharles W. Rusk, John. Hession, Nicholas J. M. Hegan, Edwin.

Science Division. Henry, Moses. Cowan, Moses H. Keegan, James M. Dowd, Henry L. Keers, James M.
Firbt Year.

Literary Division. Kennedy, William. M‘Kee, William J. Adams, John A. Cairnes, John E. Bell, James.

## Science Division.

 M'Candless, Thomas. Shore, Patrick B. Farrington, Walter. Charleton, Robert J. Thompson, Cuthbert
## Faculty of Law.

SCHOLARSHIPS.
Third Year.
M'Donagh, Redmond, m.s.
Second Year.
Moorhead, John R., b.a.
Firgt Year.
Malone, John.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. Macnamara, Robert J.
Fourth $\mathrm{Y}_{\mathrm{ear}}$.
Mahon, Ralph B. | Eagleton, John F. Third Year.
Waters, Eaton W. | Hamilton, James.
Second Year.
Stewart, Joseph. | Pierse, Gerard J.
Frrest Yrar.
Literary Division. Heaney, James H.

Science Division.
Foley, Thomas H.

School of Engineering. SCHOLARSHIPS.

Second Year.
Thompson, Atwell.
First Year.
Binns, William N. $\quad$ Long, Samuel L.

Sckobars.

## SESSION 1885-86.

Faculty of Arts.
SENIOR SCHOLARSHIPS.


JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
Davidson, Andrew G. Dugan, Charles W. Rusk, John.
Hession, Nicholas J. M. Hegan, Edwin.

Science Division.
Henry, Moses.
Cowan, Moses H. Keegan, James M. Dowd, Henry L. Keers, James M.

Second Ybar.

Literary Division. M•Kee, William J. Adams, John A. Hilton, Hugb. Hamilton, Samuel. Cairnes, John E.

Science Division. Thompson, Cuthbert. Rentoul, Gervais C. Charleton, Robert J. Farrington, Walter.

Firgt Year.
Literary Division. Maxwell, Michael T. Irwin, Albert J. * Bain, Alexander. Semple, Robert J. Lydon, Martin F.

## Science Division.

 Bain, Alexander. * Semple, Robert J. M•Cay, Francis. Keers, William. Freyer, Patrick W.> Faculty of Law. J ONIOR SCH OLARSHIPS.
> Third Yrar.
> Moorhead, John R.
> Srcond Yrar.
> Smith, Henry.
> Frist Yrar.
> Brown, William.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Mahon, Ralph B.
Fourth Year.
Waters, Eaton W.
Third Year.
Smith, Henry, в.A.
Second Year.
Eldon, Joseph.
Loftus, Joseph J.
First Year.
Literary Division. Millea, William C.

Science Division. Twomey, Michael.

School of Engineering.
SCHOLARSHIPS.
Third Year.
Thompson, Atwell.
Second Year.
Long, Samuel L.
First Year.
Moon, Robert A. | Hall, Thomas A.

Scholars.

## SESSION 1886-87.

Faculty of Arts.
SENIOR SCHOLARSHIPS.

| Ancient Classics, <br> Modern Languages and Modern History, |  |  |
| :---: | :---: | :---: |
|  |  | Rusk, John, B.A. |
| Mathematics, |  | Thompson, Atwell, b.e. |
| Natural Philosophy, |  | Henry, Moses, b.a. |
| Metaphysical and E | conomic Science, | Humphreys, John. |
| Chemistry, |  | Keegan, James M., B.A. |
| Natural History, | .. .. .. | M'Afee, Alexander, b.A. |

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.
M‘Kee, William J. Adams, John A. Hilton, Hugh. Hamilton, Samuel. Cairnes, John E.

Science Division. Thompson, Cuthbert. Rentoul, Gervajs $C$. Charleton, Robert J. Farrington, Walter.

Second Year.

Literary Division. Kennedy, William. Semple, Robert J. Irwin, Albert J. Maxwell, Michael T.

## Science Division.

 Bain, Alexander. Millea, William C. M'Cay, Francis. Douglas, Charles. Raddin, George H.Literary Division.
O'Hara, Patrick J. Clarke, Alexander F. M‘Askie, William J. Gillespie, William H. Donnan, William.

Science Division.
Gannon, William J.
Love, Robert.
Bunton, Christopher L. W.
Mangan, Denis.
Bradford, Herbert A.

## Faculty of Law.

## Third Year.

Smith, Joseph, в.A.
Sbcond Year.
Brown, William, u.A.
Firbt Yrar.
Buckley, Thomas.

## Faculty of Medicine.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Waters, Eaton W.
Foulth Year.
Smith, Henry, в.a. | Stewart, Joseph.
Third Year.
Pierse, Gerard J. | Taylor, William J.
Second Year.
Foley, Thomas $\mathrm{H} . \quad \mid \quad$ Laing, George M.
First Year.

| Literary Division. | Science Division. |
| :---: | :---: |
| O'Reilly, Henry W. H. | Connolly, Thomas J. |

School of Engineering. SCHOLARSHIPS.

Third Year.
Binns, William N.
Second Year.
Finucane, Thomas E. | Hall, Thomas A.
First Yeall.
Thompeon, John S.

## Scholars. <br> SESSION 1887-88.

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## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. M‘Kee, William J., в.A.

Modern Languages and Modern History, .. Hilton, Hugh.
Natural Philosophy, .. .. .. Keegan, James M., M.A. Metaphysical and Economic Science, .. Davidson, Andrew G., b.A. Chemistry, .. .. .. .. .. Farrington, Walter.

## JUNIOR SCHOLARSHIPS.

 Third Year.Literary Division.
Kennedy, William.
Semple, Robert J. Irwin, Albert J.
Maxwell, Michael T.

Science Division.
Bain, Alexander. Millea, William C. M'Cay, Francis. Douglas, Charles. Raddin, George H .

Second Year.

Literary Division. Connolly, Thomas J. Love, Robert. Gillespie, William H. O'Hara, Patrick J. M'Askie, William J. Gailey, Andrew. Clarke, Alexander F.

Science Division.
Gannon, William J. Bradford, Herbert A. *Connolly, Thomas J.

First Year.

Literary Division.
Browne, David. Lee, William. Morris, Patrick.

## Seience Division.

 Paul, John. Deans, John. Harrison, Thomas J. *Browne, Daviá.Keenan, John F. Moran, John. Cambbell, Henry. Clements, Robert W.

## Faculty of Law.

Sacond Ybar.
Buckley, Thomas.
First $^{\text {Y }}$ rar.
0 'Keeffe, James D.

[^35]
## Faculty of Medicine.

SENIOR SGHOLARSHIP.
Anatomy and Physiology, .. .. .. Stewart, Joseph, м.в.
Fourth Yrar.
Pierse, Gerard J. $\quad \therefore \quad$ I Taylor, William J.
Steen, James R. ${ }^{\text {. }}$ | Eldon, Joseph. Second Year.
Heaney, James H. | Hamilton, Samuel.
First Year.
Seience Division.
Clements, Joseph E.

## School of Engineering.

Third Year.
Finucane, Thomas E.
Finst Year.
Binns, Edmund T. | Goodman, Charles W.

Scholars.

## SESSION 1888-89.

Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. Kennedy, William, b.a

Mathematics, .. .. .. .. .. Bain, Alexander.
Natural Philosophy, .. .. .. .. Hall, Thomas A., b.e.
Metaphysical and Economic Science, .. Semple, Robert J., в.a.
Chemistry, .. .. .. .. .. Thompson, Cuthbert.
Natural History, .. .. .. .. Millea, William C.
JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
Connolly, Thomas J. Love, Robert.
Gillespie, William H.
O'Hara, Patrick J.
M•Askie, William J.
Gailey, Andrew.
Clarke, Alexander F.

Science Division.
Gannon, William J. Bradford, Herbert A.

Literary Division.
Brown, David.
Mangan, Denis.
Downard, Thomas.
Deans, John.

Science Division. Paul, John. Harrison, Thomas J. Clements, Robert W. Hynes, Mortimer. O'Dea, Martin. Moran, John.
First Year.
Literary Division. Mahon, John S.
Beattie, Robert A.
Boyd, James.
Hunter, Charles H.
Glendenning, James P. C.

Science Division. Deans, William. Bain, Philander A. Burkitt, James P. Roe, Robert L. Forbes, William J.

## Faculty of Law.

Third Year.
Buckley, Thomas, в.A.

Second Year. 0'Connor, Francis J.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Taylor, William J.
Fourth Year.
Steen, James R. $\quad$ Eldon, Joseph.
Third Year.
Adams, John A., b.s. $\mid$ Foley, Thomas H.
Second Year.
Martin, John. | Foley, Charles H.
First Year.

| Literary Division. | Science Division. |
| :---: | ---: |
| Campbell, Henry. | Robinson, James. |

## School of Engineering.

Third Year.
M‘Cay, Francis.
First Year.
Mabou, Arthur P. | Orpen, Richard T.

## SESSION 1889-90.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.



## Faculty of Law.

Third Ybar.
Muldoon, John.
Second Year. M'Connell, John K., B.A.

Frret Year.
Leitch, Andrew C.

## Faculty of Medicine.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Adams, John A., b.A.
Fourth Year.
Kelly, Thomas B. | Heaney, James H.
Third Year.
Foley, Charles H. | Costello, Michael J. B. Sbcond Year.
Connolly, Thomas J. I Clements, Joseph A. First Year.
Literary Division. Boyd, William.

Science Division Moran, Michael

School of Engineering.
Third Year.
Raddin, George H.
Skcond Year.
Mahon Arthur P. | Binns, Edmund T.
Fifst Year.
Emerson, Thomas. | Stuart, William.

Scholars.

## SESSION 1890-91.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


> SENIOR EXHIBITION.

Ancient Classics, .. .. .. .. Browne, David.
JUNIOR SCHOLARSHIPS.

Literary Division.
Mahon, John S.
Beattie, Robert A. Boyd, James. Huater, Charles H. Gilchrist, Andrew.

## Science Division.

Kane, Thomas.
Burkitt, James P.
Keenan, John F.
Forbes, William J. Deans, William.

Sbcond Year.

Literary Division. O'Hara, Charles $\mathbf{H}$. Keegan, David M. Beatty, John. Stuart, James.

Science Division. M'Clelland, John A. Hayes, John C. Rutledge, Andrew. M•Cay, Daniel. Lundy, Joseph.
First Year.

Mac Gregor, William. Barniville, Richard T.
Sloane, John.
M‘Ilwaine, Robert.
Walker, Andrew J.

Science Division.
Anderson, Henry.
Burke, William.
Stewart, John.
Henry, John.
Ewing, William H.

Faculty of Law.
Thilid Year.
M‘Connell, John K., b.A.
Sbcond Year.
Leitch, Andrew C.
First Yeako
Couroy, John C.

## Faculty of Medicine.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Kelly, Thomas B.
Fourth Yrar.
Costello, Michael J. B. | Foley, Charles H.
Third Year.
Allen, Robert. | Baile, Richard.
Second Year.
Clements, Robert W. | M‘Donnell, Edward De M.
First Year.
Literary Division. | Science Division. Turkington, Humphrey. Daly, John J.

School of Engineering.
Third Year.
Mahon, Arthur P.
Srcond Year.
Emerson, Thomas.
First Year.
Brady, Thomas 'T. | Thornton, Martin.

## SESSION 1891-92.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. .. Mahon, John S., B.A. Modern Languages and Modern History, .. Emerson, Thomas, в. A. Mathematics, .. .. .. .. .. Burkitt, James P., в. A. Metaphysical and Economic Science, .. .. Gilchrist, Andrew, b.A. Chemistry, .. .. .. .. .. Keenan, John F. Natural History, .. .. .. .. Downard,Thomas, B.a.

## JUNIOR SCHOLARSHIPS. <br> Third Year.

Literary Division. 0 'Hara, Charles H. Keegan, David M. Beatty, John. Stuart, James.

## Science Ditision.

M‘Clelland, John A.
Hayes, John C. Rutledge, Andrew. M‘Cay, Daniel. Lundy, Joseph.

Skcond Year.

Literary Division.
Mac Gregor, William. Walker, William. M'Ilwaine, Robert. Barniville, Richard T. Sloane, John. Rutledge, John G. Walker, Andrew J.

Science Division. Henry, John. Ewing, William H. Wilson, David.

Literary Division. Flack, William T.
Hanna, Robert K. Bell, William H . Naughton, Owen. M'Cay, Charles.

Firet Year.
1

Science Division. Stuart, Thomas. Montgomery, Alexander W. Bright, John S. Henry, Moses. Mallagh, Joseph.

## Faculty of Law.

Third Ybar.
Leitch, Andrew C. Sbcond Year.
Conroy, John C.
First Ybar.
Macnamara, Michael A.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. Bunton, Christopher L. W., m.r.
Fourth Year.
Allen, Robert.
Third Ybar.
Clements, Joseph A. | Hynes, Mortimer.
Second Year.
Carroll, William S. I Moran, Michael.
First Year.
Literary Division. Kirwan, James St. L.

Science Division.
Rooney, John W.

## School of Engineering.

Third Year.
Binns, Edmund T.
Second Year
Stewart, William.
I
Gallagher, Stephen G.
Firgt Year.
Clements, Samuel D., b.A.

## Scholars.

## SESSION 1892-93.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, ... .. Hunter, Charles H. Modern Languages and Modern History, $\mathbf{O}^{\prime}$ Hara, Charles $\mathbf{H}$. Mathematics, .. .. .. .. Hayes, John C., в.A. Natural Philosophy, .. .. .. MंClelland, John A., B.A. Metaphysical and Eionomic Science; Glendenning, James P.C., B.A. Natural History, .. .. .. Clements, Robert W., b.A.

JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
Mac Gregor, William. Walker, William. M'Ilwaine, Robert. Barniville, Richard T. Sloane, John. Rutledge, John G. Walker, Andrew J.

Science Division.
Henry, John.
Ewing, William H. Wilson, David

Sbcond Year.

Literary Division.
Entrican, Samuel W. Flack, William T. Hanna, Robert K. Scott, Frederick S. M‘Cay, Charles.

Firgt Year.

Literary Iivision. Mills, John A. Kernaghan, Tbomas W. Neilson, Robert A. M‘Elfatrick, Thomas A. Hewitt, Alfred G.

Scieñce Division.
Johnston, James.
Maybil, Hugh.
Ryan, Hugh.

## Faculty of Law.

Third Year.
Conroy, John C.
Second Year. Macnamara, Michael A.

First Year.
Caldwell, John.

Faculty of Medicine.<br>SENIOR SCHOLARSHIP .<br>Anatomy and Physiology, .. .. Connolly, Thomas J., b.a.<br>Fourth Year.<br>Clements, Joseph A. | Lyden, Martin F.<br>Third Year.<br>Downard, Thomas, b.A. | Nixon, John C.<br>Sbcond Year.<br>Kirwan, James St. L. | Threlfall, Richard B. First Year.<br>Literary Division. | Science Division. Montgomery, Alexander W. Nicholson, William.

## School of Engineering.

Third Year.
M‘Cay, Daniel.
Second Year.
Slade, Cecil A.
First Year.
Vance, James W.
1 Howley, Richard J.

Scholars.

## SESSION 1893-94.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. .. MacGregor, William, b.a. Modern Languages and Modern History, .. M‘Ilwaine, Robert, b.A. Mathematics, .. .. .. .. M‘Clelland, John A., M.A. Natural Philosophy, ... .. .. Henry, John, в.a. Metaphysical and Economic Science, .. Curry, Samuel, b.a. Chemistry, .. .. .. .. .. Walker, Andrew J.
Natural History, .. .. .. .. Nixon, John C., B.A.

## JUNIOR SCHOLARSHIPS. Third Year.

Literary Division.
Entrican, Samuel W. Flack, William T. Hanna, Robert K. Scott, Frederick S. M‘Cay, Charles.

Science Division. Bright, John S. Thompson, William L. Thornton, Martin.

Sbcond Year.

Literary Division.
Johnston, James. Mills, John A. Neilson, Robert A. Kernaghan, Thomas W. Bell, William H.

Science Division. Stuart, Thomas. Ryan, Hugh. Burke, William. Maybin, Hugh.

Literary Division.
Reid, John.
Norris, Joseph.
Brown, Henry.
Strain, James K. C.
Roberts, Joseph A.

## First Yrar.

| Science Division. |
| :--- | :--- |
| Moody, James. |
| Watt, George. |
| Lyons, Frederick W. |
| M‘Kinley, David. |
| Orr, William R. |

## Faculty of Law.

Third Year.
Macnamara, Michael A.
Second Ybar.
Rice, James P.
Firet Year.
M'Auliffe, Michael J.

Faculty of Medicine.

## SENIOR SCHOLARSHIP.

Anatomy and Physiology, .. .. .. Allen, Robert, m.e.
Fourth Year.
Downard, Thomas, B.A.
Third Year.
$O^{\prime}$ Malley, John F. | M'Manue, Michael.
Sbcond Year.
Montgomery, Alexander W. | M'Kelvey, Thomas.
First Year.
Literary Division. Waters, Joseph J.

Science Division. Paisley, William.

## School of Engineering

Third Year.
Walker, William.
Second Year.
Wilson, David. I Howley, Richard.
Firet Yrar.
Carmichael, John S.

## SESSION 1894-95.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.



JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division. Johnston, James. Mills, John A. Neilson, Robert A. Kernaghan, Thomas W. Bell, William H.

Science Division. Stuart, Thomas. Ryan, Hugh. Burke, William. Maybin, Hugh.
-Second Year.

Literary Division.
Reid, John.
Brown, Henry.
Strain, James K. C. M•Lean, Robert J. Farley, William J.

Science Division.
Carmichael, John S.
Lyons, Frederick W. Moody, James.
Watt, George.

First Year.
Literary Division.
Hezlett, James M. Curry, David S. Fleming, George H. Walker, Cuthbert F. Scott, Ernest F.

Science Division. Rishworth, Frank S.
Hallidy, Robert J. Mills, William S. $0^{\prime}$ Dea, Simon.
0'Flaherty, John F. M.

## Faculty of Law.

## Sbcond Year.

Rutledge, John G., м.土.
Firgt Year.
M•Ilwaine, Robert, M.A.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Allen, Robert, м.в.


School of Engineering.
Third Year.
Wilson, David.
First Year.
Gaston, James.

## The Blayney Exhibition.

In Classics.
Johnston, James.
| Mills, John A. (proxime accessit).

Scholars.

## SESSION 1895-96.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.


## Faculty of Law.

SENIOR EXHIBITION.
M'Namara, Michael J.
JUNIOR SCHOLARSHIPS.

Third Year. | Rutledge, John G., m.A. | MacGregor, William,m.A. | $\begin{array}{c}\text { First } \\ \text { Jones, James, m.ar. }\end{array}$ |
| :--- | :--- | :--- |

[^36]
## Faculty of Medicine.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. Montgomery, Alexander W., b.A.
JUNIOR SCHOLARSHIPS
Fourth Year.
Carbery, Edward 0. B.
Second Year.
Keogh, William M. P. | Kerans, George C. L.
First Year.
Science Division.
Cawley, Patrick T. 1 Anderson, Joseph G.

## School of Engineering. <br> Second Year. <br> Pearson, James D. <br> First Year. <br> Fleming, George H.

## The Blayney Exhibition.

In Classics.
Reid, John.

In Science.
Carmichael, John S.

## SESSION 1896-97.

## Faculty of Arts.

SENIOR SCHOLARSHIPS .


JUNIOR SGHOLARSHIPS.
Third Yeak.

Literary Division. Hezlett, James M. Watson, John. Walker, Cuthbert F. Currie, David S. Scott, Ernest F.

Science Division.
$\ddagger$ Rishworth, Frank S.
$\dagger$ Hezlett, James.
Mills, William S. Gaston, James.

Second Year.
Literary Division.
Booth, Samuel.
Barr, Andrew. Best, Robert. Bailey, Alexander T. 0'Hara, Valentine.

Science Division.
Hallidy, Robert J. M'Learl, Andrew H.

First Year.

Literary Division.

* Warnock, William. Clarke, Margaret. Simpson, William A. Aimers, Margaret M. † Renshaw, John W. Bodkin, Leo F.


## Faculty of Law.

SENIOR EXHIBITION .
Rutledge, John G., м.A.

[^37]Faculty of Law-continued. JUNIOR SCHOLARSHIPS.

Third Year.
Mac Gregor, William, м.a.
Sbcond Year.
Jones, James, m.a.
First Year.
Kernaghan, Thomas W., в.я.

## Faculty of Medicine.

SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Paisley, William.
JUNIOR SCHOLARSHIPS.
Fourth Year.

* Paisley, William. | Hewitt, Alfred J.

Third Year.
Keogh, William M. P. | Neilson, Robert A.
Second Year.
Cawley, Patrick T. I 'Anderson, Joseph G.
First Year.
Literary Division.
Walsh, Thomas.

Science Division. $\left.\begin{array}{l}\text { Sandys, William A. } \\ \text { Clements, John. }\end{array}\right\}$ equal.

## School of Engineering.

Third Year.
Carmichael, John S.
Srcond Year.
Fleming, George H. | Rishworth, Frank S.

## The Blayney Exhibition.

Classics, .. .. .. .. .. .. Hezlett, James.

* Resigned.


## SESSION 1897-98.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Ancient Classics, .. .. .. Farley, William J., в.A.
$\left.\begin{array}{l}\text { Modern Languages, } \\ \text { Modern History, }\end{array}\right\}$.. .. .. Watson, Jobn, b.a.
Modern History, Natural Philosophy, .. .. .. Hezlett, James M., в.A.

Metaphysical and Economic Science, $\because$.
Chemistry, .. .. .. .. Mills, William S. Natural History, .. .. .. Scott, Ernest F.

SENIOR EXHIBITION.
Modern Language and Modern History, .. Walker, Cuthbert F., b.A.

> JUNIOR SOHOLARSHIPS. Third Year.

Literary Division.
Barr, Andrew. Booth, Samuel. Bailey, Alezander T. Clarke, John A.

Science Division. Walsh, Thomas. Hallidy, Robert J. McLean, Andrew H.

Secont Year.

Literary Division.
*Warnock, William. Clarke, Margaret. Aimers, Margaret M. Simpson, William A. Bodkin, Leo F.
NECONA MEAR.
First Year.

Literary Division.

* Strain, Thomas G. Williams, William J. McCausland, Joseph. $0^{\prime}$ 'Gorman, Andrew. $\mathbf{O}^{\prime}$ Flynn, Michael J.

Science Division.

* Strain, Thomas G.

Cummins, Robert J. Hall, John. Bailey, Robert.

SCHOLARS.

## Faculty of Law.

SENIOR EXHIBITION.
MacGregor, William, m.A., LL.b.

[^38]JUNIOR SCHOLARSHIPS.<br>Second Year.<br>John T. Monahan.

Faculty of Medicine.
SENIOR EXHIBITION.
Anatomy and Physiology, .. .. .. Hewitt, Alfred J.
JUNIOR SCHOLARSHIPS.
Fourth Year.
Kerans, George C. L.
Third Year.
Cawley, Patrick T. | Anderson, Joseph G.
Second Year.

* Walsh, Thomas.
Richards, Henry E. S.

|  | First Yeak. |
| :---: | :---: |
| Literary Division. | Science Division. <br> + Forde, Dudley. <br> Dee, James. |

School of Engineering.

> J UNIOR S C H OLARS HIPS.
> Third Year.
> Rishworth, Frank S.
> Second Year.
> Whitton, Joseph.
> Firbt Yeak.
> Emerson, Richard G.
> Hamilton, Thomas.

## The Blayney Exhibition.

Science, .. .. .. .. .. MoLean, Andrew H.

[^39]Scholars.

## SESSION 1898-99.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, | .. | .. | .. | .. | .. Booth, Samuel. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Natural Philosophy, | .. | .. | .. | .. | Wean, Andrew |
| Halsh, Thomas. |  |  |  |  |  |

JUNIOR SCHOLARSHIPS.
Third Year.

Literary Division.
Rea, Thomas. Clarke, Margaret. Aimers, Margaret M. * Simpson, William A.

Science Division. Moore, William I. Whitton, Joseph.

Second Year.

Literary Division. $\dagger$ Strain, Thomas G. M'Causland, Joseph. Williams, William J. M‘Grath, Edward H. 0'Gorman, Andrew. O'Flynn, Michael J.

## Science Division.

 $\dagger$ Strain, Thomas G. Perry, Samuel. Hall, John.First Year.

Literary Division. Warnock, James. Porterfield, Samuel. 0'Neill, Joseph J. \}equal. Lydon, Patrick J. M•Feeters, Robert J. Daly, Emily D. M. M•Conaghy, John. Gailey, William.

Science Division. Cole, James A. $\ddagger$ Warnock, James. M•Lachlan, Robert B.

## Faculty of Law.

JUNIOR SCHOLARSHIPS.
First Year.
Bodkin, Leo F.

[^40]Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Anderson, Joseph G.

JUNIOR SCHOLARSHIPS. Fourth Year.

* Anderson, Joseph G. | Mills, John A., B.a. Third Year.
Richards, Henry E. S. | Scott, Ernest F.
Second Year.
Warnock, William. | Best, Robert. First Year.

Literary Division. Burke, Henry J.

Science Division. Simpson, William A.

## School of Engineering.

SENIOR SCHOLARSHIP.
Hall, Arthur A., B.A.
JUNIOR SCHOLARSHIPS.
Third Year. Mills, William S., b.a.

Second Year.
Cummins, Robert J. | Burden, William M•C.

## The Blayney Exhibition.

Classics, .. .. .. .. .. .. Williams, William J.

[^41]
## SESSION 1899-1900.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

Modern Languages and Modern History, . Aimers, Margaret M. Natural Philosophy, .. .. .. Moore, William Irwin,

Metaphysical and Economic Science, .. Bodkin, Leo F.
Chemistry, .. .. .. .. .. Walsh, Thomas, в.A. Natural History, .. .. .. .. Best, Robert.

## SENIOR EXHIBITION.

Modern Languages and Modern History, .. Clarke, Margaret.

> JUNIOR SCHOLARSHIPS.
> Third Year.

Literary Division. M'Grath, Edward H. Williams, William J. O'Gorman, Andrew.

Science Division. Strain, Thomas G. Cummins, Robert J.

Second Year.

Literary Division.
0'Neill, Joseph J.
Porterfield, Samuel.

* Warnock, James. Lydon, Patrick J. Lyons, James A. Reid, Patrick.

Science Division. Warnock, James. Cole, James A. Walsh, Peter. M•Lachlan, John S. Ebbitt, Richard W.

First Year.

Literary Division.
Heaslett, George H.
Morrison, William J.
Kenny, Patrick J.
Steinberger, Cecil L. M.
Perry, Margaret.

Science Division. Bell, Gilmore. Maxwell, George. Rutherford, Robert G.

* Kenny, Patrick J.
* Morrison, William J. Mullery, Edward W. Angus, Samuel.

Faculty of Law.
JUNIOR SCHOLARSHIP.
First Year.
M•Mullan, Hugh S., M.A.

```
    Faculty of Medicine.
SENIOR SCHOLARSHIP IN ANATOMY AND PHYSIOLOGY.
            Richards, Henry E.S.
        SENIOR EXHIBITION.
        Sandys, William A.
    JUNIOR SCHOLARSHIPS.
            Fourti Year.
* Sandys, William A. | Clements, John.
        Thimd Year.
                Forde, Dudley.
        Second Year.
                            | O'Flynn, Michael J.
                        Firbt Year.
                    Science Division.
    Byrne, James.
                                Flack, James.
```


## School of Engineering.

 SENIOR SCHOLARSHIP. Whitton, Joseph, в.e. SENIOR EXHIBITION. Hardiman, James C. JUNIOR SCHOLARSHIPS. Third Year.
## The Blayney Exhibition.

Science, .. .. .. .. .. Strain, Thomas G.

## The "Dr. and Mrs. W. A. Browne" Scholarship. Steinberger, Cecil L. M.

The answering of Mr. Edward H. M'Grath was very favourably reported on by the Examiner.

[^42]
## SESSION 1900-1901.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.
English, Modern Languages, and Modern
History, . . . .. .. Rea, Thomas, M.A.
Mctaphysics and Political Science, .. Williams, William J. Natural History, .. .. .. M'Causland, Joseph.

SENIOR EXHIBITIONS.
Ancient Classics, .. .. .. O'Gorman, Andrew. English, Modern Languages, and Modern History, .. .. .. .. M‘Grath, Edward H.

## JUNIOR SCHOLARSHIPS.

Third Year.

Literary Division.
O'Neill, Joseph J. Lydon, Patrick J. Reid, Patrick.

Science Division.
Warnock, James. M•Lachlan, Robert B. Flack, James.
Hall, John.
I Cole, James A.

Second Year.

Literary Division.
Angus, Samuel.
Steinberger, Cecil L. M.
Kenny, Patrick J.
Perry, Margaret.
Brash, Robert.
Morrison, William J.

Science Division.
Bell, Gilmore.
Rutherford, Robert J.

|  | First Year. |
| :--- | :--- |
| Literary Division. | Science Division. |
| Thompson, Frances L. | Perry, Agnes M. |
| Minnis, Samuel. | Clarke, Rosalind. |
| *Clarke, Rosalind. | Compton, Arthur J. W. |
| O'Brien, Michael. | Philpott, Nicholas C. |
| Walsh, Patrick M. | *0'Brien, Michael. |
|  | Duncan, Robert M. |

Ineligible, having obtained Scholarship in other division. m 2
James Hardiman Library, NUI Galway

## Faculty of Law.

 JUNIOR SCHOLARSHIP.First Year. Turner, Alexander K.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology.-Walsh, Thomas, в.A.
JUNIOR SCHOLARSHIPS. Third Year.
Simpson, William A. O'Flynn, Michael J. Second Year.
Porterfield, Samuel.
1 Shanklin, John G. First Year.
Literary Division. Cusack, Patrick J.
Science Division.
Byrne, Francis P.

## School of Engineering.

SENIOR SCHOLARSHIP.
Cummins, Robert J., b.e.
JUNIOR SCHOLARSHIPS.
Third Year.
Mairs, William C.
Second Year.
M‘Lachlan, John S. Moore, John A.
First Year.
Watson, Edwin.

## The Blayney Exhibition. O'Neill, Joseph J.

The "Dr. and Mrs. W. A. Browne" Scholarship. Steinberger, Cecil L. M.

## SESSION 1901-1902.

## Faculty of Arts.

SENIOR SCHOLARSHIPS.
English and Modern Languages, .. O'Neill, Joseph J., в.a.
Mathematics, .. .. .. Cole, James A., b.A.
Natural Philosophy, .. .. Warnock, James, в.A.
Chemistry, .. .. .. .. M‘Causland, Joseph, в.A.
Natural History, .. .. .. Byrne, James.
SENIOR EXHIBITION.
English and Modern Languages, .. Lydon, Patrick J.

## JUNIOR SCHOLARSHIPS. Third Year.

Literary Division.
Angus, Samuel.
Steinberger, Cecil L. M.
Perry, Margaret.
Lyons, James A.
Kenny, Patrick J.

Science Division. Walsh, Peter. Brash, Robert. Maxwell, George. Bell, Gilmore.

## Second Year.

Literary Division. Minnis, Samuel.
Thompson, Frances L.

Science Division. Perry, Agnes M. Clarke, Rosalind. Compton, Arthur J. W. Duncan, Robert M.

First Year.

Literary Division. May, Thomas.
M'Clean, Louis T. L. Brash, Janet W.
*Lynham, John E. A. Moon, Katie.

Science Division. Lynham, John E. A. Compton, Samuel J. M. Forsythe, John.

* Ineligible, having obtained Scholarship in other division.

Faculty of Law. JUNIOR SCHOLARSHIPS.

Second Year.
Turner, Alexander K.
Firgt Year.
Cusack, Patrick J
Faculty of Medicine.
JUNIOR SCHOLARSHIPS.
Fourth Year.
Simpson, William A.
Third Year.
Porterfield, Samuel. Flack, Jamea.
Second Year.
Dowling, John. Flack, Isaac.
First Year.
Literary Disision.
Dunlop, John L.

Science Division. Carson, William F. A.

School of Engineering.
SENIOR SCHOLARSHIP.
Mairs, William C.
JUNIOR SCHOLARSHIP.
Third Year.
M‘Lachlan, John S.
Second Year.
Watson, Edwin. | M‘Lachlan, Robert B. First Year.
Montagu, Cuthbert F. | Smith, Henry W. S.

## The Blayney Exhibition. Perry, Agnes M.

The "Dr. and Mrs. W. A. Browne" Scholarship. Steinberger, Cecil L. M.

## SESSION 1902-1903.

Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| Ancient Classics, | Angus, S |
| :---: | :---: |
| English and Modern Languages, | $\underset{\substack{\text { Steinberger, Cecilia L. } \\ \text { B. }}}{\text { St }}$ |
| atic | Maxwell, George. |
| Metaphysics, Political Science, and Hist | Lydon, Patrick |
| Chemistry, | Brash, Robert. |
| Senior Prize. |  |
| Ancient Classice, | Kenny, Patri |

## JUNIOR SCHOLARSHIPS. Third Year.

Literary Division. $\mid$ Science Division.

Minnis, Samuel.
Thompson, Frances L. Eakin, Mary D. Perry, Agnes M. Clarke, Rosalind. M'Crea, Robert A. M. L. ear.
Literary Division.
Brash, Janet W.
0 'Brien, Michael.
M'Clean, Louis T. L.
Forsythe, John.
*Harrison, Alexander L.

Science Division. Lynham, John E. A. Watson, Edwin. Harrison, Alexander L. Hannigan, James J.

First Year.

Literary Division.
Matthews, William D. W.
*M‘Donagh, Stephen J.
Perry, Janet $\mathbf{H}$.
Rentoul, Gervais S. C.
Henry, Rachel J. L. Lynham, Lilian E. M.

Science Division Fogarty, Philip C. M• Donagh, Stephen J. Perry, Alice J. Brash, George T. M‘Cleery, Emest F.

Faculty of Law.
JUNIOR SCHOLARSHIPS.
Sbcond Yeah.
Cusack, Patrick J.
First Year.
Lynch, John B.

* Ineligible, having obtained Scholarship in other division.

Faculty of Medicine.
SENIOR SCHOLARSHIP.
Anatomy and Physiology, .. .. .. Porterfield, Samuel, b.a.
JUNIOR SCHOLARSHIPS.
Fourth Year.
Shanklin, John G. | Flack, James.
Third Year.
Flack, Isaac.
| Dowling, John.
Sbcond Year.
Gannon, James J. A. | Dunlop, John L.
First Year.
Literary Division.
Dagg, Christina M. C.
Science Division. Garry, John W.

School of Engineering.
SENIOR SCHOLARSHIP.
M•Lachlan, John S., в.A.
JUNIOR SCHOLARSHIPS.
Third Year.
M•Lachlan, Robert B.
Second Year.
Duncan, Robert M.

First Year.
| Hickson, Robert C.

## The Blayney Exhibition.

Thompson, Frances L.
The "Dr. and Mrs. W. A. Browne" Scholarship.
Minnis, Samuel.

## SESSION 1903-1904.

## Faculty of Arts.

## SENIOR SCHOLARSHIPS.

| English and Modern Languages, | .. | .. | Perry, Margaret. |  |
| :--- | :--- | :--- | :--- | :--- |
| Mathematics, | .. | .. | .. | . |

SENIOR PRIZES.
Ancient Classics, .. .. .. .. Thompson, Frances L.
Natural Philosophy, .. .. .. .. Brash, Robert.

JUNIOR SCHOLARSHIPS.
Thimd Yrab.

Literary Division. M‘Lean, Louis T. L. Brash, Janet W. Forsythe, John. Harrison, Alexander L.

Science Divisian. Duncan, Robert M. Hannigan, James J. Lynham, John E. A. Compton, Arthur J. W.

Second Year.
Literary Division. M•Donagh, Stephen J. Perry, Janet H. Henry, Rachel J. L.

Science Division. Fogarty, Philip C. Hickson, Robert C. Perry, Alice J. * M‘Donagh, Stephen J.

First Year.

Literary Dirision. †Jack, Thomas. Walsh, Patrick. Walsh, Michael. Bell, Wilson A. Steinberger, Lilian B.

Science Division.
$\dagger$ Jack, Thomas.
Bowen, John E. Rentoul, James L. $\}$ equal. Donovan, John T.
*Walsh, Patrick. Clarke, David L. \}equal.

[^43]
## Faculty of Law.

JUNIOR SCHOLARSHIPS.
Second Year.
Lynch, John B.
First Year.
Fahy, John V.

Faculty of Medicine.
JUNIOR SCHOLARSHIPS.
Fourth Year.
Dowling, John. I Flack, Isaac.
Third Year.
Gannon, James J. A. | Dunlop, John L.
Second Year.
Garry, John W. | Hughes, John.
First Year.
Literary Division. *Bowling, Edward.
Deary, George.

Science Division.
Bowling, Edward.

School of Engineering.
SENIOR SCHOLARSHIP.
M'Lachlan, Robert B., be.

* Ineligible, having obtained a Scholarship in other Division.

Scholars. 233

JUNIOR SCHOLARSHIPS.<br>Third Year. Montagu, Cuthbert F.<br>Second Year.<br>May, Thomas. | M‘Gillycuddy, Henry A.<br>First Year.<br>Budd, Jobn S. S.

## The Blayney Exhibition. <br> Montagu, Cuthbert F.

The "Dr. and Mrs. W. A. Browne" Scholarship. Steinberger, Lilian Blanche.

## $234 \quad$ Queen's College, Galway.

## LIST OF PRIZES AWARDED AT THE SESSIONAL EXAMINATIONS IN THE SESSION 1902-1903.

## Faculty of Arts.

First Year.



Second Year.


## Prizes awarded at Sessional Examinations. 235

Third Year.

| Grenk, |  | Second Rank | Frances L. Th |
| :---: | :---: | :---: | :---: |
| Latin, |  | First Rank | Frances L. Thomp |
| French, |  | Second Rank | Samuel Minnis. |
| German, |  |  | Samuel Minnis. |
| English, |  | k | Samuel Minnis. |
|  |  | Secoud Rank | Mary D. Eakin. |
| Mathematics, |  | First Rank | Agnes M. Perry. Rosalind Clarke. |
| Chemistry, | $\cdots$ | Second Rank | Rosalind Clarke. |
| Metaphysics, |  |  | William J. M'Furland |
| Practical Biology, |  |  | Robert A. M. L. M ${ }^{\text {Cre }}$ |
| Botany, |  | First Rank | Robert A. M. L. M |
| Experimental Physics, |  | Second Rank | Rosalind Clarke. |
| Practical Physics, |  |  | Gilmore Bell. |
| Practical Chemistry, |  | First Rank | ash. |

## Postgraduate.

Greek, .. .. .. Second Rank Samuel Angus.
Latin, $\because \quad \because \quad . . \quad$ First Rank Samuel Angus.
Mathematical Physics, .. ", James Warnock.
Experimental Physics, .. Second Rank James Wamock.

## Faculty of Law.



## Faculty of Medicine.

| Firgt Year. |  |  |  |
| :---: | :---: | :---: | :---: |
| Practical Anatomy, | . | Second Rank | Christina M. C. Dagg. |
| Chemistry, | .. | First Rank | John W. Garry. |
| Bo' $\quad \cdots$ | $\cdots$ | Second Rank | Joseph G Burke |
| Botany, <br> Practical Biology, | $\cdots$ |  | John W. Garry. |
|  | $\ldots$ | Second Rank | John W. Garry |
| Practical Physics, | . | " | Joseph D. G. Burke. |



## Third Year.



Fourth Year.


## School of Engineering.

First Year.



| Sbgond Yrar. |  |  |  |
| :---: | :---: | :---: | :---: |
| Engineering, |  | First Rank | Cuthbert F. Montagu. |
|  |  | Second Rank | Henry W. S. Smith. |
| Drawing, | - | ", " | Robert C. Dick. |
| Chemistry, |  | First Rank | William Dale. |
|  | . | First Rank | Cuthbert F. Montagu. |
| " $\quad . \quad \cdots$ | -• | Second Rank | Henry W. S. Smith. |
| Mathematical Physics, | . | Second Rank | Cuthbert F. Montagu. |
| Third Year. |  |  |  |
| Engineering, |  | First Rank | Robert B. M‘Lachlan. |
| Drawing, .. | . | " ", | John S. M'Lachlan. |
| " | . . |  | Robert B. M‘Lachlan. |
|  | . | Second Rank | Edwin Watson. |
| Mathematical Physics, | - | First Rank | Edwin Watson. |
| Mineralogy and Geology, |  | Second Rank | John S. M'Lachlan. |
| " , ", | . | " " | Edwin Watson. |

DEGREES, EXHIBITIONS, HONOURS, \&c., OBTAINED BY STUDENTS OF THE COLLEGE at the examinations of the royal UNIVERSITY OF IRELAND IN 1903.

## Faculty of Arts.

M.A. DEGREE EXAMINATION.

Autumn.
Honours in Mathematical Physics and Experimental Physics.

* Warnock, James, b.A., .. .. .. First Class.

Honours in Aneient Classics.
Angus, Samuel, b.A., .. .. .. .. Second Class.
B.a. DEGREE EXAMINATION.

Summer.
Pass.
Bell, Gilmore.
Brash, Robert.
| Maxwell, George.
Autuma.
Exhibitions.
Minnis, Samuel (Sch.), .. .. .. Second Class (£21).
Perry, Agnes M. (Sch.), .. .. Second Class (£21).
Honours in Modern Literature.
Minnis, Samuel (Sch.), .. .. .. Second Class.
Pass.
Eakin, Mary D.
Honours in Mathematical Science.
Perry, Agnes M. (Sch.), .. .. .. Second Class.
Experimental Physics and Chemistry. Pass.
Brash, Robert.

[^44]THE "DR. AND MRS. W. A. BROWNE " GOLD MEDAL
AND PRIZE.
Minnis, Samuel (Soh.).
Prize.

## FIRST UNIVERSITY EXAMINATION.

## Summer.

## Exhibitione.

Fogarty, Philip C.,
M'Donagh, Stephen J.,... $\quad . \quad$.. First Class (£30).
Perry, Janet H., $\quad . . \quad$.. $\quad . . \quad$ Second Class ( $£ 15$ ).
Honours in Latin.
$\begin{array}{lll}\text { Fogarty, Philip C., } \\ \text { Perry, Janet H., } & \quad . & \text {.. Second Class. }\end{array}$
Perry, Janet H., $\quad \because \quad$.. $\quad . \quad$ Second Class.
Honours in French.
$\begin{array}{lllll}\text { Fogarty, Philip C., } & \text {.. } & \text {.. } & \text {. } \\ \text { Perry, Janet H., } & . . & . . & \text { Second Class }\end{array}$
-. Second Class.

First University Examination-continued. Honours in German.
Henry, Rachel J. L., .. .. .. Second Class.
Honours in Celtic.
M•Donagh, Stephen J., .. .. Second Class.
Pass.


Autumn.
Pass.

| $\begin{array}{l}\text { Buchanan, William W. } \\ \text { McCarthy, John. }\end{array}$ | Matthews, William D. W. |
| :--- | :--- | Faculty of Medicine.

M.B., B.CH., B.A.0. DEGREES EXAMINATION.

Autumn.
Pass.
Fordo, Dudley. O' Flynn. Michael J.

Simpson, William A.

THIRD EXAMINATION IN MEDICINE.
Spring.
Upper Pass.
Byrne, James. | Porterfield, Samuel, bia.
Pass.
Flack, James.
Autumn.
Dipper Pass.
Cowley, Patrick T.
Pass.
Bowling, John.

## Honours obtained by Students.

## sECOND EXAMINATION IN MEDICINE

Spring.
Pass.

| Dowling, John. <br> Flack, Isaac. | Walsh, Peter. |
| :--- | :--- |

## Autumn. <br> Pass.

Costello, Joseph M. A.
Dunlop, John L.
Gannon, James J. A. Grogan, Patrick J.

M‘Causland, Joseph, b.A. M'Crea, Robert A. M. L. Reid, Patrick, b.a.

## FIRST EXAMINATION IN MEDICINE.

Summbr.
Pass.
Carson, William F. A. Compton, Arthur J. W. Dewar, Elliot P. Garry, John W.

Autumn.
Pabs.
Burke, Joseph D. G.
Flynn, Paul.

Hughes, John. Kinkead, Richard G. C. M. Lynham, John E. A.
0 'Sullivan, Christopher F. X.

School of Engineering.
Summer.
b.E. DEGREE EXAMINATION.

Exhibition.
Watson, Edwin, .. .. .. .. First Class (£42).

> Honours.

Watson, Edwin, .. .. .. First Class.
M‘Lachlan, John S., b.A., $\quad . . \quad .$.
Pabs.
M'Lachlan, Robert B.
seoond professional examination.
Honours.
Montagu, Cuthbert F., .. .. .. Second Class.

Dick, Robert C.
Duncan, Robert M.

## Pasb.

Moore, John A.

FIRST PROFESSIONAL EXAMINATION.
Exhibition.
May, Thomas, .. .. .. .. Second Class (£15).
Honours.
May, Thomas, .. .. .. .. Second Class. Pass.
Hickson, Robert C. M•Carthy, Johu.
| $\begin{aligned} & \text { M'Gillycuddy, Henry A. } \\ & \text { O'Brien, Michael. }\end{aligned}$

OTHER DISTINCTIONS.
The Mary Anne Leighton Scholarship at Girton College, Cambridge.
Thompson, Frances L.
Lectureship in Mathematics in the University College of South Wales and Monmouthshire.

Stuart, Thomas, m.s., d.sc., Junior Fellow of the Royal University of Ireland.

## Renewal of Science Research Scholarship by H. M. Exhibition (1851) Commissioners.

Goodwin, William.
Assistantship in Electrical Engineering in the Technical Institute, Auckland, New Zealand.

Henry, John, m.a., в.r.

# Examination for County Surveyorships in Ireland, 1903. 

Kirwan, Robert J., B.A., b.e., First Place. *Gallagher, Stephen G., b.e.

## Examination for Assistant County Surveyorships in Ireland, 1903.

| M'Donnell, George P. | $\ddagger{ }^{\text {O }}$ 'Hara, Donald J |
| :---: | :---: |
| $\dagger \mathrm{M} \cdot$ Dermott, Martin. | Dowling, Richard. |

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## APPENDIX.

For the information of Students, abstracts are here given of the regulations of the Royal University of Ireland; of the University of London, as well as of the Licensing Corporations in Medicine, and of the Honourable Society of King's Inns. The conditions of admission to the Competitive Examinations for certain Home and Foreign appointments are added.

At the end of each abstract, reference is made to the source from which full information may be obtained. Students are reminded that these regulations are subject to frequent change. Care should be taken to consult the latest official rules. These may be referred to in the College Library.

## I. Royal University of Ireland.

II. University of London.
III. Royal Colleges of Physicians and Surgeons in Ireland, England, and Scotland.
IV. Regulations prescribed by General Medical Council.
V. Regulations for admission to the Bar.
VI. Inspectorships of National Schools.
VII. County Surveyorships.
VIII. Army, Navy, and Indian Medical Services.
IX. Home Civil Service, Class 1.
X. Civil Service of India, Eastern Cadetships, etc., etc.

## I.-ROYAL UNIVERSITY OF IRELAND.

## General Regulations.

The following Degrees and Diplomas are conferred by the University:-

Arts-
Bachelor of Arts, . B.A.
Master of Arts, . M.A. Doctor of Literature, D.Lit.
Mental and Moral PhilosophyDoctor of Philosophy, D.Ph.

## Science-

Bachelor of Science, . B.Sc. Doctor of Science, . D.Sc.
Engineering-
A Special Diploma, Dip.inEng.
Bachelor of Engineering, B.E.
Master of Engineering, M.E.

## Music-

Bachelor of Music, . B.Mus. Doctor of Music, . D.Mus.
Medicine-
Bachelor of Medicine, M.B.
Doctor of Medicine, . M.D.

Surgery-
Bachelor of Surgery, . B.Ch. Master of Surgery, . M.Ch.
Obstetrics-
Bachelor of Obstetrics, B.A.0. Master of Obstetrics, M.A.O.
Sanitary ScienceA Special Diploma.
Mental Diseases-
A Special Diploma.
Law-
Bachelor of Laws, . LL.B.
Doctor of Laws, . . LL.D.
Agriculture-
A Special Diploma.
Teaching-
A Special Diploma.

All Degrees, Honours, Exhibitions, Prizes, Scholarships, Studentships, and Junior Fellowships in this University shall be open to Students of either sex.

Candidates for any Degree in this University must have passed the Matriculation Examination. Students from other Universities and Colleges are included in this rule.

Matricolation.
(Dublin and Local* Centres.)
Subjects.

1. Latin.
II. Any one of the following Languages:-Greek, French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
III. English Language and Literature.
IV. Elementary Mathematics.
V. Natural Philosophy.

The First Unifersity Examination.
One Academical Year after Matriculation. (Dublin and
Local* Centres.)
Subjects.
I. Latin.
II. Any one of the following Languages:-Greek, French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
III. English Language and Literature.
IV. Mathematics.
V. Natural Philosophy.

[^46]
## Faoulty of Arts.

Second University Examination in Arts. One Academical Year after First University Examination. (Dublin and Local* Centres).

## I. Latin.

Subjects.

## II. Greek.

III. English Language and Literature.
IV. Any one of the following Languages:-French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
V. Logic.
VI. Civil and Constitutional History.
VII. Mathematics.
VIII. Mathematical Physics.
IX. Experimental Physics.
X. Chemistry.
XI. Botany and Zoology.
XII. Geology (including Mineralogy and Physical Geography).
N.B.-Candidates at this Examination must answer in four of the foregoing subjects, one of which must be Latin or Mathematics; but candidates entering for Honours in any subject may, if they choose, present as a fifth subject the Honour Course in any of the remaining eight of the foregoing subjects.

Candidates entering for Honours in any subject and presenting a Modern Language as one of the four obligatory subjects, will be at liberty to present, as a fifth subject, the Honour Course in any other of the Languages mentioned under head IV.

> B.A. Degree Examination.

One Academical Year after Second University Examination; held in Dublin only.
I. Latin. Subjects.
II. Greek.
$\dagger$ III. English and History: or either English or History with any one of the following Languages:-French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
IV. Logic, and any one of the following:-Metaphysics, Ethics, History of Philosophy, Political Economy.
V. Mathematics.
VI. Mathematical Physics.
VII. Experimental Physics.
VIII. Chemistry.
IX. Physiology.
X. Zoology and Botany.
XI. Geology, including Mineralogy and Physical Geography.

[^47]Pass.-Candidates who desire a Pass Degree only, must answer in any one of the following groups of subjects, to be selected by them when entering for the Examina-tion:-
A. (1) Latin, (2) Greer, and (3) any one other of the above sub-
B. (1) Latin, (2) Logic, Metaphysics, with History of Philosophy, and (3) either Ethics or Political Economy.
C. (1) Mathematics, and (2) (3) two others of the above subjects, one of which must be one of those enumerated under heads VI. to XI.
Honours.-Candidates may obtain the B.A. Degree with Honours in the Honour Courses of any one of the following groups of subjects:-
I. Latin and Greek Languages and Literature.
II. English, and any two of the following Languages:-French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
III. Logic, Metaphysics, Etbics, and History of Philosophy.
IV. Civil and Constitutional History, Political Economy, and General Jurisprudence.
V. Mathematics and Mathematical Physics.
VI. Mathematical Physics and Experimental Physics.
VII. Any two of the following subjects :-

$$
\begin{array}{ll}
\text { i. Experimental Physics. } & \text { iii. Botany and Zoology. } \\
\text { ii. Chemistry. } & \text { iv. Physiology or Geology. }
\end{array}
$$

Any Candidate selecting Group III. will be at liberty to substitute for Ethics any one of the three subjects included in Group IV.

Any Candidate selecting Group IV. will be at liberty to substitute English for either Political Economy or General Jurisprudence; but only three-fourths of the marks obtained in English will be counted towards Honours and Exhibitions.

At the Examination in Honour groups for the B.A. Degree, Candidates who fail to obtain Honours may be adjudged to have passed the examination for the B.A. Degree, provided their answering nearly approaches the standard at which Honours are awarded.

## M.A. Degree Examination.

One Academical Year after B.A.
Candidates at this Examination will be required to answer in any one of the following groups of subjects:-
I. Latin and Greek Languages and Literature.
II. English, and any two of the following Languages:-French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, Arabic.
III. Logic, Metaphysics, Ethics, and History of Philosophý.
IV. Civil and Constitutional History, Political Economy, and Political Philosophy.
V. Mathematics and Mathematical Physics.*
VI. Mathematical Physics and Experimental Physics.*
VII. Any two of the following subjects:-

$$
\begin{aligned}
& \text { i. Experimental Physics.* } \begin{array}{l}
\text { iii. Botany and Zoology.** } \\
\text { iv. Physiology or Geology.* }
\end{array} .
\end{aligned}
$$

Any Candidate solecting Group III. shall be at liberty to substitute for Ethics any one of the three subjects included in Group IV.

Any Candidate selecting Group IV. will be at liberty to substitute English for either Political Economy or Political Philosophy; but only three-fourths of the marks gained in English will be counted towards Honours.
D.Lit. Degree.

Final Examination, three Academical years after B.A.

## D.Ph. Degree.

Examination, three Academical years from the time of obtaining the B.A. Degree.
B.Sc. Degree.

Examination, one Academical year from the time of graduating in any Faculty in the University.

> D.Sc. Degree.

Examination, three Academical years after Graduation in any Faculty in the University.

## Diploma in Teaching.

The Diploma is conferred only on Graduates in Arts of the Royal University,

The Examination consists of two parts: the first part to be passed by Candidates not less than one Academical Year after graduation, and the second part not less than one Academical Year after passing the first part.

[^48]A. Subjects for the First Part of the Examination:-

1. Methods of Teaching, School Management and Organisation.
II. The History of Education; the Lives and Works of Eminent Teachers; and the Systems of Instruction adopted in different Countries.
B. Subjects for the Second Part of the Examination :-
I. Mental and Moral Science in relation to the work of Teaching. Ir. Practical Skill in Teaching.

## Faculty of Law.

There are three Examinations in Law :-

1. The First Examination in Law.
2. The Examination for LL.B. Degree.
3. The Examination for LL.D. Degree.

Candidates in Law must be Graduates in Arts of the University.

## Faculty of Medicine.

The Course for the Degrees in Medicine, Surgery, and Obstetrics, shall be of at least five Medical years duration; but Graduates in Arts or Science who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, shall be held to have completed the first of the five years of Medical Study.

Candidates for Medical Degrees, who began their Medical Studies after January 1st, 1892, must have been registered by Medical Council for 57 months, and must be fully 21 years of age.

All Candidates for these Degrees, in addition to attending the lectures and complying with other conditions prescribed, must pass the following Examinations:-

The Matriculation Examination.
The First University Examination.
The First Examination in Medicine.
The Second Examination in Medicine.
The Third Examination in Medicine.
The M.B., B.Cr., B.A.O. Degrees Examination.

## Medical Curpioulum.

First Year.
The First Year Course of Medical studies consists of :-
(a) Natural Philosophy, taught experimentally-

Either a Six Months' Course with Lectures (illustrated experimentally) on three days in the week;
Or, a Three Months' Course with Lectures (illustrated experimentally) on at least five days in the week.
(b) Chemistry, a Six Months' Systematic Course.
(c) Biology-

Botany, a three Months' Course with Lectures and Demonstrations on at least three days in the week.
Zoology, a Three Months' Course with Lectures and Demonstrations on at least three days in the week.
(d) Anatomy, a Six Months' Systematic Course (Optional).
(e) Practical Anatomy (Dissections), a Six Months' Course (Optional).

The Systematic Course in Anatomy and Dissections should enable the Student to acquire a good knowledge of the bones, joints, and muscles, and such knowledge of the vessels and viscera and of the larger nerves, as he may reasonably be supposed to have acquired at this period of his Medical Studies.
(f) Practical Chemistry, a Three Months' Course (Optional).

This attendance must not be simultaneous with attendance at the Systematic Course.
Students who have taken the B.A. Degree in any of the subjects named for the First Year Course of Medical Studies shall, upon the production of certificates of attendance in recognised institutions at proper courses of instruction in such subject or subjects, be exempted from attending any further lectures or passing examinations in such subject or subjects.

But, to entitle a Candidate to any of the privileges here conceded, he must have obtained, at the B.A. Examination in the subject or subjects in which he now claims exemption, Honours, 50 per cent. of the Pass Marks, or the equivalent of this percentage on Honour Papers.

In addition, any Student who may have passed the Second University Examination in Arts, and at such Examination shall have obtained in Biology, either Honours, or 50 per cent. of the Pass Marks, may be exempted from presenting Biology at the First Examination in Medicine; he must, however, lodge the necessary certificates.

Certificates of attendance upon a Course of Lectures on Natural Philosophy, taught experimentally, will be accepted,
although such attendance may have taken place prior to the Candidate's first year of Medical Studies, provided such course fulfilled the conditions prescribed for the first year of Medical Studies in this subject.

## Second Year.

The studies assigned to the Second Year must not be entered upon until the completion of the course assigned to the First Year, that is, until the completion of such a course of study as would qualify a Candidate for admission to the First Examination in Medicine.

The Second Year Course of Medical Studies consists of :-
(a) Anatomy, a Six Months' Systematic Course (if not attended during the First Year).
(b) Practical Anatomy [Dissections], a Six Months' Course (if not attended during the First Year).
Students who in the First Year have attended the courses of Anatomy prescribed for the Second Year, may in the Second Year attend the course of Anatomy prescribed for the Third Year.
(c) Practical Chemistry, a Three Months' Course (if not attended during First Year).
(d) Physiology, a Six Months' Systematic Course.

The Systematic Course in Physiology should enable the Student to acquire a good knowledge of Physiological Chemistry, and of the following:-Development of tissues; the Physiology of muscle, nerve-fibres, and nerve-cells (but not of the brain and spinal cord) ; also, the Physiology of blood, lymph, and lymphoid organs, digestion, circulation, respiration, animal heat, secretion and excretion (including the functions of the skin and kidneys). The advanced portions of the subject, e.g., Embryology, the Histology and Physiology of the central nervous system and of the organs of special sense, of voice, and of reproduction, are comprised in the Advanced Systematic Course of Physiology preseribed for the Third Year.
(e) Materia Medica, Pharmacology and Therapeutics, a Three Months' Course (optional). This subject may be studied in either the Second or Third Year of Medical Studies; but it will be included in the subjects of the Third Examination in Medicine.
(f) Practical Physiology and Histology (optional), a Three Months' Laboratory Course of at least two hours three times a week. One third, at least, of the time shall be devoted to Practical Physiology, and this shall be stated explicitly in the certificate or certificates of attendance. This Course may be taken either in the Second or in the Third Year.
(g) Hospital Attendance for the Second Year. Attendance during a Winter Session of Six Months. (The total Hospital attendance will be as heretofore, i.e. Attendance during thirtythree months.)

## Third Year.

No certificate of attendance at instruction in any of the branches of study assigned to the Third Year will be accepted where such attendance appears to have taken place prior to the completion of the Second Year of Medical Studies, except as herein provided.

## The Third Year Course of Medical Studies consists of :-

(a) Anatomy, a Six Months' Advanced Systematic Course (if not attended during the Second Year).
(b) Practical Anatomy [Dissections], a Six Months' Course (if not attended during the Second Year).

The Course of Advanced Systematic Anatomy should be such as to enable Students to perfect their knowledge of the branches of Anatomy prescribed for the Second Examination in Medicine, and also of the whole nervous system and the organs of sense.
(e) Physiology, a Six Months' Advanced Systematic Course.

The Course oi Physiology must be distinct from the Course in the Second Year of Medical Studies. It shall deal expressly with those parts of the subject which are not prescribed for the Second Year's Course, and shall comprise Embryology, the Histology and Physiology of the centrul nervous system, and of the organs of special sense, of voice, and of reproduction.
(d) Practical Physiology and Histology (if not attended during the Second Year).
(c) Any one or two of the following:-

1. Medicine, a Six Months' Course.
2. Surgery, a Six Months' Course.
3. Midwifery, and Diseases of Women and Children.

This may be attended either as one complete course of at least six months, embracing both branches of the subject, or as two courses of three months eaoh, one in Midwifery, the other in Diseases of Women and Children. These two courses must not be simultaneous.
(f) Materia Medica, Pharmacology, and Therapeutics, a Three Months' Course (if not attended during Second Year).
(g) Practical Pharmacy, * a Three Months' Course, with Lectures on at least two days in the week, given in a recognised School in a properly equipped Laboratory by a duly appointed Lecturer on Pharmacy.
(This Course may be attended before, at the same time as, or after that on Materia Medica, but must be attended in the Third Year.)
(h) Hospital Attendance.

Attendance during a Winter Session of Six Months, and a Summer Session of Three Months at a General Hospital recognised by the University, and at the Clinical Lectures delivered therein.

Any of these attendancesmay take place at any
time during the Third, Fourth, or Fifth Year.
(i) Fever Hospital.

Atendance during a period of Three consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital. If the attendance takes place during a regular Winter or Summer Session, it may be reckoned as a portion of the prescribed total Hospital attendance of thirty-three months.
But neither attendance at a Fever Hospital, nor the " Personal Charge" of Fever cases, can be recognised, where it takes place prior to attendance at the course of Lectures on the Theory and Practice of Medicine.
(ji) Attendance on at least six post-mortem examinations.
(k) Attendance for at least three consecutive months in a General Hospital as Clinical Clerk, and three consecutive months as Dresser ; such attendances not to be simultaneous.

## Fourth Year.

No certificate of attendance at instruction in any of the branches of study assigned to the Fourth Year will be accepted, where such attendance appears to have taken place prior to the completion of the Third Year of Medical Studies, except as herein provided.

The Fourth Year Course comprises the following subjects at least:-
(a) Such of the following as may not have been attended during the

Third Year of Medical Studies:-

1. Medicine, a Six Months' Course.
2. Surgery, a Six Months' Course.
3. Midwifery, and Diseases of Women and Children, a Six Months' Course.

[^49](b) Operative Surgery.

The course of instruction must be given in a recognised Medical School by a duly appointed Lecturer in Surgery. The Certificate of attendance must show that the Candidate has attended at least three-fourths of the whole period of the Course, such attendances not to be under any circumstances less than on twenty-four distinct days; and that the Candidate himself has, during such Course, performed at least four major operations on the dead subject under the direction of the Lecturer.

Printed forms for this Certifioate may be had on application.
(c) Medical Jurisprudence, a Three Months' Course.
(d) Pathology, a Three Months' Systematic Course of at least two lectures per week in a recognised Medical School.
Practical Pathology, a Three Months' Laboratory Course of at least three days per week in a recognised Medical School.
These Courses may be taken simultaneously.
(e) Ophthalmology and Otology, a Three Months' Systematic Course in a recognised Medical School. This couse may be attended either before or the same time as, but not after, the Hospital attendance in these subjects.
(f) Hospital attendance.

Attendance during a Winter Session of Six Months and a Summer Session of Three Months at a General Hospital recognised by the University, and at the Clinical Lectures delivered therein.
(g) Fever Hospital.

Attendance during a period of Three consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital, if not attended during Third Year.
( $h$ ) Attendance on at least six post-mortem examinations, if not attended during Third Year.
(i) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendance not to be simultaneous (if not attended during Third Year).

## Fourth and Fifth Years.

Attendance on the remaining parts of the Medical Curriculum may take place during either the Fourth or the Fifth Year. These parts are-
(a) Sanitary Science. A Three Months' Systematic Course in a recognised school. This course shall include practical demonstrations on Hygienic Apparatus and Models, and visits to Institutions and Buildings where Sanitary Appliances may be inspected.
(b) Mental Diseases.

A Three Months' Course in a recognised Institution where Clinical Instruction on Mental Diseases is given.
(c) Practical Midwifery.

Attendance for a period of six months at a recognised Midwifery Hospital, containing not less than fifteen beds in regular occupation where Clinical Instruction in Midwifery and Diseases of Women and Children is given, or for six months at a Midwifery Dispensary recognised by the Senate, where similar Clinical Instruction is given. During this period the Candidate is required to attend at least twenty Labours, of ten of which at least he must have had personal charge.
(d) Ophthalmology and Otology. Attendance for a period of three months at a recognised Hospital, having at least ten beds devoted to diseases of the Eye and Ear.
(e) Fever Hospital.

Attendance during a period of three consecutive months at a Fever Hospital of repute, or in the Fever Wards of a General Hospital if not already attended.
(f) Attendance on at least six complete post-mortem examinations, if not already attended.
(g) Attendance for at least three months in a General Hospital as Clinical Clerk, and three months as Dresser; such attendance not to be simultaneous, if not already attended.
(h) Personal charge of at least ten Fever cases.

Printed Forms of Certificate of "personal charge" of cases may be had on application.
N.B.-The expression personal charge implies that the student fulfils towards the case the duties commonly assigned to a Clinical Clerk.
Attendance in a Fever Hospital, or on Fever Cases, must not take place during the period of attendance on Practical Midwifery and Gynæcology.
Vaccination.
A course of practical instruction under a Public Vaccinator, including attendance on at least ten distinct days at a Dispensary when vaccination is being performed.
Printed Forms for this Certificate may be had on application.

## Fifth Year.

Hospital Attendance. Attendance during a Winter Session of Six Months at a recognised General Hospital, and at the Clinical Lectures delivered therein.

## Examinationg in Medicine.

Scheddle of Maris.*
First Examination.
Natural Philosophy, . . . . . . 100
Chemistry (Systematic), . . . . . 100
Botany, . . . . . . . . 75
Zoology, . . . . . . . . 75
Second Examination.
Anatomy (Theoretical, Practical), . . . . 150
Physiology (Theoretical, Practical), . . . 150
Chemistry (Practical), . . . . . . 100
Third Examination.
Anatomy, . . . . . . . . 100
Physiology, . . . . . . . . 100
Materia Medica, Pharmacology, and Therapeutics, . 80
The M.B., B.Ch., B.A.O. Degrees Examination.
This Examination consists of three parts :-
(a) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.
(b) Surgery, Theoretical, Clinical, and Operative, including the use of Instruments and appliances ; Surgical Anatomy ; Ophthalmology and Otology, $\dagger$ Surgical Pathology.
(c) Midwifery and Diseases of Women and Children.

## Schedtle of Marks.

Medicine, . . . . . . . . 100
Surgery, . . . . . . . . 100
Midwifery, and Gynæcology, . . . . 100
Medical Jurisprudence, . . . . . . 50
Pathology, . . . . . . . . 50
Sanitary Science, . . . . . . . 50
Ophthalmology and Otology, . . . . 25

[^50]M.D. Degree.

Three Academical Years after Primary Degrees.
Subjects:
Medicine and Pathology.
M. Ch. Degree.

Three Academical Years after Primary Degrees.
Subjects:
Surgery (Theoretical and Practical), including Opthalmology and Otology; Surgical Pathology, Surgical Anatomy and Operative Surgery, with the use of surgical instruments and appliances.

> M.A.O. Degree.

Three Academical Years after Primary Degrees.
Subjects:
Midwifery, Diseases of Women and Children, Pathology, Use of instruments and appliances.
Diploma in Sanitary Science (conferred only on Graduates in Medicine of the University one year after obtaining the M.B., B.Cн., B.A.O. Degrees.)

Subjects:
Physics.
Climatology.
Chemistry. Microscopy. Bacteriology.

$|$| Geology. |
| :--- |
| Sanitary |
| Hygiene, Sangineering. |
| and Vital Statistics. |

Diploma in Mental Diseases (conferred only on Graduates in Medicine of the University). The subjects are those prescribed for the Hutchinson Stewart Scholarship, for proficiency in the treatment of Mental Diseases.

School of Engineering.
B.E. Degree.

All Candidates for the Degree must pass the following Examinations:-

The Matriculation Examination. The First University Examination. The First Professional Examination.
The Second Professional Examination.
The Degree Examination.

First Professional Examination.
One Academical Year after Matriculation.
No Candidate can be adjudged to have passed this Examination with a view to proceeding to a Degree in Engineering unless he shall have previously passed the First University Examination, or unless he shall pass it in the same calendar year in which he passes this Examination.

## Subjects, and Schedule of Marks:*

1. Mathematics, . . . . . 200.
2. Experimental Physics, . . . 100.
3. Systematic Chemistry, . . . 100.
4. Drawing and Descriptive Architecture, 200.

Second Professional Examination.
One Academical Year after First Professional Examination.

## Subjects, and Schedule of Marks: *

1. Mathematics, .. . . . . 200.
2. Mathematical Physics, . . . 100.
3. Practical Chemistry, . . . . 100.
4. Practical Engineering, . . . 200.
B.E. Degree.

One Academical Year after Second Professional Examination.

> Subjects, and Schedule of Marks:*

1. Mathematical Physics, . . 200.
2. Geology, including Physical Geography, 100.
3. Civil Engineering, . . . . 500.
4. Drawing, . . . . . . 100.

For this Examination, in addition to Mathematical Physics and Geology (including Physical Geography), there shall be a group of compulsory subjects, and also a group of optional subjects, as follows :-

COMPULSORY GROUP.

1. Strength of Materials, Stresses and Strains.
2. Surveying, Levelling, and Mensuration.
3. Drawing.
4. An Elementary knowledge of the Structure of Railways and Roads.
[^51]
## OPTIONAT GROUP.

Any two of the following:-

1. Railway Engineering, including Stations and Appliances and a general knowledge of the structure and working of the Locomotive.
2. Harbours, Docks, Rivers, and Canals.
3. Waterworks, including a general knowledge of pumping machinery.
4. County and Municipal work, including Building Construction; Sanitary Engineering, Sewerage and Refuse Disposal.
5. Electrical Engineering, including Tramways, and the distribution of light and power.

Each of these branches of Engineering shall include the subject of Bridges, Foundations, and Tunnels, so far as these necessarily enter into the construction of the works belonging to that branch.

Diploma in Engineering.
A Diploma in Engineering will be granted to any Candidate who, without having passed the Matriculation and First University Examination, passes the Two Professional and the Degree Examinations.

## M.E. Degree.

One Academical Year after B.E.
Candidates must furnish evidence of having spent one year at least under an Engineer in practice after having obtained the Degree of B.E.

## Subjects:

1. Applied Natural Philosophy.
2. Engineering.

## Diploma in Agriculture.

Candidates for this Diploma must pass the following exa-minations:-

1. The Matriculation or the Preliminary Examination.
2. The First Examination in Agriculture.
3. The Second Examination in Agriculture.
4. The Diploma Examination.
5. For the Matriculation Examination, see page 245.

For the Preliminary Examination the subjects are:-
I. English.
ir. Mathematics.
iri. Natural Philosophy.
2. For the First Examination in Agriculture the subjects are:-
I. Book-keeping.
II. Mathematics.
iir. Natural Philosophy.
Iv. Chemistry.
v. Botany and Zoology.
vi. Land Surveying.
3. For the second Examination in Agriculture the subjects are:-

1. Chemistry applied to Agriculture.
iI. Botany and Zoology.
iII. Physiology.
iv. Land Surveying.
2. For the Diploma Examination in Agriculture the subjects are:-
3. Geology.
II. Veterinary Hygiene.
III. Economic Science as applied to Agriculture.
iv. Agriculture, Horticulture, and Forestry.

## Degrees in Music.

## B.Mus. Degree.

All Candidates for the Degree must pass the following Examinations:-

The Matriculation Examination.
The First University Examination.
The First Examination in Music. The Degree Examination.
D.Mus. Degree.

Three Academical Years after B.Mus.
The detailed accounts of the subjects of Royal University Examinations (which may vary from year to year) are to be found in the University Calendar.

## Table of University Fees.



## Table of University Fees-continued.

| For the LL.B. Degree Examination, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Upon admission to Degree, |  |  |  |  |  |
| For the LL.D. Degree Examination, |  |  |  |  |  |
| Upon admission to Deg |  |  |  |  |  |
| For the Preliminary Examination in Agriculture, |  |  |  |  |  |
| ," First Examination in Agricultur |  |  |  |  |  |
| econd Examination in Agriculture |  |  |  |  |  |
| Upon admission to Diploma, |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| (Second Part),Upon admission to Diploma, |  |  |  |  |  |

Fee chargeable for late entry for any Examination,
N.B.-A Fee paid for any Examination cannot under any circumstances be returned, or made available for any Examination subsequent to or other than that for which it was paid.

The attention of Students is particularly directed to the notices specifying the last days for sending in notices of intention to be present at Examinations. (Within fourteen days after the date aforesaid, Candidates may enter on paying a late fee of ten shillings additional.)

These dates will be found in the Unirersity Calendar.

## Exhibitions, Medals, Scholarships, Studentships, and Fellowships in Arts.

1. The following Exhibitions may be awarded annually, in Arts, by the Senate :-
At Matriculation-Ten First Class of $£ 24$ each, and twenty Second Class of $£ 12$ each.
At First University Examination-Ten First Class of $£ 30$ each, and twenty Second Class of $£ 15$ each.
At Second University Examination-Eight First Class of $£ 36$ each, and sixteen Second Class of $£ 18$ each.
At B.A. Degree Examination-Seven First Class of £42 each, and fourteen Second Class of $£ 21$ each.
2. Dr. Henry Hutchinson Stewart Scholarship in Arts.

Value $£ 30$ annually, tenable for 3 years, awarded in connection with Summer Examinations, on combined Honour marks, at Second University Examination in Arts in the year, and First University Examination in the year immediately preceding, in English and in a Modern language.
3. Chancellor's Gold Medal for English Prose Composition. Subject for 1904-"Irish Novelists."
4. The Dr. and Mrs. W. A. Browne Gold Medal and Prise.

Limit of age- 24 years on 1st day of January of the year in which the Examination is held.
A Gold Medal (value $£ 10$ ) and a Prize of $£ 5$ shall be offered each year for competition amongst the candidates for the B.A. Degree Examination (Honours) in Modern Literature, for a colloquial knowledge of the French and German Languages. The Gold Medal will be awarded to the first candidate and the Prize to the second candidate in order of merit.
5. Medals.

The Senate may award Gold Medals to those who take first place in any of the Courses appointed for M.A. Degree.
6. English and Latin Verse Compositions.

Two Gold Medals are offered annually for competitionthe one for the best English Verse Composition, and the other for the best Latin Verse Composition. Each competitor must be either an Undergraduate or a Graduate of not more than one year's standing.
Subjects for 1904.
English-Joan of Arc.
Latin-The Quest of the North Pole.
In and after 1903 all Prose and Verse Compositions must be typewritten or printed, and will not be returnable.
7. Soholarships.

The Senate offer for competition in October, 1903, ten Scholarships, tenable for three consecutive years, viz. :-Five First Class at $£ 40$ per annum each, and five Second Class at $£ 20$ per annum each.
Of these Scholarships two First Class and two Second

Class are offered for proficiency in Ancient Classics, two First Class and two Second Class for proficiency in Mathematical Science, and one First Class and one Second Class for proficiency in Modern Literature.

They are open to Matriculated Students of the University from the time of their Matriculation up to and including the Scholarship Examination held next after they shall have passed the First University Examination, subject to the following conditions:-

1. That the Candidate shall be under twenty-one years of age on the first day of January of the year in which the Scholarship Examination is held.
2. That the Candidate shall have obtained Honours either at the Matriculation Examination or at the First University Examination in the subject of the Scholarship for which he is a Candidate, or in one of the subjects if there be more than one.
3. That the Candidate shall not be a Matriculated Student of any other University.
4. That in the case of the Scholarships in Modern Literature the Candidate shall be a natural-born subject of the Crown.
These Scholarships may be held together with the Exhibitions awarded at the various University Examinations, but no person shall hold more than one Scholarship, and if the answering of any Candidate be such as to qualify for two or more, the Senate shall determine in which subject the Candidate shall be elected a Scholar.

It shall be in the power of the Senate to substitute Second Class Scholarships in any cases in which in their opinion the answering was not sufficient to merit First Class Scholarships, and whenever the Senate shall consider it necessary to withhold one or more of the Scholarships offered in any subject, they may award such Scholarships as additional Scholarships in either of the other subjects, if in their opinion the answering in such subject is deserving thereof.

## 7. Studentships.

Five are offered annually for competition, value $£ 100$ per annum cach, tenable for three consecutive years. They are awarded in connection with M.A. Examinations.

Candidates must be under 26 years of age on the first day of January of the year in which the Studentship Examination is held.

## 8. Junior Fellowships.

In October, 1904, there will be offered for competition among the Graduates in Arts of the University of not less than two years standing, three Junior Fellowships. Such Fellowships shall be tenable for four consecutive years, and shall be of the annual value of £200 each. Junior Fellows shall be bound to take part in the conduct of University Examinations.
The subjects in which these Fellowships will be awarded will be:-

> I. Apcient Classics.
> II. Mathematical Science.
> III. Mental and Moral Science.

## Faculty of Law Exhibitions.

The Senate may award the following:-
One First Class Exhibition of $£ 20$, and one Second Class Exhibition of £10, at First Examination in Law.
One First Class Exhibition of £42, and one Second Class Exhibition of $£ 21$, at LL.B. Degree Examination.

## Engineering Exhibitions.

The following may be awarded annually by the Senate :One First Class Exhibition of $£ 30$, and one Second Class of $£ 15$, at First Professional Examination.

One First Class of $£ 36$, and one Second Class of $£ 18$, at Second Professional Examination.

At B.E. Degree Examination, one First Class of $£ 42$, and one Second Class of $£ 21$.

## Agricultural Exhibitions.

The following Exhibitions may be awarded annually by the Senate:-

At the First Examination in Agriculture, one First Class of $£ 30$, and one Second Class of $£ 15$.

At the Second Examination in Agriculture, one First Class of $£ 36$, and one Second Class of $£ 18$.

At the Diploma Examination, one First Class of £42, and one Second Class of $£ 21$.

## Faculty of Medicine.

The following Exhibitions may be awarded annually by the Senate:-

At First Examination in Medicine-Two First Class of $£ 20$ each; two Second Class of $£ 10$ each.

At Second Examination in Medicine-Two First Class of $£ 25$ each ; two Second Class of $£ 15$ each.

At Third Examination in Medicine-Two First Class of £30 each; two Second Class of $£ 20$ each.

At the M.B., B.Ch., B.A.O. Degrees Examination-Two First Class of $£ 40$ each ; two Second Class of $£ 25$ each.

## Travelling Medical Scholarship.

An Examination for this Scholarship, value $£ 100$, is held in October. The subjects are in rotation :Anatomy and Histology (1902). Physiology (1903).

Dr. Henry Hutchinson Stewart's Medical Scholarships.
One, value $£ 10$, tenable for three years in subjects of the Autumn Second Examination in Medicine.

One, value $£ 50$, tenable for three jears, for competition among Medical Graduates of not more than two years' standing, for proficiency in the knowledge of Mental Diseases.

## Medical Studentshitr.

A Studentship in Medicine, value $£ 200$, tenable for two years, will be offered for competition among Graduates in Medicine of the University in October, 1904.

Subjects of Examination :-

1. Physiology.
2. Physiological Chemistry.

## II.-UNIVERSITY OF LONDON.

Candidates for Degrees in the University of London are required to pass the General Matriculation Examination.

## Degrees in the Faculty of Arts.

Candidates for the Degree of B.A. are required to pass the Intermediate Examination in Arts.
No Candidate will be admitted to the Intermediate Examination within one Academical Year of the time of his passing the Matriculation Examination.

No Candidate will be admitted to the B.A. Examination within one Academical Year of the time of his passing the Intermediate Examination in Arts, nor within three years of his Matriculation.

Candidates for the Degree of M.A. are admitted to the Examination after the lapse of an Academic jear from the date of obtaining B.A., provided they have attained the age of twenty.

Candidates for the Degree of D. Lit. must have obtained the Degree of M.A. in the University, and will be admitted to the Examination for the Degree of D.Lit., at an interral of at least one Academical year from the date of the M.A. Examination.

Candidates for the Degree of Bachelor of Science must pass the Matriculation Examination, the Intermediate Examination in Science, and the B.Sc. Examination. One year must elapse between the Matriculation Examination and the Intermediate Examination in Science, one year between the B.Sc. Examination and the Intermediate Examination in Science, and three years between the B.Sc. Examination and the Matriculation Examination. Two Academical years must elapse from date of the B.Sc. Examination before the Candidate can be admitted to the Examination for the Degree of D.Sc.

## Degrees in the Faculty of Law.

No Candidate will be admitted to the Intermediate in Laws within nine months from the date of his Matriculation Examination, nor to the LL.B. Degree Examination within less than two years from the date of
his Intermediate Examinations in Laws, nor within three years of passing the Matriculation Examination, uniess he have already graduated in one of the Faculties of the University, in which case he may be admitted after the lapse of one year.

No Candidate under the age of thirty will be admitted to the Examination for the Degree of LL.D. until after the expiration of two Academical years from the date of his passing the LL.B. Examination.

## Medione.

## Bachelor of Medicine (M.B.).

Every Candidate for the Degree of Bachelor of Medicine shall be required:-

1. To have passed the Matriculation Examinatien in this University not less than five years previouly.
2. To have passed the Preliminary Scientific (M.B. Examination not less than four years previously.
3. To have been engaged in his Professional Studies during five years subsequent to Matriculation, and four years subsequent to passing the Preliminary Scicntific Examination, at one or more of the Medical Institutions or Schools recognized by this University; one year, at least, of the four to have been spent in one or more of the recognized Institutions or Schools of the United Kingdom.
4. To pass two Examinations in Medicine.
Preliminary Scientific (M.B.) Examination.

No Candidate shall be admitted to this Examination under ne has passed the Matriculation Examination.

## Intermediate Examination in Medicine.

No Candidate shall be admitted to this Examination unless he has passed the Preliminary Scientific Examination at least two years previously.

$$
D_{\text {egrees of M.B., B.S., M.S., and M.D. }}
$$

No Candidate shall be admitted to the Examination for M.B. within twenty-one months of the time of his passing the Intermediate Examinations.

## Royal Colleges—Physicians and Surgeons, fc. 269

A Candidate for the Degree of B.S. (Bachelor of Surgery) must have passed the Examination for the Degree of M.B., and produce certain required certificates. Candidates for the Degree of M.S. (Master in Surgery) must have taken the Degree of B.S. at least two years previously, and produce certain required certificates. Candidates for the Degree of M.D. must have taken the Degree of M.B. at least two years previously, and must produce certain required certificates.

Candidates for the Degree of M.D. in State Medicine must have taizen the Degree of M.B. at least two years previously, and must produce certain required Certificates.
For further information see the Calendar of the University of London, which may be consulted in the College Library.

## III.-ROYAL COLLEGES OF PHYSICLANS AND SURGEONS OF IRELAND, ENGLAND, AND scotland.

$\nabla$--Conjoint Examinations in Ireland by the Royal College of Physicians and Royal College of Surgeons.

1. Every Student must be registered in the books of the General Medical Council. No credit will be given for study, unless registration shall have been effected within fifteen days of its commencement.
Five years' Course (obligatory on all Candidates commencing their studies on or after 1st January, 1892).

> First Professional Examination.

Subjects.

1. Chemistry and Physics.
2. Biology.

Fee, $£ 15158$.

## Second Professional Examination.

Subjects.

1. Anatomy.
2. Physiology and Histology.

$$
\text { Fee, } £ 10108
$$

## Third Professional Examination.

## Subjects.

1. Pathology.
2. Materia Medica, Pharmacy, and Therapeutics.
3. Forensic Medicine and Public Health.

## Final Examination. <br> Subjects.

1. Medicine, including Fevers, Mental Diseases, and Diseases of Children.
2. Surgery, including Operative and Ophthalmic Surgery.
3. Midwifery and Gynæcology, Vaccination, and Diseases of Newborn Children.

$$
\text { Fee, } £ 6 \text { 6s. }
$$

Full information may be had on application to the Secretary of Committee of Management, Royal College of Physicians, Kildare-street, Dublin.
B.-Regulations of the Examining Board in England (Royal College of Physicians of London and Royal College of Surgeons of England), for Candidates who commenced their Professional Studies on or after 1st January, 1892.

## Professional Examinations. <br> First Examination.

1. Chemistry and Physics. 2. Practical Pharmacy. 3. Elementary Biology.

This Examination may be taken in three parts at different times, or the whole may be taken at one time. Fee, £10 10 s .

## Second Examination.

1. Anatomy. 2. Physiology. Fee, $£ 1010 \mathrm{~s}$.

## Third or Final Examination.

Part I.—Medicine, including Medical Anatomy, Pathology, Practical Pharmacy (if not previously passed), Therapeutics, Forensic Medicine, and Public Health.
Part II.-Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances.
Part III.-Midwifery and Diseases of Women. Fee (for whole Examination), £21.
Synopses indicating the range of subjects in the several examinations, and full information as to the course of study required, and certificates prescribed, may be obtained of the Secretary, Examination Hall, Victoria Embankment, London, W.C.

## Regulations by General Medical Council. 271

C.-Conjoint Examinations in Scotland of the Royal College of Surgeons and Royal College of Physicians, Edinburgh, and Faculty of Physicians and Surgeons, Glasgovo (Triple Qualification), for Candidates who began study on or after 1st January, 1892.

First Examination.
Elementary Biology, Physics, Chemistry. Fee, 65.
Second Examination.
Anatomy and Physiology, including Histology. Fee, 55.
Third Examination.
Pathology, Materia Medica, and Pharmacy. Fee, $\mathbf{6 5 .}$
Final Examination.

1. Medicine, including Therapeutics, Medical Anatomy, and Clinical

Medicine ;
2. Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eye;
3. Midwifery, and Diseases of Women and of New-born Children;
4. Medical Jurisprudence and Public Health. Fee, $£ 15$.

Secretaries for Edinburgh are :-
R. W. Philip, m.d., f.r.c.p.e., R.c.p. bDIN.

Francis Cadell, m.b., f.e.c.s.e., R.c.s. bDIN.
Secretary for Glaggow is:-
Alexander Duncan, B.A., il.D., f.F. \& B. glas.

## IV.--REGULATIONS PRESCRIBED BY GENERAL MEDICAL COUNCIL RESPEOTING MEDICAL COURSES IN AND AFTER 1892.

With regard to the Course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on all who commence their Medical Studies at any time after January 1, 1892 :-
(a) With the exception provided below, the period of Professional Studies between the date of Registration as a Medical

Student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the Medical Acts, must be a period of bond fide study during not less than five jears.

The first four of the five years of Medical Study should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies, where the subjects of Physics, Chemistry, and Biology are taught.

The Examination in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The exception referred to above in (a) is as follows:-
Graduates in Arts or Science of any University recognised by the Medical Council, who shall have spent a year in the Study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, should be held to have completed the first of the five years of Medical Study.

## V.-THE BAR.

Extract from Educational Regulations of the Honourable Society of King's Inns :-
XX. Graduates of the Queen's University in Ireland, Royal University of Ireland, Oxford, Cambridge, and London Universities, may qualify for call to the Bar by attending two continuous Courses of the Lectures of the two Professors at the King's Inns, and in the case of all such Graduates, except Graduates of the Royal University of Ireland, or of the London University, by attending for a year the Lectures of two of the Professors of Law in their respective Universities, and passing the Examinations (if any) held by the Professors at the end of each Course ; and in the case of Graduates of the Royal University of Ireland, by attending for one year the Lectures of two of the Professors of Law in one of the Queen's Colleges at Belfast, Cork, or Galway, and passing the like Examinations, if such be held, and in the case of Graduates of the University of London, by attending for one year the Lectures of two of the Professors of Law in University College, and passing the like Examinations if such be held.

## TI.-APPOINTMENT OF COUNTY SURTEYORS.

A candidate for the position of County Surveyor, if not existing County Surveyor,
(a.) must on the last day fixed by the County Council for receiving applications be not less than twentysix years of age and not more than forty years:
(b.) must show that he has been regularly trained as a Civil Engineer and engaged in the practice of his profession in a responsible position in charge of important works for not less than four years: and
(c.) must present himself to the Civil Service Commissioners for literary examination under the Scheme set forth in the Schedule annexed.

It will be necessary for all candidates, if not existing County Surveyors in Ireland, to satisfy the Local Government Board as to age, health, character, and the possession of the necessary practical and professional qualifications, and to satisfy the Civil Service Commissioners as to competency.

Candidates who are existing County Surveyors in Ireland, and have already been certified by the Civil Service Commissioners, will be obliged to satisfy the Commissioners that they have retained their professional knowledge and skill, and the Local Government Board as to age, health, and character.

All Candidates must submit their applications to the County Council within the time fixed by the Council in their advertisement of the vacancy.

A list of applicants will then be forwarded to the Local Government Board, and the Board, after the necessary inquiries have been made, will notify the names to the Civil Service Commissioners.

The result of the examination will be notified by the Board to the County Council, by whom the final selection will be made.

Local Government Board, Dublin, August, 1899.

## Schedule.

Examinations for County Sorveyorships in Ireland.
The Examination consists of two parts, and will be in the following subjects, viz.:-

## Part I.

Mathematics-including Geometry, Trigonometry, Algebra, Differential and Integral Calculus, and Geometrical Optics.
Mechanical Philosophy-Including Statics and Dynamics, Hydrostatics and Hydraulics, Pneumatics, and Heat regarded as a source of Power.

Experimentai Science - Including Inorganic Chemistry, Heat, Electricity, and Magnetism.

Gbology and Minkralogy.

## Part II.

Strength and other properties of Materials, and the Calculation of Stresses and Strains.
(A.) Ratlway and Canal Engineering.
(B.) Marine Engineering-Including Harbour, Dock, Sea, and Reclamation Works.
(C.) Hydraulic Enaineering--Including Water Supply, Sewerage, and Irrigation.
(D.) County Works-Including Architecture, Roads, Drainage, and River Works.

Each of the groups lettered (A), (B), (C), (D) to include Designs, Estimates, Specifications, and the mechanical contrivances connected with it.

Candidates must pass in one subject in Part I., and must attain such a standard of proficiency in Parts I. and II. combined as shall satisfy the Civil Service Commissioners.

Crifil Service Commission, June, 1899.

## Appointment of Assistant Surveyors for Counties in Ireland.

1. Every person who is appointed an Assistant Surveyor in any County in Ireland must produce satisfactory evidence to the Local Government Board for Ireland that his health and character are good, and, except in the case of an existing Assistant Surveyor within the meaning of section 109 (1) of the Local Government (Ireland) Act, 1898, that at the date of the resolution of the County Council appointing him his age was not less than 21 years, or more than 45 years.
2. Every person appointed as aforesaid who
(a) has a diploma or degree in Engineering from a University or College of Science in the United Kingdom, or a certificate from His Majesty's Civil Service Commissioners, that he is qualified to act as a deputy for a County Surveyor; or
(b) is an Associate Member of the Institution of Civil Engineers, London, or an Associate Member of the Institution of Civil Engineers, Ireland, or has a certiticate of having passed the Voluntary Examination for candidates for Surveyorships held by the Incorporated Association of Municipal and County Engineers; or
(c) was on the first day of April, 1899, an Assistant Surveyor in a county in Ireland, or if appointed in any such county between the first day of April, 1899, and the date of this Order, satisfies the Local Government Board for Ireland that he is fully qualified to discharge the duties of his office,
shall be deemed qualified for the position of Assistant County Surveyor without further examination.
3. Every person appointed as aforesaid who is not qualified under the provisions of the foregoing Article of this Order must produce to the Local Government Board for Ireland satisfactory evidence that he has profited by training in one of the two following ways, that is to say, either
(1) By service with a County Surveyor, Civil Engineer, or Architect for not less than two years; or
(2) By attendance at an Engineering School of some University or College of Science in the United Kingdom for not less than one year, and by having been engaged in practical work in connection with Civil Engineering or Building for one year at the least.
4. Every person appointed as aforesaid who is not qualified under the provisions of Article 2 of this Order must, in addition to possessing one of the qualifications specified in Article 3, also pass a qualifying examination to the satisfaction of the Local Government Board for Ireland in the following subjects :-
(1) English Composition as tested by writing a business letter from rough notes, or a short essay on some subject connected with his profession.
(2) Arithmetic.
(3) Mensuration.
(4) Building construction.
(5) Construction and maintenance of roads.
(6) Chain surveying and levelling.
VII.-REGULATIONS FOR THE ENTRY OF CANDIDATES FOR COMMISSIONS IN THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

Limits of Age, 21-28 at date of Examination.
Candidates must be registered under the Medical Act in force, as qualified to practise Medicine and Surgery in Great Britain and Ireland.

Candidates will be examined by the Examining Board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows :-

$$
\begin{aligned}
& \begin{array}{c}
\text { (a) Medicine, Materia Medica, Therapeutics, and } \\
\text { General Hygiene, . }
\end{array} \\
& \text { (b) Surgery and Surgical Anstomy, . . . } 1200
\end{aligned}
$$

The Examination in Medicine and Surgery will be in part practical, and will include, beyond papers, the examination
of patients, the examination of Pathological specimens, a knowledge of Bacteriology, the performance of operations on the dead body, and the application of Surgical apparatus.

The attention of Candidates is specially drawn to the importance of the section of Operative Surgery, as a competent knowledge in this subject is essential in order to qualify for a Commission.

No Candidate shall be considered eligible who shall not have obtained, at least, one-third of the maximum marks in each of the above compulsory subjects.
Candidates may be examined in the following voluntary subjects, for which the maximum number of marks obtainable will be :-

Natural Sciences-
$\begin{array}{cc}\text { Chemistry (300); Physiology (300); Zoology } \\ \text { (300); Botany (300); Garks. } \\ \text { Geography (300), } & \\ \end{array}$
No candidate will be allowed to present himself for examination in more than two of these subjects.

French and German (300) each, 600
A number less than one-third of the marks attainable in each of these voluntary subjects will not be allowed to count in favour of the Candidate who has qualified in the compul. sory subjects.

The knowledge of Modern Languages being considered of great importance, all intending competitors are urged to qualify in French and German.
Further information may be had from:-

> Director-Generai,
> Medical Department, Admiralty, Northumberland Avenue, London, W.C.

## REGULATIONS FOR ADMISSION TO THE ROYAL ARMY MEDICAL CORPS.

Limits of Age, 21-28 at date of Examination.
Candidates must possess, under the Medical Acts in force in the United Kingdom at the time of their appointments, a registrable qualification to practise.

Subjects for the Entrance Examination.
Candidates will be examined by the examining board in medicine and surgery. The examination will be of a clinical and practical character, partly written and partly oral, marks being allotted under the following scheme :-
Medicine (written).Maximum
A. Examination and Report upon a medical case in the wards of a hospital, ..... 125
B. Commentary upon a case in medicine, ..... 125[Three hours allowed for A and B together.]
Medicine (oral).
A. Clinical cases ; Clinical Pathology, ..... 75
B. Morbid Anatomy and Morbid Histology, ..... 75[One quarter of an hour allowed for each table.]Surgery (writter).
A. Examination and report upon a surgical case in the wards of a hospitul, ..... 125
B. Commentary upon a case in surgery, . ..... 125
[Three hours allowed for A and B together.]
Surgery (oral).
A. Clinical cases, including diseases of the eye; surgical instruments and appliances, . ..... 75
[One quarter of an hour allowed for this table.]
B. Operative surgery and surgical anatomy, ..... 75
Total marks, ..... 800

The following headings are published as a guide to Candidates in drawing up their reports on cases:-
(a) A brief history of the case as given by the patient, including such points only (if any) in the family or personal history as have a distinct bearing upon the present illness or incapacity.
(b) A detailed account of the subjective symptoms and physical signs elicited by the candidate's personal examination of the patient, noting the absence of any which might be expected to be present in a similar case.
(c) Where there is any reasonable doubt in the mind of the candidate as to an exact diagnosis, he is to give the alternatives, with his reasons for making the selection.
(d) A commentary upon the case as a whole, pointing out the symptoms which may be considered typical, and those which appear to be unusual or only accidental complications.
(c) Suggestions as to treatment, both immediate and possibly necessary at a later date.
( $f$ ) A forecast of the progress and probable termination of the case.

Similarly the commentary on the report of a case submitted to the Candidate should discuss:-
(a) The family and personal history and other conditions preceding the development of the condition described.
(b) The relative significance of the physical signs, symptoms, other indications of disease noted, and the general clinical aspects of the case.
(c) The diagnosis, with reasons for selection of the most probable, when a positive diagnosis cannot be attained.
(d) The treatment, dietectic, medicinal, operative, \&c., including a criticism of the plan adopted, and alternative schemes of treatment in case of disagreement.
(e) The morbid appearances, and an account of the postmortem examination (if any).

The examination will be held in London, and will occupy about four days.

The appointments announced for competition will be filled up from the list of qualified Candidates arranged in the order of merit, as determined by the total number of marks each has obtained.

Having gained a place in this entrance examination, the successful candidates will undergo 2 months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. The maximum number of marks obtainable at this examination will be 100 .

On completion of the above course lieutenants on probation will be ordered to proceed to the Depôt of the Royal Army Medical Corps at Aldershot for a 3 months' course of instruction in the technical duties of the Corps, and at the end of the course will be examined in the subjects taught. 'The maximum number of marks obtainable at this examination will be 100 .

A lieutenant on probation who fails to qualify in either of these examinations will be allowed a second trial, and, should he qualify, will be placed at the bottom of the list. Should he again fail in either examination, his commission will not be confirmed.

Further infurmation may be had from-
Adjutant-General to the Forces,
Horse Guards, War Office,
Pall Mall,
London, S.W.
May, 1902.

## Medical Commissions.

## regulations for the examination of canDIDATES FOR ADMISSION TO HIS MAJESTY'S INDIAN MEDICAL SERVICE.

## Limits of Age, 21-28, at date of Examination.

Candidates must possess a diploma, or diplomas, entitling them, under the Medical Acts, to practise both Medicine and Surgery in Great Britain and Ireland.

The following Certificates must be produced:-
(a) A Certificate of Registration, under the Medical Acts, of the degrees, diplomas, and licenses possessed by the candidate.
(b) A Certificate of having attended a course of instruction for not less than three months at an Ophthalmic Hospital, or the Ophthalmic Department of a General Hospital, which course shall include instruction in the errors of refraction.

## Sobiects of Examination.

Candidates will be examined by the Examining Board in the following subjects, and the highest number of marks obtainable will be distributed as follows:-

N.B.-The Examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of Surgical apparatus, and the examination of Medical and Surgical patients at the bedside. The examination in Chemistry will be limited to the elements of the science, and to its application to Medicine, Pharmacy, and Practical Hygiene.

No candidate shall be considered eligible who shall not have obtained at least one-third of the marks obtainable in each of the above subjects, and one-half of the aggregate marks for all the subjects.

Further information may be obtained from-
The Miuttary Secretary,
India Office,
London, S.W.
October, 1902.

## VIII.-HOME CIVIL SERVICE.

Clerishits (Class I.).—Regulatrons.

1. Candidates must have attained the age of 22, and must not have attained the age of 24 , on the first day of the Competitive Examination.

## Extract fiom the Regulations bespecting Open Competitive Examinations for Clerkships (Class I.) in the Civil Sertice.

Out of the list resulting from each Examination will be filled (provided there be Candidates duly qualified) :-
(a) All the vacancies in Class I. which may have been reported to the Civil Service Commissioners up to the date of the announcement of the result of the Examination.
(b) Any additional vacancies occurring within six months from the date of the announcement of the result of the Examination, which the Head of the Department may desire to have so filled.

Candidates will be allowed to choose, according to their place on the list, among the vacancies (a) for which they are duly qualified; or they may elect to wait for the chance of a vacancy (b). When vacancies (b) occur, they will be offered in rotation to the qualified Candidates then on the list, who will be free to decline them without forfeiting their claim to subsequent vacancies (b).

The subjects of Examination for the Home Civil Service are substantially the same as those prescribed for the Indian Civil Service.

Further information with regard to appointments in the Post Office, War Office, and Admiralty, may be obtained on application to the Secretary, Civil Service Commission, London, S.W.

Spectal Regulations respecting Open Competitive Examinations for the situation of Assistant Examiner in the Patent Office.

1. The limits of age for this situation are 21 and 24 , and candidates must be of the prescribed age on the first day of the Examination.
2. At the Examination, exercises will be set in the following subjects only :-
3. English Composition.
4. Arithmetic (including Vulgar and Decimal Fractions).
5. Précis.
6. Geometry (Elementary and Practical).
7. Mechanical Drawing.
8. Mechanies and Mechanism.
9. Chemistry.
10. Electricity and Magnetism.
11. Hydrostatics, Hydraulics, and Pneumatics.

Candidates must pass to the satisfaction of the Civil Service Commissioners in one of the subjects numbered 6,7 , and 8 , according to the nature of the situation vacant, i.e., according as the duties to be performed render a knowledge of Mechanics and Mechanism, of Chemistry, or of Electricity and Magnetism, absolutely necessary. The remaining subjects are optional.

Civil Service Commission, S.W., 28th June, 1898.

Special Regulations respecting Open Competitive Examinations for Jonior Appointments in the Supply and Accounting Departments of the Admiralty.

The limits of age for these situations are 18 and 20 , and candidates must be of the prescribed age on the first day of the Examination.

The Examination will be in the following subjects:-

## Class I.

1. Mathematics I. (Elementary, including Arithmetic).
2. Latin.
3. French or German.
4. English Composition.

5 Geography.

Class II.

6. Mathematics II. (Advanced).
7. German or French.
8. Greek.
9. English History.
10. Chemistry and Heat.
11. Physics.
12. Physiography and Geology.

All the subjects of Class I. may be taken up. Only two of the subjects of Class II. may be taken up; and if one of these be a Modern Language, it must be different from the Modern Language selected in Class I. No Candidate will be eligible who fails to pass a qualifying examination in Arithmetic and English Composition.

Civil Sebtice Commission, 4th October, 1898.

Special Regllations* respecting Open Compeititife Examenations for the Situation of Assistany Cifil Exginfer (2nd Grade) in the Department of the Director of Engineering and Architectural Woris in the domiracti, at the Head Office and the 0utposts.
(Supplementary to the General Regulations respecting Open Competitive Examinations for Situations in the Civil Service included in Schedule A of the Order in Council of 4th June, 1870.)
I. The limits of age for this situation are 23 and 28. Candidates must be of the prescribed age on the first day of the Examination.
II. Candidates will be required to show what technical education and practical training they have undergone to qualify themselves for a situation of this nature. They must show to the satisfaction of the Civil Service Commissioners (1) that they have serred, for at least three years, in a public or private office, under a Civil Engineer or Architect in good general practice, or a Superintending Engineer of one of His Majesty's Dockyards, or a Commanding Royal Engineer ; or (2) that they have in some other capacity acquired a three

[^52]years' practical experience on important works; and (3) that they have fully profited by their practical training, and possess the necessary qualifications and experience. Evidence on these points must be sent in at such times and in such manner as the Civil Service Commissioners may appoint. If it prove prima facie satisfactory, the Candidate will be admitted to Examination, subject to such further inquiry as may be necessary.
III. The Examination consists of two parts, and will be in the following subjects, viz.:-

| Part I. | Maximum Marks. |
| :---: | :---: |
| Mathematics, including Geometry, Trigonometry, and Algebra, | 200 |
| Mechanical Philosophy, including Statics and Dynamics, Hydrostatics and Hydraulics, Pneumatics, and |  |
| Heat regarded as a Source of Power, $\quad . \quad . \quad .{ }^{\text {a }}$ | 200 |
| Experimental Science, including Inorganic Chemistry, |  |

## Part II.



There will be an Oral Examination in subjects marked thus $\dagger$. The Oral Examination in Drawing will be chielly on the work sent in by the Candidate in the Written Examination.

No Candidate will be eligible who does not pass in one at least of the heads included in Part I., and in each of the subjects in Part II.
IV. A fee of $£ 6$ will be required from each Candidate attending Examination.
V. Applications for permission to attend an Examination must be made at such times and in such manner as the Commissioners may appoint.

> Civil Service Commission, 24th May, 1898.

A Memorandun as to the Salary and Prospects, \&e., of the situation is printed below.
Each successful Candidate will accept his appointment subject to the express condition that the Staff of the Department is liable to re-organization from time to time, as the interests of the public service may require, and that no claim to compensation on his behalf can be admitted if such reorganization shall in effect reduce the number, or alter the conditions of superior appointments in the department. Promotion to higher grades depends on merit, and on the occurrence of vacancies, but no right of promotion to higher classes or grades is recognized.

## Memorandom.

The Civil Service Commissioners are authorized by the Lords Commissioners of the Admiralty to make the following announcements :-

1. Assistant Civil Engineers (2nd Grade) will enter the Admiralty Service on the express understanding that they are liable to serve as required at any of His Majesty's Naval Establishments at home or abroad. No Candidate will be accepted by the Admiralty who fails to satisfy the Medical Director-General of the Navy as to his physical fitness for service abroad.
2. An Assistant Civil Engineer (2nd Grade) on first entry will be on probation for two years. During probation a salary of $£ 180$ per annum will be paid, then if the period of probation is satisfactorily passed, the salary will be $£ 200$ for the third year, and will progress by annual increments of $£ 10$ to a maximum of $\begin{gathered}\text { James Handinan Library, NUI Galway }\end{gathered}$
3. Assistant Civil Engineers (2nd Grade) are eligible for promotion without further examination (if selected) through the successive grades of-

Assistant Civil Engineer (1st Grade)-(minimum £ 300 , annual increment $£ 15$, maximum $£ 400$ ).

Civil Engineer-(minimum £400, annual increment £20, maximum $£ 500$ ).

Superintending Civil Engineer-(minimum £600, annual increment $£ 25$, maximum $£ 700$ ):
to that of Assistant Director of Works-(minimum £850, annual increment $£ 50$, maximum $£ 1000$, with an allowance of $£ 200$ per annum to the Senior Assistant).
4. Whilst serving in London or at a Foreign Station, salaries (except that of Assistant Director of Works) are further augmented by local allowances to meet increased expense of living, and Unfurnished Official Residences (or allowances in lieu) are granted in the higher ranks both at Home and Foreign Stations.
5. The Engineer Staff of the Admiralty will be interchangeable with the staff at the Ports, the same prospect of promotion to the higher posts being open to all. It should be clearly understood, however, that promotion will in all cases be governed by merit and not by seniority, and that annual increments of pay are conditional on service being satisfactory.
6. The numbers of the Establishment of each rank are at the present time as follows:-

2 Assistant Directors of Works.
11 Superintending Civil Engineers.
12 Civil Engineers.
22 Assistant Civil Engineers (First Grade).
21 ", ", (Second Grade).
20th May, 190 .

## IX.-CIVIL SERVICE OF INDIA.

No person will be deemed qualified who shall not satisfy the Civil Service Commissioners:-(i.) That he is a naturalborn subject of His Majesty. (ii.) That his age will be above twenty-one years and under twenty-three years on the 1st day of the year in which the Examination is held. (iii.) That he has no disease, constitutional affection, or bodily infirmity unfitting him, or likely to unfit him, for the Civil Service of India. (iv.) That he is of good moral character.

For the Examination commencing on the 1st August, 1902, application must be made on the prescribed form on or before the 1st July, 1902, accompanied by a list of the subjects in which the Candidate desires to be examined. Further information with regard to appointments in the Post Office, War Office, and Admiralty, may be obtained on application to the Secretary, Civil Service Commission, London, S.W.
Should the eridence upon the above points be prima facie satisfactory to the Civil Service Commissioners, the Candidate, on payment of the prescribed fee, will be admitted to the examination.
The Open Competitive Examination will take place only in the following branches of knowledge:-


[^53] Secretary, Civil Service Commission.
Greek History (Ancient, including Constitution), ..... 400
Roman History (ditto, ditto), ..... 400
English History, ..... 500
General Modern History (period to be selected by Candi- dates from list in the Syllabus issued by the Commis- sioners), * ..... 500
Logic and Mental Philosophy (Ancient and Modern), ..... 400
Moral Philosophy (Ancient and Modern), ..... 400
Political Economy and Economic History, ..... 500
Political Science (including Analytical Jurisprudence, the
Early History of Institutions, and Theory of Legisla- tion), ..... 500
Roman Law, ..... 500
English Law. Under the head of "English Law"shall be included the following subjects, viz. :-
(1) Law of Contract; (2) Law of Eridence; (3) Lawof the Constitution; (4) Criminal Law; (5) Law ofReal Property; and of these five subjects Candidatesshall be at liberty to offer any four, but not morethan four,500

Candidates are at liberty to name any or all of these branches of knowledge. None is obligatory.

The marks assigned to Candidates in each branch will be subject to such deduction as the Ciril Service Commissioners may deem necessary, in order to secure that "no credit be allowed for merely superficial knowledge." Marks assigned in English Composition and Mathematics will be subject to no deduction. The Examination will be conducted on paper and viva voce.

The Candidates who obtain the greatest aggregate number of marks will be deemed to be selected Candidates for the Civil Service of India, provided they appear to be in other respects duly qualificd.

Should any of the selected Candidates become disqualified, the Secretary of State for India will determine whether the vacancy shall be filled up or not. In the former case, the Candidate next in order of merit, and in other respects duly qualified, shall be deemed to be a selected Candidate.

[^54]
## Examinations for Eastern Cadetships, viz.:

For Cadetships in the Civit Services of Cerlon and of
Hong Kong, tee Stratts Settlements and the Proteoted States of the Malay Peninsula.
[The next Examination for Eastern Cadetships will be held under these Regulations. Alterations may be made for any subsequent Examination.]

1. The Cadets, who must be natural-born British subjects, are selected by open competitive examination held by the Civil Service Commissioners, to whom all inquiries on the subject should be addressed.

The examinations for these appointments will, as a rule, be held in the month of August of those years in which vacancies have occurred in the Civil Service of Ceylon or in that of Hong Kong, the Straits Settlements, and the Protected States of the Malay Peninsula; and the successful Candidates will be allotted, as and when opportunity offers, to the various Colonies or States in which vacancies may exist, upon a consideration of all the circumstances, including their own wishes; but the requirements of the Public Service will rank before every other consideration, and the Secretary of State retains full discretion to allot as he thinks fit.
2. Candidates must be between the ages of 21 and 24 on the first day of August in the year in which the Examination is held, and must satisfy the Civil Service Commissioners that they are duly qualified in respect of health and character. They must be of sound constitution, possessed of good sight, and physically qualified for service in tropical climates, and they will be called upon to undergo a strict medical examination to test these points.
3. The subjects of the Examination are the same as those prescribed for the Indian Civil Service.
4. Application for permission to attend one of these Examinations must be made in the writing of the Candidate, at such times and in such manner as may be fixed by the Commissioners.

## X.-OPEN COMPETITIVE EXAMINATIONS.

For the Situation of Student Interpreter for the Otroman Domintons, Persia, Greece, and Morocco.

1. Candidates will be required to satisfy the Civil Service Commissioners:-
(a) That they are natural-born subjects of His Majesty.
(b) That their age on the first day of the Examination is not less than 18 or more than 24.
(c) That they are duly qualified in respect of health and character.
(d) That they are unmarried.
2. The Examination will be in the following subjects:-

## Obligatory.

1. Handwriting and Ortbography.
II. Arithmetic (including Vulgar and Decimal Fractions).
III. English Composition.
Iv. French. (Translation from and into, writing from dictation, writing a letter in French on ordinary subjects, and conversation, paying particular attention to accents, genders, and tenses.)
v. Latin.

## Optional.

I. Ancient Greek.
rr. Italian.
III. German.
Iv. Spanish.
3. A fee of $£ 4$ will be required from every Candidate attending the Examination.

Civil Service Commission,
7th November, 1901.

## XI.-EXAMINATIONS FOR THE SITUATION OF STUDENT INTERPRETER IN CHINA, JAPAN, OR SIAM.

The Regulations are similar to those under which the foregoing Examinations are held ; but the subjects of Examination are as follows :-

## Obligatory.

1. Handwriting and Orthography.
II. Arithmetic (including Vulgar and Decimal Fractions).
iII. English Composition.

Optional.
iv. Précis.
v. Geography.
vi. Euclid (Books I. to IV.).
vir. Latin.
viri. French.
xx. German.
x. (a) The Elements of Criminal Law;
(b) The principles of British Mercantile and Commercial Law relating to (1) Shipping, (2) Negotiable Instruments, Bills of Exchange, and Promissory Notes, (3) Contracts for the Carriage of Goods, (4) Contracts for Marine Insurance, Bottomry, and Respondentia, (5) Contracts with Seamen, (6) The Doctrines of stoppage in transitu and lien.
Notice of these Examinations is given by advertisement in the London Gazette, and some other papers.

Civil Service Commission,<br>7 th November, 1901.

## EXAMINATION PAPERS, 1903-1904.

## LITERARY SCHOLARSHIPS OF THE FIRST YEAR.

## LATIN.

First Paper.

Examiner-Professor Mcelderry.

1. Translate into Latin :-

Clive had received secret intelligence of the design, had made his arrangements, and, exhausted by fatigue, had thrown himself on his bed. He was awakened by the alarm, and was instantly at his post. The enemy advanced, driving before them elephants whose foreheads were armed with iron plates. It was expected that the gates would yield to the shock of these living batteringrams. But the huge beasts no sooner felt the English musket-balls than they turned round, and rushed furiously away, trampling on the multitude which had urged them forward. A raft was launched on the water which filled one part of the ditch. Clive, perceiving that the gunners at that post did not understand their business, took the management of a piece of artillery himself, and cleared the raft in a few minutes.-Macaulay.

## Unpresoribed Passages.

2. Translate into English :-

## I.

0 fons Bandusiae, splendidior vitro, Dulci digne mero non sine floribus,

Cras donaberis haedo, Cui frons turgida cornibus
Primis et venerem et proelia destinat ;
Frustra : nam gelidos inficiet tibi
Rubro sanguine rivos
Lascivi suboles gregis.

## Literary Scholarships of the First Year. 295

> Te flagrantis atrox hora Caniculae Nescit tangere, tu frigus amabile Fessis vomere tauris
> Praebes et pecori vago.
> Fies nobilium tu quoque fontium, Me dicente cavis impositam ilicem Saxis, unde loquaces
> Lymphae desiliunt tuae.
> Hr.
> Hon., Carm. iii. 13.

Ubi illuxit, recepere classem in altum, ut spatium pugnae esset exitumque liberum e portu naves hostium haberent. Nec Romani detrectavere pugnam et memoria circa ea ipsa loca gestarum rerum freti et militum multitudine ac virtute. Ubi in altum evecti sunt, Romanus conserere pugnam et ex propinquo vires conferre velle: contra eludere Poenus, et arte non vi rem gerere, naviumque quam virorum aut armorum malle certamen facere. Nam ut sociis navalibus adfatim instructam classem, ita inopem milite habebant, et, sicubi conserta navis esset, haudquaquam par numerus armatorum ex ea pugnabat. Quod ubi animadversum est, et Romanis multitudo sua auxit animum et paucitas illis minuit.-Livy, xxi. 49.
3. (a) Write a note upon Marcus Livius Drusus the younger.
(b) What changes did Marius introduce into the army system? Trace their effects.
(c) What was the grand aim of Sulla's legislation? Enumerate his chief measures, and show how far they succeeded in their object.
(d) Trace the career of Sertorius.
4. (a) Write a note upon the use of the historic infinitive.
(b) Explain the usages of-_' quotus quisque,' ' ille quidem . . . sed,' ' nedum,' ' at enim.' Give examples.
(c) Form sentences to distinguish the uses of 'utrum . . an ' and 'sive . . . seu.'
(d) Explain by examples-' epistolary imperfect,' ' predicative dative,' ' ethic dative.'

## 296 Literary Scholarships of the First Year.

## LATIN.

Second Paper.<br>Examiner-Professor McElderry.

1. Translate into English :-
(a) Te maris et terrae numeroque carentis arenae Mensorem cohibent, Archyta, Pulveris exigui prope litus parva Matinum Munera, nec quidquam tibi prodest Aerias temptasse domos animoque rotundum Percurrisse polum morituro. Occidit et Pelopis genitor, conviva deorum, Tithonusque remotus in auras
Et Iovis arcanis Minos admissus, habentque Tartara Panthoiden iterum Orco
Demissum, quamvis clipeo Troiana refixo Tempora testatus nihil ultra
Nervos atque cutem morti concesserat atrae, Iudice te non sordidus auctor
Naturae verique. Sed omnes una manet nox, Et calcanda semel via leti.

Horace, Odes, i. 28, 1-16.
Explain allusions; and state what seems to you the most reasonable theory of this ode.

Sed minuit furorem
Vix una sospes navis ab ignibus,
Mentemque lymphatam Mareotico
Redegit in veros timores
Caesar, ab Italia volantem
Remis adurgens, accipiter velut
Molles columbas aut leporem citus
Venator in campis nivalis
Haemoniae, daret ut catenis
Fatale monstrum : quae generosius
Perire quaerens nec muliebriter
Expavit ensem nee latentes
Classe cita reparavit oras;

## Literary Scholarships of the First Year. 297

Ausa et iacentem visere regiam
Voltu sereno, fortis et asperas
Tractare serpentes, ut atrum
Corpore conbiberet venenum,
Deliberata morte ferocior,
Saevis Liburnis scilicet invidens
Privata deduci superbo
Non humilis mulier triumpho.
Ib. i. 37, 12.
Date this ode accurately. Note any irregularity of scansion in the passage printed.
(c) Non quia, Maecenas, Lydorum quidquid Etruscos

Incoluit fines, nemo generosior est te,
Nec quod avus tibi maternus fuit atque paternus
Olim qui magnis legionibus imperitarent,
Ut plerique solent, naso suspendis adunco
Ignoto aut, ut me, libertino patre natos.
Cum referre negas, quali sit quisque parente
Natus, dum ingenuus, persuades hoc tibi vere,
Ante potestatem Tulli atque ignobile regnum
Multos saepe viros nullis maioribus ortos
Et vixisse probos amplis et honoribus auctos;
Contra Laevinum, Valeri genus, unde Superbus
(13) Tarquinius regno pulsus fugit, unius assis

Non umquam pretio pluris licuisse, notante
Iudice, quo nosti, populo, qui stultus honores
Saepe dat indignis et famae servit ineptus,
Qui stupet in titulis et imaginibus.
Iv., Sat., i. 6, 1-17.

Explain the construction of lines 18-15. Why is ' imperitarent' (l. 4) subjunctive ?
2. 'fugio campum lusumque trigonem.' Translate, and give a variant.
"' licet antestari?' ego vero oppono auriculam." Explain.

Quote or refer to passages showing Horace's religious views, and his relations with Virgil.

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## 3. Translate into English :-

(a) L. Catilina Q. Catulo. Egregia tua fides re cognita, grata mihi magnis in meis periculis, fiduciam conmendationi meae tribuit. Quam ob rem defensionem in novo consilio non statui parare, satisfactionem ex nulla conscientia de culpa proponere decrevi, quam mediusfidius veram licet cognoscas. Iniuriis contumeliisque concitatus, quod fructu laboris industriaeque meae privatus statum dignitatis non optinebam, publicam miserorum caussam pro mea consuetudine suscepi, non quin aes alienum meis nominibus ex possessionibus solvere pos-sem,-et alienis nominibus liberalitas Orestillae suis filiaeque copiis persolveret,-set quod non dignos homines honore honestatos videbam meque falsa suspicione alienatum esse sentiebam.-Sallust, Cat. 35, 1-3.
Explain ' mediusidius,' and the construction of the last sentence.
(b) Hic mihi quisquam mansuetudinem et misericordiam nominat. Iam pridem equidem nos vera vocabula rerum amisimus: quia bona aliena largiri liberalitas, malarum rerum audacia fortitudo vocatur, eo res publica in extremo sita est. Sint sane, quoniam ita se mores habent, liberales ex sociorum fortunis, sint misericordes in furibus aerari : ne illi sanguinem nostrum largiantur et, dum paucis sceleratis parcunt, bonos omnis perditum eant.

Bene et composite C. Caesar paulo ante in hoc ordine de vita et morte disseruit, credo falsa existumans ea quae de inferis memorantur, divorso itinere malos a bonis loca taetra inculta foeda atque formidulosa habere.-Ib. 52, 11-13.

What reasons are there against the authenticity of the speech whence this extract is taken?
4. Annotate:
' Est in carcere locus quod Tullianum appellatur.'
' M. Tullius, inquilinus civis urbis Romae.'
'Tum Catilina polliceri tabulas novas, proscriptionem locupletium.'

## 5. Translate into English :-

(a) Itaque Hasdrubal extemplo literas Carthaginem mittit, indicans, quanto fama profectionis suae damno fuisset. Si vero inde pergeret, priusquam Iberum transiret, Romanorum Hispaniam fore. Nam, praeterquam quod nec praesidium nee ducem haberet, quem relinqueret pro se ; eos imperatores esse Romanos, quibus vix aequis viribus resisti posset. Itaque si ulla Hispaniae cura esset, successorem sibi cum valido exercitu mitterent: cui, ut omnia prospere evenirent, non tamen otiosam provinciam fore.-Livy, xxiii. 27.

Indicate the changes necessary to turn this passage into oratio recta.
(b) Prodeundum in contionem Fulvio praetori esse, indicandas populo publicas necessitates, exhortandosque, qui redempturis auxissent patrimonia, ut reipublicae, ex qua crevissent, tempus commodarent ; conducerentque ea lege praebenda, quae ad exercitum Hispaniensem opus essent, ut, quum pecunia in aerario esset, iis primis solveretur. Haec praetor in contione edixit, et qua die vestimenta, frumentum Hispaniensi exercitui praebenda, quaeque alia opus essent navalibus sociis, esset locaturus.

Ubi ea dies venit, ad conducendum tres societates aderant hominum undeviginti, quorum duo postulata fuere: unum, ut militia vacarent, dum in eo publico essent : alterum, ut, quae navibus imposuissent, ab hostium tempestatisque vi publico periculo essent. Utroque impetrato, conduxerunt, privataque pecunia respublica administrata est. Ii mores, eaque caritas patriae per omnes ordines velut tenore uno pertinebat.Ib. 48.
6. Annotate :-
'Latoque, ut solet, ad populum, ut equum escendere liceret,' 'bigati' 'volones' 'Heraclitus, cui Scotino cognomen erat.'

## 300 Literary Scholarships of the First Year.

## GREEK.

## First Paper.

## Examiner-Pbofessor M'Elderry.

## 1. Translate into Greek Prose :-

The Syracusans next sent out twelve ships under the cammand of Agatharchus, a Syracusan. One of these hastened to Peloponnesus, conveying envoys wha were to report their improved prospects, and to urge more strongly than ever the prosecution of the war in Hellas. The remaining eleven sailed to Italy, hearing that ships laden with supplies were on their way to the Athenians. They fell in with and destroyed most of these ships, and burnt a quantity of shiptimber which was lying ready for the Athenians in the territory of Kaulonia. Then they came to Locri, and while they were at anchor there, one of the merchant-vessels from Peloponnesus sailed in, bringing some Thespian hoplites. These the Syracusans took on board, and sailed homewards. The Athenians watched for them near Megara with twenty ships, and took one ship with the crew, but the rest made their escape to Syracuse.-Jowert's Thucydides.

## Unprescritbed Passages.

2. Translate into English :-
[Heracles and his wife Megara.]





HP. $\tau i ́ \delta \eta ̂ \tau \alpha \pi \rho o ̀ s ~ \sigma \epsilon ̀ ~ \kappa \alpha i ̄ ~ \gamma \epsilon ́ \rho o v \tau ' ~ \grave{\eta} \lambda \theta \epsilon \nu$ фóßos;






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> ME. aî $\delta \hat{\omega} \gamma^{\prime}$; $\dot{\alpha} \pi о \iota \kappa \epsilon \hat{\imath} \tau \hat{\eta} \sigma \delta \epsilon \tau \hat{\eta} s \theta \epsilon o \hat{v} \pi \rho o ́ \sigma \omega$. Edripides, Hercules Furens, 539 ff.
(b) тобаи́тך خ̀ $\pi \rho \omega ́ \tau \eta ~ \pi а \rho а \sigma к є v \grave{\eta} \pi \rho o ̀ s ~ \tau o ̀ v ~ \pi o ́ \lambda є \mu, o v ~ \delta \iota \epsilon ́ \pi \lambda \epsilon \iota$,













 $\chi^{\alpha \sigma \alpha \nu .-T h u c y d i d e s, ~ t i, ~} 44$.

## GREEK.

## Second Paper.

## Examiner-Pbofessor M‘Elderry.

## 1. Translate :-





Q 2

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Homer, Iliad, vi, 318 ff.
 ${ }^{a} \nu \delta \rho \alpha \gamma^{\epsilon} \nu \epsilon \in \sigma \theta a \iota$,
oủס́̀ tòv av̉тòv ảєì $\beta \in \beta$ ával סó $\mu о \nu$

$\mu о і$ ра $\delta \iota \omega ́ к є \iota \cdot$





$\dot{\alpha} \lambda \lambda \grave{\alpha} \sigma \dot{v} \mu \grave{\eta} \pi \rho о \pi i ́ \tau \nu \omega \nu \tau \grave{\alpha} \theta \epsilon \hat{\omega} \nu \phi \epsilon \rho \epsilon \mu \eta \delta^{\prime} \dot{v} \pi \epsilon \rho \alpha ́ \lambda \gamma \epsilon \iota$


¿ $\mu \epsilon \lambda \epsilon ́ a \pi \rho o ̀ s ~ a ́ d \epsilon \lambda \phi \hat{\omega} \nu \kappa \alpha i ̄ \gamma a ̂ s$,
ov $\delta^{\prime} \mathbf{a}^{\mathbf{a}} \kappa \lambda \epsilon \boldsymbol{\eta}^{\prime} \mathrm{s} \nu \iota \nu$





Euripides, Heracleidae, 608 ff.





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 $\beta o \eta$ s $\delta \iota a \gamma \nu \omega \bar{\omega} \boldsymbol{\sigma} .-\mathrm{Thucydides}, \mathrm{vil} 44.$,















2. (a) Explain the words : $\ddot{\eta} \nu \iota \mathrm{s}, \vec{a} \mu \phi \iota \kappa \dot{v} \pi \epsilon \lambda \lambda o v, \pi o \lambda v \dot{\delta} \omega \rho \rho o s$, $\dot{a} \pi{ }^{2}$ ópas: and scan the last two lines of 1 (a) above, noting any apparent irregularity.
(b) To what extent are substitutes for iambi permissible in the iambic trimeter of tragedy?

May the 'Heracleidae' have had any connexion with the politics of the time?
(c) Annotate: " oí $\mu \hat{\epsilon} v \boldsymbol{\epsilon} \boldsymbol{\epsilon} \pi^{\prime}$ av̀rouodías $\pi \rho o \phi a ́ \sigma \epsilon \iota \dot{\alpha} \pi \dot{\epsilon} \rho-$ Хоутаı." "vav̂s $\mu v \rho \iota \circ \phi o ́ p o s . " ~ " \delta \iota є ́ к \pi \lambda о v s . " ~ " ~ к а i ̀ ~$





8. (a) Decline fully $\bar{\epsilon} \gamma \bar{\omega}$, $\tau o \iota o \hat{\tau} o s, \delta \in i ̂ v a$.
(b) Give principal parts of i $\eta \mu \mu, \pi \dot{\alpha} \sigma \chi \chi^{\omega}, \delta \epsilon \omega$ (I require), д̀кои́ш, ßаїขш。
(c) Explain, with examples, the forms used to express wish.
4. (a) What part was played in Greek history by Timoleon, Thucydides the son of Olorus, Thucydides the son of Melesias, Sphodrias, Kallicratidas?
(b) Sketch briefly the history and organization of the First Athenian Confederacy.
[Dates should be given as far as possible.]
5. (a) Annotate : oi $\chi \omega \rho i ́\} o v \tau \epsilon s$, scriptor cyclicus.
(b) State what you know of Bacchylides, Sappho, Theognis.
(c) Write a brief life of Sophocles, referring to his extant works.

## FRENCH.

Examiner-Professor Cadio, D.Lit.
I.-Grammar.

1. Write out the imperative and third person singular of the imperfect subjunctive of-y songer, ne pas lui en envoyer, s'en aller.
2. Translate into French :-

I did not hear what he was complaining of. The master was very pleased with everything we had done. Tell me what you are thinking about. They were fighting against

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each other. Did he remember her? Have you not spoken of it to them? You ought to have come earlier.
3. Construct sentences to show the use of the subjunctive in relative sentences in French.
4. Mention, with examples, four distinct cases where the definite article is used in French where no article is required in English.
II.-Composition.

Translate into French:-
Where have you been this afternoon? We went towards the river; we intended to bathe, and to take a short walk afterwards.

So we set out, and after half an hour's walk, we bathed in the little brook behind the mill.

Then we directed our steps towards the mill ; there we stopped a few minutes, and the miller, who had seen us coming, invited us to go into his house.

He was very friendly, and told us he would lend us the handsome boat he bought a few days ago.

What are you going to do this evening? I do not know. I should like to go to the theatre to see Faust, but I have no ticket.

I ought to have gone last week; but I had a cold, and the doctor forbade me to go out during the evening.

We are all very glad that you have succeeded in your examination. I never doubted that you would be one of the first in your class.

As for your poor friend, $\bar{I}$ was afraid he would fail.

> III.-Authors.

Summarise, in French, the last scene of 'Mademoiselle đí la Seiglière.' (About twelve lines.)

Give, in Englishi, acecording to Erckmamn-Chatrian, a short deseription of the Battle of Leipzig.

## IV.-Unprescribed Passages.

Translate into English :-
(a) En côtoyant les contours de l'île il rencontra son infidèle compagnon, Alonzo Pinzon. Sous prétexte d'avoir perdu de vue l'amiral, Pinzon avait fait route à part. Caché dans une anse profonde de l'île il était descendu à terre, et, au lieu d'imiter la douceur et la politique de Colomb, il avait ensanglanté ses premiers pas. L'amiral en retrouvant son lieutenant, feignit de se contenter de ses excuses et d'uttribuer sa désertion à la nuit. Il ordonna à Pinzon de le suivre avec son navire en Europe. Ils reprirent ensemble la mer, impatients d'annoncer à L'Espagne la nouvelle de leur merveilleuse navigation. Mais l'Océan, qui les avait portés complaisamment par les vents alizes, de vague en vague, à la cốte d'Amérique, semblait, avec ses vents et ses flots contraires, vouloir les repousser obstinément de la terre qu'ils brûlaient de revoir. Colomb, grâce à ses connaissances en navigation et à ses notes d'estime dont il gardnit le secret à ses pilotes, savait seul la route et évaluait seul les vraies distances. Ses compagnons se croyaient encore à des milliers de lieues de l'Europe qu'il pressentait déjà le voisinage des Açores.-Lamartine.
(b) Il est amer et doux, pendant les nuits d'hiver,

D'écouter, près du feu qui palpite et qui fume, Les souvenirs lointains lentement s'élever Au bruit des carillons qui chantent dans la brume.
Bienheureuse la cloche au gosier vigoureux Qui, malgré sa vieillesse, alerte et bien portante, Jette fidelement son cri religieux, Ainsi qu'un vieux soldat qui veille sous la tente!

Moi, mon âme est fêlée, et lorsqu'en ses ennuis Elle veut de ses chants peupler l'air froid des nuits, Il arrive souvent que sa voix affaiblie

Semble le râle épais d'un blessé qu'on oublie au bord d'un lac de sang, sous un grand tas de morts Et qui meurt, sans bouger, dans d'immenses efforts,

Charles Baudelarre.

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GERMAN.<br>E.caminer-Professor Cadic, D.Litr.<br>I.-Grammar.

1. Form German sentences to show the difference in meaning and conjugation between trinffert and tränfent, fleft and fésen, fallen and fällen, berjdminben and veridpenben.
2. Turn into the perfect tense:-Wir laffen ifn fpielen. Sie gefyt täglid cine Stunde fagieren. Wir erfennen ifn nidt $\mathfrak{m e f r}$. \&8s gelingt ifm niemals. Er muf in die Gdule gelyen. Die Mäddien durffer es nidt thut.
3. Translate :-He knows it himself. He flatters himself with vain hopes. Not even he knows it. We who were present know it. What were you thinking of? I scarcely remember it. Don't trust him. I am sorry for it. He repented it deeply. They are jealous of each other.
4. Frame sentences to show the use of : benn, elye, inder, $\mathfrak{w e f f e n , ~ b e f f e n , ~ b e r e n t , ~ w a s ~ f u ̈ r ~ c i n , ~} \mathfrak{j e}=$ defto.

## II.-Composition.

- Translate into German :-

1. You may carry it to my carriage, but do not let it fall.
2. I told him to come this evening, but I fear he will not come.
3. Have your father and mother arrived this morning? No, they have not.
4. This well is seventy-two feet wide and ninety-four deep.
5. Is he happier now than he was a year ago?
6. The two Schlegels were great poets, but the elder was the greater.
7. Old people are suspicious; all honest people are not old.

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8. My uncle lives in a four-storied house.
9. We have in our garden pear-trees, apple-trees, plumtrees, and even fig-trees.
10. Before the close of 1848 , the Government of the Emperor Francis Joseph had restored all the German provinces of Austria to order. In the spring of 1849, the Italian provinces had also to submit. The rising in Hungary was more serious.

## III.-Authors.

(a) Paraphrase, in German prose, Goethe's poem ' Der König von Thule.'
(b) Mention the principal events treated by Schiller in the fourth book of his History of the Thirty Years' War.

$$
\text { IV.-Unpresoribed } \mathrm{P}_{\text {assage }}
$$

Translate into English .-

## I.

 größerer Mretfer als Billyefn mon Dranicn ; niatt bás er, nad der
 bas fotze 5erz Sitgen ftrafte, pondern weil er mut den Merfnalen feiner (5unfit mo Berefrung weber farg nod veridmenberifd war, unb burd eine fluge Wirtyfart mit bemjenigen, woburd man 2Renfiden verfinbet, feinen wirffiden Borrath an siefen Mitteln wermelyte. ©o lang fan fein ©eiff gebar, fo wollenbet toaren feine

 erften gefulbigt hatte, fomute fein WBiberftand ermüben, feine Sufatle
 ©eele geftanben. So fefr fein (bemüth über ©dirette uno ofeube ethaben toar, fo unterworfen war es ber furbt ; aber fent furdit war friliter $\mathfrak{D a}$ als die $\mathfrak{G e f a h r}$, unb er war rubig int $\mathfrak{x}$ unulte meil


Interary Scholarships of the First Year. 309
II.

Der Jäger $\mathfrak{a c f o r i e b . ~}$
frifod auf, ifr Sager, frei und finf, Die $\mathfrak{B u}$ iajp won bet $\mathfrak{M z a n b}$ ! Der Muthige betumpfit bie TBelt !
 Firis Deutide Baterland!

Mus Meften, R1orvent, Siib und $\mathfrak{D i}$ $\mathfrak{x r e i b t}$ uns ber Rade ©trafi $\mathfrak{B o m}$ Dberflufic, MBefer, Matit,
 $\mathfrak{H z v}$ aus bem Doinauthar.

Dod Brüber find mir allzufamm, Unid das fabmelft infern Muth. Uns fuüpft der ভpradie Yeifig ほand, $\mathfrak{U n} \mathfrak{f}$ fnuipft eill $\mathfrak{G r d t}$, ein $\mathfrak{B a t e r l a n t , ~}$ (Ein trucs $\mathfrak{D e u t f a x e s}$ Blut.

Ruidt zun Eroberit zogen mit $\mathfrak{B a m}$ waterliden 5erb, $\mathfrak{D i c}$ fajandilidffe Zqranuermadat Befampfen mir in freub'ger Safladit, Das if bes Blutes wertl.
J. 犬reikerrs. Eidendorf.

## ENGLISH.

Eraminer-Professor Thenoh.

1. Refer to three or four passages in Pope's lliud that seem worthy of special mention, giving the substance of the passages and your reasons for selecting them.
2. Describe Pope's metre and style. Do you know whether the metre is considered like Homer's?

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3. Consider in sequence the various appearances of Richard II. in the play, so as to show clearly what his character was.

$$
O r
$$

Discuss, with references and quotations, the character and abilities of the Prince in Henry IV.
[4. Oral questions on the play.]
5. Would it be correct to say that a gerund is a noun and that a participle is an adjective?

Do the following sentences need correction?-
(a) That house with all the surrounding buildings were destroyed.
(b) Whom do people think that he is?
(c) Being a warm day I left off my overcoat.

Essay-The marks allotted to Essay will be awarded on the answering of questions 1 and $\mathbf{3}$.

## CELTIC.

## Examiner-Joseph 0'Neilu, m.a.

1. Translate into English :-
' $\mathrm{ni}^{\prime}$ 'l ać $\boldsymbol{c}$ oiomaonear oíb oul 1 n-1omáo leó púo,' af an $\mu^{\prime \prime}$, 'ól $\mu$ oá mbead rluas an oomain 'n-a n-ajaró piúo oo buarófroír oprs urle asup niop burread a jcat ná a jcomilann apiam oppa asur ṡeobao-pa uaċa Conán o'fuarslad.'.
 ne uaċa é act muna mbarnfeam oíob oá n-aimȯeon é.' Annpain cerleabparo oá céile asur gluarpeann Diapmuro asur a muineip so oún Lomnociéan zo oubać ceannepom; ór ba mól an capicapre leó Conán a beić ceanjailee.-(Eachtra Lomnochtáin).

## Literary Scholarships of the First Year. 311

2. Translate into English :-
(a) An zé ćuprear reaćpán ap an oall ara flisje.
(b) Rusadap na rgológa oppa asur 00 j̇abaoap ap feap oíob asup oo jabaoap oo clociarb ap feap elle.
(c) Oo óeunfa mé trócaple ap an cé ap a noeunfa
 n-oeunfaró mé $\tau$ भuaije.
(d) Fájbarm 亢̇ú ap oo foláciap fén.
(e) Ar easla jo n-1méèocad dubarre aıp.
(Hogan's Phrase Book.)
3. Translate into English :-
'Oo bí an ooman go h-uile ap aomeeanjaró amán Acá ré ap n-a ćpučusiáo jo porllép.
na rala oo cup 1 n-áproe app.
Ir ounne é ap nać bí én-mear, ni'l luać broib oo mear $\Delta \operatorname{sim}^{2} \Delta \boldsymbol{p}$
ni'l 七aicisje $\Delta 5 a m$ alı.
(Handbook of Irish Idioms.)

## 4. Translate into English :-


 arcme jan míp asup cúls buróne pan arme asur cúrs céo feal featoma pan mburin. Ajur os mearoop neapic étuonn wule an can rom, ar égonearoa bapamail na opuinge oo jaon jo bpeuofà an Románac le leigion, no le óa leigion,
 emonnars oo fiof iona $11 \cdot 0.001 m b$ barseamila.

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5. Translate into English :-
(a) An ćloć atś fóm ód fáál Harce parceio 1nir fál
 mas fäl uıle fop épunn.
(b) Cүíoć tílóe inneópao osorb

0 Śonsinn na $n-5 a \mu r o d a n-5 l a n$ So farnise—oo featomar.
(Keating's Forus Feasa.)
6. Translate into Irish:-
(a) However, they and Finn bade each other goodbye; and Goll and his companions went to take the air of the white-foamed harbour; and as they walked round the harbour they saw a peaked bark coming straight towards them, and she never stopped her course until she took harbour opposite them.
(b) The mast of a full great sail was not higher, nor a sheep's shin thinner, than each of his bare shins; and though he was not far from them, he took a long time to come, owing to the weakness of his legs and the weight of his great head.
7. Translate into Irish :-

These old circular forts are found in every part of Ireland, but more in the South and West than elsewhere, many of them still very perfect. Some of them are very large-three hundred feet and more across-so as to give ample room for the cattle at night.
8. Are there are any traces in modern Irish of the old dual number? How do you say in lrish,' Her two little feet,' 'His two dogs,' 'The twelve white houses'?

## ( 313 )

## SCIENCE SCHOLARSHIPS OF THE FIRST YEAR.

[Arts, Medicine, and Engineering.]

$$
\text { First } \text { Paper. }
$$

## ARITHMETIC AND ALGEBRA.

Examiner-Professor Bromwich.
[Not more than ten questions should be attempted.]

1. Reduce the expression

$$
\frac{5^{8} \times 15^{4} \times\left(2^{2} \times 3^{15} \div 5^{2}\right)^{8}}{\left(5 \times 60 \times 3^{8}\right)^{5}}
$$

to a form containing only powers of $2,3,5$; and so evaluate this fraction as a decimal.
2. Calculate (by the simplest process you can devise)

$$
\left[(37049)^{2}-(37025)^{2}\right] /[37 \times 48] .
$$

Factorize, as far as you can
(i) $4(x y-a b)^{2}-\left(x^{2}+y^{2}-a^{2}-b^{2}\right)^{2}$;
(ii) $x^{8}-4 x^{6}+6 x^{4}-4 x^{2}+1$.
3. An odd number is multiplied by 3 and then divided by 2 ; the quotient is found to be odd. It is then again multiplied by 3 and divided by 2 ; the last quotient is divided by 9 , giving a final quotient 41 . What was the original number? What would have been the number if the first quotient had been even, but the other facts had remained the same as above?
4. A line $A B$ is divided internally at $C$ and externally at $D$, so that

$$
A B \cdot B C=A C^{2}, \quad A B \cdot B D=A D^{2}
$$

If the length of $A B$ is 2, find $A C, A D$, and show that
(i) $C D^{2}=20$;
(ii) $3 A C^{2}=B C^{2}+4$.

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5. Find, as rapidly as possible, the coefficient of $x^{3}$ in the product

$$
(x-1)(x+2)(x-3)(x+4)(x-5)(x+6)
$$

Determine $p, q, r$ in order that

$$
4 x^{2}+2 p x y+9 y^{2}+2 q x+2 r y+1
$$

may be a perfect square.
6. Find the coefficients $a, b, c$ in order that

$$
y=a x^{2}+b x+c
$$

may hare the values $y=4,6,2$, corresponding to $x=1,3,5$, respectively; and calculate $y$ for $x=2, x=4$.
7. It is known that in an optical instrument the distances $x, y$ of the object and image, respectirely, from a fixed point, are connected by a relation of the type

$$
y=\frac{A x+B}{x+C}
$$

where $A, B, C$ are constants of the instrument, but are at present unknown. It is found by observation that the values $y=1,2,0$ correspond to $x=0,1,2$, respectively; calculate the values of $y$ corresponding to $x=3, x=4$.
8. Solve the equations-
(i) $\frac{3 y+2}{y+1}=\frac{3 x+1}{x+1}=\frac{2 x+y}{x+y}$;
(ii) $y+z-x=a, z+x-y=b, x+y-z=c$.
9. If

$$
\frac{1}{a}+\frac{1}{c}=\frac{1}{b-a}+\frac{1}{b-c},
$$

prove that $a, b, c$ are in harmonical progression, unless it happens that $b=a+c$.
10. Sum the series-
(i) $1+3+5+\ldots+(2 n-1)$;
(ii) $1^{2}+3^{2}+5^{2}+\ldots+(2 n-1)^{2}$.

Prove that the sum of all the products in the multiplication table (from $1 \times 1$ to $12 \times 12$ ) is 6084 .

## Science Scholarships of the First Year.

11. A committee of 3 has to be chosen from 4 married couples: how many different committees can be formed if husband and wife can never serve on the same committee?
12. Write down the coefficients of $x^{7}$ in the expansions of

$$
(a x+b)^{14}, \text { and }(b x+a)^{16} .
$$

If they are equal, prove that $a=\frac{8}{16}$.

Second Papel.

## GEOMETRY AND TRIGONOMETRY.

## Examiner-Professor Bromwich.

[Not more then TEN questions should be attempted.]

1. A line $A B$ is divided at $C$ so that $m . A C=n . C B$ where $m, n$ are two integers: prove that if $P$ is any other point (on or off the line $A B$ )

$$
m \cdot A P^{2}+n \cdot B P^{2}=(m+n) C P^{2}+m n \cdot A B^{2} /(m+n) .
$$

2. A quadrilateral is inscribed in a circle, and circumscribed to a concentric circle: find the relation between the radii of the two circles; and specify the kind of quadrilateral which has this property.
3. The three lines $O A P, O B Q, O C R$ meet in $O$, and are divided so that $O A: O P=O B: O Q=O C: O R$; prove that the triangles $A B C, P Q R$ are similar.

Conversely, if the two triangles are known to be similar and similarly situated, prove that the lines $A P, B Q, C R$ meet in a point.
4. Verify the accuracy of the following construction for finding a parallelogram equal in area to a given quadrilateral $A B C D$. Bisect $A B, B C, C D$ in $L, M, N$; join $L M$, draw through $N$ a parallel to $L M$; draw through $A$ a parallel to $C D$ : these three lines, together with $C D$, make up the required parallelogram.
5. The points $L, M, N, P, Q, R$ are such that the middle points of $L P, M Q, N R$ are in the same straight line $l$, and the lines $L P, M Q, N R$ are parallel (but are not perpendi-

## 316 Science Scholarships of the First Year.

cular to $l$ ). Prore that the pairs of lines ( $M N, Q R$ ), $(N L, R P),(L M, P Q)$ intersect on the line $l$; and also that the triangles $L M N, P Q R$ have the same area.

What will be the relation between $L M N, P Q R$ if the the parallel lines $L P, M Q, N R$ are perpendicular to $l$ ?
6. $A, B$ are two fixed points; $P, Q$ are two variable points which move so that $A P$ is parallel to $B Q$ and the intersection of $A Q, B P$ is on a fixed straight line $l$. If $l$ is parallel to $A B$, and if $P$ moves on $m$, a second parallel to $A B$, prove that $Q$ moves on $n$, a third parallel to $A B$; and find the relation between $l, m$ in case $m, n$ happen to be the same line.
7. Prove that
(i) $\cot \left(\theta+45^{\circ}\right)=\sec 2 \theta-\tan 2 \theta$,
(ii) $\cos ^{2} \theta+\cos ^{2} \phi+\cos ^{2} \psi+\cos ^{2}(\theta+\phi+\psi)$

$$
=2[1+\cos (\phi+\psi) \cos (\psi+\theta) \cos (\theta+\phi)] .
$$

8. Give the formulæ for $\sin 2 \theta, \cos 2 \theta$ in terms of $\sin \theta$, $\cos \theta$; and use them to find $\cos \theta$ (correct to two decimal places), when

$$
\cos \theta=2 \cos 2 \theta
$$

9. If $a+\beta, a-\beta$ are the two angles between 0 and $2 \pi$ which satisfy the equation in $\theta$

$$
A \cos \theta+B \sin \theta=C,
$$

show that

$$
\frac{\cos a}{A}=\frac{\sin a}{B}=\frac{\cos \beta}{C}
$$

and that

$$
\sin 2(\alpha+\beta)+\sin 2(\alpha-\beta)=4 A B\left(2 C^{2}-A^{2}-B^{2}\right) /\left(A^{2}+B^{2}\right)^{2}
$$

10. Find the greatest and least angles in a triangle with sides $8,9,10$ inches, having given
$\log 3=0.47712, \log 7=0.84510, \log 11=1.04139$,
$\log \tan 24^{\circ} 43^{\prime}=\overline{1} \cdot 66304, \log \tan 35^{\circ} 53^{\prime}=\overrightarrow{1} \cdot 85940$,
$\log \tan 24^{\circ} 44^{\prime}=\overline{1} \cdot 66337, \log \tan 35^{\circ} 54^{\prime}=\overline{1} \cdot 8596{ }^{\circ}$.

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11. The top of a stecple is observed to have an elevation of $45^{\circ}$; and, on walking 70 feet nearer, its elevation is found to be $60^{\circ}$. Find the height of the steeple to the nearest foot.
12. The sides of a parallelogram are of lengths $a, b(a>b)$ and the angle between them is $\beta$, prove that the acute angle between the diagonals is $\theta$, where

$$
\tan \theta=2 a b \sin \beta /\left(a^{2}-b^{2}\right)
$$

In 1904, questions involving the use of simple geometrical instruments will be set. The following questions will serve as typical examples :-

1. Construct a triangle with sides $3 \frac{1}{2}, 4,4 \frac{1}{2}$ inches; find the centre of the circle which passes through the angular points, and measure the radius of the circle. Describe the construction briefly but fully.

For 2 and 3 see questions 5 and 6 of the Second Paper set for Engineering Scholarships of the Second Year (p. 406.)
4. Construct two right-angled triangles, with angles of $15^{\circ}$ and $22^{\circ} 30^{\prime}$, making the hypotenuse 5 inches long in each case. Measure the other sides, and so determine the sine and cosine of these angles; estimate the degree of accuracy of your results.

## LITERARY SCHOLARSHIPS OF THE SECOND YEAR.

Latin.<br>Frist Paper.<br>Examiner-Professon M'Ejdierry. Unprescribed Passage.

1. Translate into English :-

Qui vero se populares volunt ob eamque causam aut agrariam rem temptant, ut possessores pellantur suis sedibus, aut pecunias creditas debitoribus condonandas putant, labefactant fundamenta rei publicae, concordiam prinium, quae esse non potest, cum aliis adimuntur, aliis conidoinattur pecuniae, deinde aequitatem, quae tollitur omnis, si habere suum cutique

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non licet. Id enim est proprium, ut supra dixi, civitatis atque urbis, ut sit libera et non sollicita suae rei cuiusque custodia. Atque in hac pernicie rei publicae ne illam quidem consequuntur quam putant gratiam. Nam cui res erepta est est inimicus: cui data est etiam dissimulat se accipere voluisse et maxime in pecuniis creditis occultat suuni gaudium, ne videatur non fuisse solvendo. At vero ille, qui accepit iniuriam, et meminit et prae se fert dolorem suum, nec, si plures sunt ii, quibus improbe datum est, quam illi, quibus iniuste ademptum est, idcirco plus etiam valent. Non enim numero haec iudicantur, sed pondere. Quam autem habet acquitatem, ut agrum multis annis aut etiam saeculis ante possessum qui nullum habuit habeat: qui autem habuit amittat?-Cioero, de Officiis, ii. 22, 78.

## 2. Translate into Latin :-

The enemy now began to give ground gradually, borne down by the riders, and trampled under the hoofs of their horses. Through the whole of this sharp encounter the Indian allies were of great service to the Spaniards. They rushed into the water, and grappled their enemies with the desperation of men who felt that their only safety was in the despair of safety. 'I see nothing but death for us,' exclaimed a chief to Marina; 'we shall never get through the pass alive.' 'The God of the Christians is with us,' answered the intrepid woman; 'and He will carry us safely through.' Amidst the din of battle, the voice of Cortes was heard, cheering on his soldiers. 'If we fail now,' he cried, ' the Cross of Christ can never be planted in the land. Forward, comrades! When was it ever known that a Castilian turned his back on a foe?' Animated by the words and heroic bearing of their general, the soldiers, with desperate efforts, at length succeeded in forcing a passage through the dark columns of the enemy, and emerged from the defile on the open plain beyond.-Prescott.
3. (a) Trace the policy and career of Hannibal after the Battle of Zama.
(b) Write a note upon the relations between Rome and Rhodes down to 167 в.c.
(c) What measures were adopted with regard to Macedonia after the Battle of Pydna?

Literary Scholarships of the Second Year. 319
4. (a) Give a fall account of Livy's History; and refer to his use of authorities.
(b) Write brief notes upon:-L. Varius Rufus, Sex. Propertius, and Manilius.
5. (a) Explain, with examples, the formation of diminutives of Latin nouns.
(b) Give four instances of 'compensatory lengthening.'
(c) Write a note upon the genitive and ablative cases as used to express price and value.

## LATIN.

## Second Paper.

Examiner-Professor M‘Elderry.
Translate into English :-
(a) Tu secanda marmora

Locas sub ipsum funus et sepulcri
Inmemor struis domos,
Marisque Baiis obstrepentis urges
Submovere litora,
Parum locuples continente ripa.
Quid quod usque proximos
Revellis agri terminos et ultra
Limites clientium
Salis avarus? Pellitur paternos
In sinu ferens deos
Et uxor et vir sordidosque natos.
Nulla certior tamen
Rapacis Orci fine destinata
Aula divitem manet
Erum.
Horace, Odes, ii. 18, 17.
Where was Baiae ? The last sentence has been explained in different ways?

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(b) Non te nullius exercent numinis irae. Magna luis commissa : Tibi has miserabilis Orpheus Hautquaquam ob meritum poenas, ni fata resistant, Suscitat, et rapta graviter pro coniuge saevit. Illa quidem, dum te fugeret per flumina praeceps, Immanem ante pedes hydrum moritura puella Servantem ripas alta non vidit in herba. At chorus aequalis dryadum clamore supremos Implerunt montis ; flerunt Rhodopeiae arces Altaque Pangaea et Rhesi Mavortia tellus Atque Getae atque Hebrus et Actias Orithyia. (11)
Ipse cava solans aegrum testudine amorem
Te , dulcis coniunx, te solo in littore secum, $T e$ veniente die, te decedente canebat.
Taenarias etiam fauces, alta ostia Ditis,
Et caligantem nigra formidine lucum
Ingressus manesque adiit regemque tremendum
Nesciaque humanis precibus mansuescere corda. Virgil, Georgics, iv. 453.

Scan line 11 of this extract (Atque Getae . . . ).
Was the episode of Orpheus and Eurydice originally part of the poem?
(c)

- Vos o, quibus integer aevi

Sanguis' ait ' solidaeque suo stant roborevires,
Vos agitate fugam.
Me si caelicolae voluissent ducere vitam,
Has mihi servassent sedes. Satis una superque
Vidimus excidia et captae superavimus urbi,
Sic o sic positum adfati discedite corpus.
Ipse manu mortem inveniam ; miserebitur hostis
Exuviasque petet. Facilis iactura sepulchri.
Iam pridem invisus divis et inutilis annos
Demoror, ex quo me divom pater atque hominum rex
Fulminis adflavit ventis et contigit igni.' ID., Aen. ii. 638.
(d) Vis et Tarquinios reges animamque superbam

Ultoris Bruti fascesque videre receptos?
Consulis imperium hic primus saevasque secures Accipiet, natosque pater nova bella moventis

## Literary Scholarships of the Second Year. 321

Ad poenam pulchra pro libertate vocabit, Infelix. Utcumque ferent ea facta minores, Vincet amor patrias laudumque inmensa cupido. Quin Decios Drusosque procul saeyomque securi Aspice Torquatum et referentem signa Camillum. Illae autem paribus quas fulgere cernis in armis Concordes animae nunc et dum nocte premuntur, Heu quantum inter se bellum, si lumina vitae Attigerint, quantas acies stragemque ciebunt, Aggeribus socer Alpinis atque arce Monoeci Descendens, gener adversis instructus Eois!

$$
\text { Io., Aen. vi. } 817 .
$$

Write brief historical notes on this passage.
(e) Prima eius oratio fuit excusantis, quod tanto minoribus spe atque opinione omnium copiis venisset. Id suße impensae erga eos voluntatis maximum debere indicium esse, quod nec paratus satis ulla re et tempore ad navigandum immaturo vocantibus legatis eorum haud gravate obsecutus esset, credidissetque, cum se vidissent Aetoli, omnia vel in se uno posita praesidia existimaturos esse. Ceterum eorum quoque se, quorum exspectatio destituta in praesentia videatur, spem abunde expleturum. Nam simul primum anni tempus navigabile praebuisset mare, omnem se Graeciam armis, viris equisque, omnem oram maritimam classibus completurum. Nec impensae nec labori nec periculo parsurum, donec, depulso cervicibus eorum imperio Romano, liberam vere Graeciam, atque in ea principes Aetolos fecisset. Cum exercitibus commeatus quoque omnis generis ex Asia venturos. In praesentia curae esse Aetolis debere, ut copia frumenti suis et annona tolerabilis rerum aliarum suppeditetur.-Livy, xxxp. 44.

Indicate the changes necessary to turn this passage into oratio recta.
(f) Quid est? num conturbo te? Non enim fortasse satis quae diiunctius dicuntur intelligis. Sed tamen haec est summa conclusionis meae: quoniam scelere a te liberati sunt, ab eodem amplissimis praemiis dignissimos iudicatos. Itaque iam retexo orationem meam. Scribam ad illos, ut, si qui forte quod a te mihi obiectum est quaerent sitne verum, ne cui negent. Etenim vereor, ne aut celatum me illis ipsis non honestum, aut invitatum refu-

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gissemihi sit turpissimum. Quae enim res umquam (pro sancte Iuppiter !) non modo in hac urbe, sed in omnibus terris est gesta maior? quae gloriosior? quae commendatior hominum memoriae sempiternae? In huius me tu consilii societatem tamquam in equum Troianum cum principibus includis? Non recuso : ago etiam gratias, quoquo animo facis.-Cioero, Philipp., ii. 32.
(g) Ecce Dolabellae comitiorum dies : sortitio praerogativae: quiescit. Renuntiatur : tacet. Prima classis vocatur : renuntiatur: deinde, ita ut assolet, suffragia; tum secunda classis vocatur; quae omnia citius sunt facta quam dixi. Confecto negotio bonus augur (C. Laelium diceres), alio die, inquit. O impudentiam singularem! Quid videras? quid senseras? quid audieras? Nec enim te de caelo servasse dixisti, neque hodie dicis. Id igitur obvenit vitium, quod tu iam Kalendis Ianuariis futurum esse provideras et tanto ante praedixeras. Ergo, hercule, magna, ut spero, tua potius, quam reipublicae calamitate ementitus es auspicia: obstrinxisti populum Romanum religione, augur auguri, consul consuli obnuntiasti.-Ib. 82.

Annotate this passage carefully.
GREEK.

## First Paper.

Examiner-Professor M‘Elderry:

## 1. Translate into Greek Prose :-

Epameinondas gained the mastery where he charged, and all the enemy were put to flight. Yet when he fell his soldiers were prevented from making right use of the rictory. The phalanx of the enemy was fleeing before them, but the hoplites slew none, and are said not even to have advanced beyond the spot where the encounter took place, for without their general they could do nothing. The spear remained in the breast of Epameinondas, and the surgeons said that when it was removed he would die. He asked first, ' Is my shield safe?'-then, having seen it, 'Have we conquered ?' Then having learned that Iolaidas and Daiphantos, whom he would make generals, were dead, he ordered the spear to be drawn out. So, the blood gushing out, he died.

Literary Scholarships of the Second Year. 323

## Unprescribed $P_{\text {assages. }}$

2. Translate :-












Homer, Odyssey, xil, 154 ff.













 $\psi \in v \delta \epsilon i ́ s ~ к а i ̀ ~ \mu \iota \sigma \theta o u ̂ ~ к а i ̀ ~ a ̈ \sigma v \mu ф o ́ \rho o v s, ~ \grave{\alpha} \lambda \iota \sigma \kappa \epsilon ́ \sigma \theta \omega .-D e m o s t h e n e s, ~$ De Falsa Leg., 182-3.
3. (a) Classify, with examples, the uses of äv.
 bind) ; and trace oida through its moods.
(c) Contrast the Homeric and Attic uses of the article.
(d) Analyse, with reference to parallels if necessary, the following forms :- $\lambda \epsilon \hat{v} \sigma \sigma \omega$, Movo $\hat{\nu}$, ä $a \not \approx a \xi, \beta \lambda \omega \dot{\omega} \sigma \omega$.

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## GREEK.

Second Paper.

## Examiner-Professor M‘Elderby.

1. Translate, with brief notes where necessary :-














 НомеR, Odyssey x, 80 ff .
(b) $\pi \rho \hat{\omega} \tau o \nu \mu$ èv $\Delta$ iòs ä̀ $\lambda \sigma o s$ $\dot{\eta} \rho \dot{\eta} \mu \omega \sigma є \frac{\lambda}{}$ є́отог,

 $\delta_{\epsilon \iota \nu \omega ̄} \chi^{\alpha} \sigma \mu a \tau \iota ~ \theta \eta \rho o ́ s \cdot$










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$\pi \lambda \eta \rho \circ \hat{v} \nu \tau \epsilon \varsigma \chi^{\text {日óva }}$ © $\epsilon \sigma \sigma \alpha \lambda \hat{\omega} \nu$<br> та́v $\tau \in \chi \rho v \sigma о к а ́ \rho \alpha \nu о \nu$<br>ठо́ркау токкı入óvшто⿱<br>$\sigma v \lambda \dot{\eta} \tau \epsilon \iota \rho a \nu \alpha \hat{\alpha} \gamma \rho \omega \sigma \tau \hat{\alpha} v$<br>ктєі̀vas，$\theta \eta \rho о$ фóvov $\theta \epsilon a ̀ v$<br>Oivøẫıv $\dot{\alpha} \gamma a ́ \lambda \lambda \epsilon \iota \cdot$<br>$\tau \epsilon \theta \rho i \pi \pi \omega \nu \tau \tau^{\prime} \epsilon \pi \epsilon \in \beta a$<br>каì $\psi \alpha \lambda i o t s ~ \epsilon ́ \delta a ́ \mu а \sigma є ~ \pi \omega ́ \lambda o u s ~$<br><br><br>ка́Өаıца бїта $\gamma^{\prime} \nu v \sigma t, \chi^{\alpha} \rho \mu о \nu \alpha i ̂ \sigma \iota \nu$ $\grave{\alpha}^{\alpha} \delta \delta \rho \circ \beta \rho \hat{\omega} \sigma \iota \delta v \sigma \tau \rho \alpha \pi \epsilon \zeta \sigma \iota$.<br>Euripides，Hercules Furens， 359 ff．















 $\theta \epsilon o \tilde{\sigma} \sigma \iota \mu \epsilon \lambda \dot{\jmath} \sigma \epsilon$ ．．＂－Herodotus，viif， 65.







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 $\pi \rho o ̀ s ~ \tau o ̀ ~ \pi \rho a ̂ \gamma \mu a ~ \tau o \iota a ́ v \delta \epsilon ' ~ є i ̉ ~ \mu \epsilon ́ v ~ \epsilon ̇ \sigma \tau \iota ~ \tau o u ̂ \tau o ~ \tau o ̀ ~ \chi \omega \rho i ́ o \nu ~ \tau o ı o v ̂ \tau o v, ~$




 Plato, Meno, p. 86E.

Illustrate by diagram.
















 Leptines, 90 ff.
2. (a) Give an account of the institution of ostracism. Refer to instances of its use during the period before 429 в.c.
(b) What constitutional changes are associated with the names of Pericles and Ephialtes?
(c) State clearly the various causes of dispute between Athens and her foes before the Peloponnesian war.
(d) Trace the history of Plataea and Aegina in connexion with Athens before 429. [Dates should be given in all cases.]
3. (a) Write notes upon Simonides of Keos, Simonides of Amorgos, Tyrtaeus, Stesichorus.
(b) Explain the terms 'old,' 'middle,' and 'new' comedy, and name the chief writers of each (with dates).
(c) Give some account of Lysias and his works.
4. (a) Explain briefly the Athenian mode of reckoning the days of the month : and name the months of the Attic year.
(b) Give the Athenian money-table, with approximate equivalents.

## Arts, Medicine, and Engineering.

## FRENCH.

Examiner-Professor Steingerger.

1. Translate into French :-

On the 28th of January, 1450, the House of Commons presented a humble address to the King, wherein they said that "the king's poor commons of his realm were as lovingly, as heartily, and as tenderly set to the good, welfare, and prosperity of his person and kingdom, as ever were any commons set to the welfare of their sovereign lord." And all these affectionate expressions were the preface to a demand for blood. In this strange document the most contradictory things were simultaneously affirmed. Suffolk sold England to the King of France, and to the Queen's father ; and he kept a whole castle full of munitions for the French, who were about to invade the land. And why did he call in the French and the queen's relations? That he, Suffolk, might make his own son king, by overthrowing the king and queen. This appeared logical and well connected; John Bull never questioned it; contradictions and absurdities being admitted as selfevident, all reply was impossible. Suffolk attempted it,

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nevertheless. He enumerated the services of his family, and the deaths of all his relations in their country's cause; he called to mind that he himself had passed thirty-four years in making war in France, and had been seventeen winters consecutively under arms, without seeing his home.
2. Translate into English :-

La procession défilait toujours, des étincelles vives apparaissaient toujours au tournant de la Basilique, jaillissant de l'obscurité, comme d'une source inépuisable. L'immense coulée des petites flammes en marche, dans son double circuit, rayait l'ombre d'un ruban de braise. Mais, surtout, le spectacle était sur la place du Rosaire, où la tête de la procession continuant son évolution lente, se repliait sur elle-même, en un cercle de plus en plus étroit, ne sorte de tournoiement obstiné, qui achevait d'étourdir les pèlerins brisés de fatigue, et d'exaspérer leurs chants. Bientôt, la ronde ne fut plus qu'une masse brûlante, un noyau de nébuleuse, autour duquel venait s'enrouler le ruban de braise, dont le bout semblait ne devoir jamais finir ; et le noyau s'elargissait, il y eut une mare, puis un lac. Toute la vaste place du Rosaire se changeait en une mer incendiée roulant ses petits flots étincelants, dans le vertige de ce tourbillon sans fin. Un reflet d'aurore blanchissait la Basilique. Le reste de l'horizon tombait à une obscurité profonde. Ou ne voyait, à l'écart, que quelques cierges perdus cheminer seuis, ainsi que des lucioles cherchant leur route à l'aide de leur petite lanterne. Sur le mont du Calvaire, pourtant, une queue vagabonde de la procession devait être montée, car des étoiles voyageaient aussi là-haut, en plein, ciel. Enfin, un moment arriva où les derniers cierges parurent, frent le tour des pelouses, coulèrent et se noyèrent dans la mer de flamme. I'rente mille cierges y brûlaient tournant toujours, attisant leur braisillement, sous le grand ciel calme, où pâlissaient les astres. Une nuée lumineuse s'envolait avec le cantique, dont l'obession n'avait pas cessé. Et le grondement des voix, les Ave, ave, ace Maria! étaient comme le crépitement même de ces queues de feu, qui se consumaient en prières, pour guérir les corps et sauver les âmes.-E. Zola.
3. Oral examinations on the prescribed works.

# Literary Scholarships of the Second Year. 

GERMAN.

## Examiner-Professor Steinberger.

## 1. Translate into German :-

The letter of Columbus to the Spanish monarchs, announcing his discovery, had produced the greatest sensation at court. The event it communicated was considered the most extraordinary of their prosperous reign; and, following so close upon the conquest of Granada, was pronounced a signal mark of divine favour for that triumph achieved in the cause of the true faith. The sovereigns themselves were for a time dazzled and bewildered by this sudden and easy acquisition of a new empire, of indefinite extent and apparently boundless wealth; and their first idea was to secure it beyond the reach of question or competition. Shortly after his arrival in Seville, Columbus received a letter from them, expressing their great delight, and requesting him to repair to court, to concert plans for a second and more extensive expedition. As the summer was already advancing, the time favourable for a voyage, they desired him to make any arrangements at Seville, or elsewhere, that might hasten the expedition, and to inform them, by the return of the courier, what was necessary to be done on their part.
2. Translate into English :-

Wer Biloer cines forgloz Geitern \{ebens idauen will, ber nuß an einem ©onntag:Bornittag, effe bie Meffe begiumt, fuda auf dem
 Start einfuben, am lieffen einer foldien, veren Mame in ben
 einem feiner italiantiofan Briefe fagt, "groge 2agen maden."


 berte man $\mathfrak{A r m}$ in $\mathfrak{A r m}$ auf und nieber; Dort bilbeten fidd in Yeb=
 vergajen in lebgaftem đefprad ilye Spinbel za ruilren, teeil eine

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yon ignen überaus antiegende 2nitteifungen aus ber ©bronif irgemb einer minfeligen ©Gafle zu madfen mufte. §äubler mit Drangen und Seigent mit Süfigfeiten und frifdem Banier, fanben reidfliden
 ihre $\mathfrak{Q} u$ fmerffanteit, und bann und wann ibren ©pott, einer Rom= pagnie ber Meilit zu, weldge ein alter Dfficier nidy olnne Mübe
 vertreten. Sie ftanben an ber Mauer, faßen unt lagen auf ber= felben und raudten aus ben lleinen §honppeifen, bie man nob beute an ber ganzen suffe won Reapel $3 \boldsymbol{u}$ (residite kefommt. Smmer voller mard bie Wiazja; aus allen engen famutigen (Gafien, aus Den fleinen niebrigen Mognungen eitte allerlei $\mathfrak{B o l f}$ in ben Somuenfdein: viele Manner, feefafrenbe \{eute, mit ber

 mit freigenbem $\mathfrak{n t e r e f i f e}$ bas Meer beobadtet uns fid über cinen
 und immer größer murbe bie 3afl berer, melde fid ignen zuge= fellen. Swei Sdjiffe, bas eine bidgt ginter bem anbern, nägerten fait moden Segetn der ભüfte.
3. Oral examination on the prescribed works.

## ENGLISH.

## First Paper.

## Examiner-Professor Trence.

1. Show how Pope treats of the relation of reason to self-love.

> "Who first taught
> The enormous faith of many made for one ?"

How does Pope answer this question?
2. What works of Pope does Johnson praise most highly, and on what grounds? Would his criticism on these points now be considered just?
3. State and discuss Imlac's views on Poetry.

Literary Scholarships of the Second Year. 331
4. Give the substance (in your own words) and the meaning of the first stanza of The Progress of Poesy, and also of the last stanza of The Bard ("The verse adorn again," \&c.).
5. State briefly, and comment upon, Addison's views on Tragedy.
6. What do you know of $A$ Vindication of Natural Society, The Beggar's Opera, The Castle of Indolence, The Castle of Otranto?

## ENGLISH.

Second Paper.
Examiner-Professor Trench.

1. Show how politics and literature were associated in the eighteenth century.
2. Consider in succession the scenes in Macbeth in which the witches appear, discussing the object and value of each of these scenes.

> Essay Subject.
> "The Life of Macbeth."

## CELTIC.

Examiner-Joseph O'NeLl, м.a.

1. Translate into English :-

Oo báoap romoppo, clanna Lif pé h-eado imcian asur $\mu$ é $n$-aimpr faroa as fulang fuacica asur anjocpaciza ap Spui na Maorle map pin, zo rozánic
 colmméa a péoro asur a fuaċza, a pneaciea马a0ite asur vo pinne Fionnjuala an laoro.

Olc an beacia ro
Fuacic na h-01óce ro
Méao an r-үneaciza po
Cruar na jaoicie ro.

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$$
\begin{aligned}
& \text { Fám' ćaóm-「ら1a亢்aı }
\end{aligned}
$$

2．Translate into English：－
Ajur map fuarp Aorfe ap an loć $1 a 0$ buarliop 00

 oo pinne an laoró ann．

> Amać oa01b a ćlann an $\mu \dot{S}$
> Oo rsapar búp piol pé réan
> Oo búp zcáproıb ir r马eal гpuaら
> $\mathrm{O}_{1 a r o ́}$ búp n-uall pé n-ealcalb éan
 ＇Oo ípaȯiar jan eaíapinn Sinn Sé ċupeaol cuinn ap cuınn biaromio real ó pınn zo pınn．
（The Fate of the Children of Lir．）
3．Translate into English ：－

llo a patoró an miroe leat mé oul＇pa＇5－cill
A Pंaroro an ćúrl cieangailee＇$r$ é oo beul acá binn
 cóm $\mathfrak{m} \Delta \dot{0}$ liom．
ir feap zan ćérll a paćfáo a＇opérm leir an zcloróe betó＇á
＇S cloide íproll le $n-a$ ciaorb a a a leagfad pé a lám
Ció zup ápro é an chann capiciainn bionn үé үeapbo ars bápr
 1r îrle blád．

Literary Scholarships of the Second Year． 333
 टú uaim
níl éolar cium oo 亢̇ıje ajam，ċum o＇ajarpo ná oo с́яй
Cómarle óilear oo đ̇us mo míuncip óam 弓an eulós leat
 clear．
4．Translate into English ：－

$$
\begin{aligned}
& \text { Zà marjoean ós ran tír } \\
& \text { 'S } 1 \text { r réalcan eólarpí } \\
& \text { Spian breas ap bóproi }
\end{aligned}
$$

$$
\begin{aligned}
& \text { A cum paos breás } \\
& \text { 'Sa cúrlín craciać bán }
\end{aligned}
$$

$$
\begin{aligned}
& \text { ó búcla go brásaio. }
\end{aligned}
$$

$$
\begin{aligned}
& \text { aji corll as buain cnó } \\
& \text { no ap ̇̇aorb lajin aorbinn } \\
& \text { S jan oíoion oprainn aćz céo }
\end{aligned}
$$

$$
\begin{aligned}
& \text { le oiograr o'a pós } \\
& \text { 'S 马up b'é gríċ ceapr oo ćlaoró mé } \\
& \text { 'S oo fíop-rsaip mo pnóo. } \\
& \text { (Hyde's Love-Songs of Connaught.) }
\end{aligned}
$$

## 5．Translate into Irish ：－

When he died，he was buried，as he himself directed，in the same graveyard and island in which Una was buried． There grew an ash tree out of Una＇s grave，and another out of the grave of Costello，and they inclined towards each other，and they did not cease growing until the two tops met and twined together in the centre of the grave－ yard．

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## 6. Translate into Irish :-

At this time the Danes held the chief fortresses of the country, including Limerick, Cork, and Waterford, from which their marauding parties swept continually over the country murdering and destroying wherever they went; and from the dark forests of Clare Brian and Mahon carried on a relentless war with those foreign pirates.
7. When is the subjunctive mood used in modern Irish? Give examples.
8. Give a short account of Irish History from Clontarf to the arrival of the Normans.

## SCIENCE SCHOLARSHIPS OF THE SECOND YEAR.

## MATHEMATICS.

## First Paper.

Examiner-Professor Bromwich.
[Not more than NINe questions should be attempted.]

1. If

$$
\frac{x}{a+t}+\frac{y}{b+t}+\frac{s}{c+t}+\frac{x y z}{(a+t)(b+t)(c+t)}=0
$$

for all values of $t$, find $x, y, z$.
Solve

$$
\frac{a x+b y+c z}{x}=\frac{b x+c y+a z}{y}=\frac{c x+a y+b z}{z}
$$

showing that either (i) each of these fractions is equal to $(a+b+c)$ or (ii) $x+y+z=0$.
2. Factorize

$$
\left[\frac{9}{8}(1+3 x)(x-1)+1\right]^{2}-x,
$$

given that it has one cubed factor.
Solve

$$
x^{4}+5 x^{3}+8 x^{2}+5 x+1=0
$$

Science Scholarships of the Second Year.
3. If $\beta=-\frac{1}{1+a}, \quad \gamma=-\frac{1}{1+\beta}, \quad$ find $-\frac{1}{1+\gamma}$
in terms of $a$.
If $x y+p=0$, calculate the value of

$$
\frac{a x^{2}+2 b x+c}{x^{2}+p}+\frac{a y^{2}+2 b y+c}{y^{2}+p}
$$

4. If

$$
\frac{y^{2}+z^{2}+y z}{y+z}=\frac{z^{2}+x^{2}+z x}{z+x}
$$

and if the expressions $x-y, y+z, z+x, x+y$ are all different from zero, then each of the given fractions is equal to

$$
\frac{x^{2}+y^{2}+x y}{x+y}
$$

5. Taking $\tan \frac{1}{2} \theta=a, \tan \frac{1}{2} \phi=b$, express

$$
\frac{\cos ^{3} \theta}{\cos \phi}+\frac{\sin ^{3} \theta}{\sin \phi}
$$

in terms of $a, b$; and so obtain the condition that the value of this expression may be unity. Prove that this condition is divisible by $(a-b)^{2}$, and hence show that the given condition leads to

$$
\frac{\cos \phi}{\cos \theta}+\frac{\sin \phi}{\sin \theta}+1=0
$$

unless $\theta-\phi$ is zero or a multiple of $2 \pi$.
6. Given $a=112, b=167, C=65^{\circ}$, find the other angles of the triangle, and the radii of the circumcircle and of the incircle. Estimate the accuracy of your results.
7. $A B C D$ is a quadrilateral circumscribed to a circle of radius $r$; $A B$ touches the circle at $F, B C$ at $G, C D$ at $H$, $D A$ at $K$. Show that

$$
F H=2 B C \cdot \sin \frac{1}{2} B \sin \frac{1}{2} C=2 A D \cdot \sin \frac{1}{2} A \sin \frac{1}{2} D,
$$

and deduce that
(i) $A B \cdot B C \cdot \sin ^{2} \frac{1}{2} B=C D \cdot D A \cdot \sin ^{2} \frac{1}{2} D$;
(ii) $\frac{A B \cdot C D}{\overline{B C} \cdot D \bar{A}}=\left(\frac{G K}{\bar{F} \ddot{H}}\right)^{2}$.

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8. If the triangle $A B C$ is self-polar with respect to a circle (so that each angle is the pole of the opposite side), prove that the centre of the circle must coincide with the orthocentre of the triangle; and that, if $\rho$ is the radius,

$$
\rho^{2}=-4 R^{2} \cos A \cos B \cos C
$$

where $R$ is the circumradius of $A B C$.
Express, in terms of $R$ and $\rho$, the distance from the orthocentre to the circumcentre of $A B C$.
9. Plot the graphs of

$$
\begin{aligned}
\text { (i) } y & =\left(x^{2}-x+1\right) /\left(x^{2}+x+1\right) \\
\text { (ii) } y & =\left(x^{2}+x+1\right) /(x-1)(x-2) \\
\text { (iii) } y^{2} & =x^{2}-x+1 ; \\
\text { (iv) } y^{2} & =(x-1)(2-x)
\end{aligned}
$$

10. Differentiate $y=x^{x}$, showing that $\frac{d y}{d x}=1$, if $x$ is 1 . What is the value of $\frac{d y}{d x}$ for $x=2$ ?

Obtain the differential coefficients of

$$
\left(\frac{x}{1-x^{2}}\right)^{3}, \quad \tan ^{-1} \frac{x \sqrt{ } 3}{x+2}, \quad \log \left(x+\sqrt{x^{2}-1}\right)
$$

11. Find the values of $x$ between 0 and $\frac{1}{2} \pi$, for which $\tan ^{2} x+\cot ^{2} x$ has a maximum or minimum value; and find whether the function is a maximum or minimum.
12. Taking the first curve of question 9, find its tangent and normal at any point.

Prove that for positive increasing values of $x$, the function $\left(\tan ^{-1} x-x\right)$ decreases, but $\left(\tan ^{-1} x-x+\frac{1}{3} x^{3}\right)$ increases; deduce that for any positive value of $x, \tan ^{-1} x$ lies between $x$ and $x-\frac{1}{3} x^{3}$.

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mathematics.

Second Paper.

Examiner-Professor Bromwter. [Not more than wive questions should be attempted.]

1. The angles of a variable triangle move along three parallel straight lines, and two of the sides turn about fixed points : prove that the third side also turns about a fixed point.
2. The three straight lines $A B, C D, E F$ are parallel: prove that the three intersections of ( $A C, B D$ ), ( $C E, D F$ ) ( $E A, F B$ ) are in one straight line. Hence, or otherwise, show that, if three circles are taken, the six centres of similitude found by grouping them in pairs must lie by threes on four straight lines.
3. Determine the locus of the centre of a variable sphere in the following cases:
(i) If the sphere passes through two given points.
(ii) If the sphere touches the sides of a given triangle.
(iii) If the sphere touches three given planes.
4. Explain what you understand by the orthogonal projection on a given plane of a figure in space. Prove that a right angle is projected into a right angle, provided that one of its arms is parallel to the given plane; and that the projection of any plane area has a constant ratio to the original area.
5. If a variable circle touches two fixed circles $A, B$, prove that the chord of contact cuts $A$ and $B$ at the same angle, and consequently passes through one of the centres of similitude of $A, B$. Extend this argument to show that if a variable sphere touches three fixed spheres, the plane of contact passes through one of four fixed lines. [Use question 2.]
6. Prove that the determinant

$$
\left|\begin{array}{c}
(b+c)^{2}, a b, c a \\
a b,(c+a)^{2}, b c \\
c a, b c,(a+b)^{2}
\end{array}\right|
$$

has ( $a+b+c)^{3}$ as a factor, and find the remaining factors; verify that $(a+b+c)$ is a factor of every first minor.

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7. A line is drawn through the point $\left(x_{0} y_{0}\right)$ to cut the radius from the origin to ( $x_{0} y_{0}$ ) at an angle whose tangent is $t$ : prove that the equation to the line so drawn is

$$
\left(t x_{0}-y_{0}\right) x+\left(x_{0}+t y_{0}\right) y=t\left(x_{0}^{2}+y_{0}^{2}\right) .
$$

What is the locus of $\left(x_{0} y_{0}\right)$ in case this line cuts the axis of $x$ in a fixed point ( $c, 0)$ ? Verify your result by geometrical reasoning.
8. If the chords joining the two points $\left(a t_{1}^{2}, 2 a t_{1}\right),\left(a t_{2}^{2}, 2 a t_{2}\right)$ to the fixed point ( $a p^{2}, 2 a p$ ) are perpendicular, prove that

$$
\left(p+t_{1}\right)\left(p+t_{2}\right)+4=0
$$

Hence, or otherwise, show that if a chord of the parabola $y^{2}=4 a x$ subtends a right angle at a point $P$ of the curve, then the chord passes through a fixed point on the normal at $P$.
9. A perpendicular $C Y$ is drawn from the centre $C$ on the tangent at $P$ to an ellipse $x^{2} / a^{2}+y^{2} / b^{2}=1$; if the eccentric angle $(\theta)$ of $P$ satisfies the equation $\tan \theta=\sqrt{\bar{b} / a}$, prove that

$$
P Y=a-b, \quad C Y=\sqrt{\bar{a} \bar{b}} .
$$

Show that the coordinates of any point on the normal at $P$ can be put in the form

$$
x=\frac{a^{2}+\lambda}{\sqrt{a(a+b)}}, \quad y=\frac{b^{2}+\lambda}{\sqrt{b(a+b)}}
$$

and that, at the second intersection of the normal with the ellipse, $\lambda=-2 a^{2} b^{2} /\left(a^{2}-a b+b^{2}\right) . \quad[P$ is supposed to be in the positive quadrant of the ellipse.]
10. Find the equation to the chord joining the two points $t=a, t=\beta$ on the rectangular hyperbola $x=c t, y=c / t$. If this chord is in a fixed direction, prove that the product $\alpha \beta$ is fixed; and show that the circle on this chord as diameter is

$$
x^{2}+y^{2}-c(\alpha+\beta)(x+y / \alpha \beta)+c^{2}(\alpha \beta+1 / a \beta)=0 .
$$

Deduce that the circles described on a system of parallel chords form a coaxal system; and prove that the common points of the circles are on the hyperbala.

## Science Scholarships of the Second Year. 339

11. Prove that the line

$$
x+t y=p(p x+q)
$$

is the locus of middle points of those chords of the conic

$$
x^{2}+y^{2}=(p x+q)^{2}
$$

which are parallel to the line $y=t x$; i.e. the first line is a diameter. Show that if the diameter is at right angles to the chords, one of the following cases must hold; (i) $p=0$, (ii) $t=0$, (iii) the chords are parallel to the axis of $y$; and prove that (ii) does not occur if the conic is a parabola.
12. Prove that the line $l x+m y+n=0$ will touch the conic $x^{2}+y^{2}=(p x+q)^{2}$ if $(l q-n p)^{2}+(m q)^{2}=n^{2}$.

Applying this condition to the line of question 7, prove that if lines are drawn from the focus to cut the tangents of a conic at the constant angle $\left(\tan ^{-1} t\right)$, the locus of their feet is the circle

$$
\left(p^{2}-1\right) t^{2}\left(x^{2}+y^{2}\right)+2 p q t(t x-y)+\left(1+t^{2}\right) q^{2}=0
$$

Prove that this circle touches the given conic at the two points where it meets the line $p t y-q=0$.

## EXPERIMENTAL PHYSICS.

## [Arts, Medicine, and Engineering.]

Examiner-President Anderson.

1. Distinguish between mass and weight.

If the weight of a certain mass be represented by 10 at a place where a body falls through 16 feet in one second, what number will represent its weight at a place where a body falls 145 feet in 3 seconds?
2. A triangular plate, whose area is two square feet, is immersed in water, with its corners at depths of 6,4 , and 5 feet, respectively : find, in pounds' weight, the thrust on one side due to the water-pressure.

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3. How is Boyle's Law verified by experiment?

The volume of a bubble of air, at a depth of 50 feet in water, is one cubic millimetre: find its volume when it reaches the surface.
4. What is meant by a degree on a mercury-in-glass thermometer? Two correctly graduated mercury thermometers are made to agree at $0^{\circ} \mathrm{C}$. and $100^{\circ} \mathrm{C}$. ; but when placed in the same liquid at about $50^{\circ} \mathrm{C}$., they are found not to quite agree. How do you explain this?
5. Describe an experiment for determining which of two given metals-say, lead and iron-is the better conductor of heat.
6. Give the formula for the velocity of sound in air, and show that it varies directly as to the square root of the absolute temperature.
7. What is meant by the dispersion of light? Show that the fact that, for different transparent substances, deviation is not proportional to dispersion, makes the construction of achromatic lenses or prisms possible. Is the achromatism perfect?
8. Find the capacity of a condenser composed of a pair of circular plates 18 cm . diameter and 1 mm . apart, with air as the dielectric.
9. A magnetic needle makes 15 oscillations per minute in a certain magnetic field. How many will it make when re-magnetised so that its magnetic moment is half as great as before?
10. A platinum wire has a resistance of half an ohm. You are provided with 8 Daniell's cells, each of 1 ohm resistance. How would you arrange them in order to make the wire as hot as possible?

[^55]
## LITERARY SCHOLARSHIPS OF THE THIRD YEAR.

## LATIN.

First Paper.<br>Examiner-Professor M‘Elderry.

## 1. Translate into Latin :-

The death of Nelson was felt in England as something more than a public calamity. Men started at the intelligence and turned pale, as if they had heard of the loss of a dear friend. An object of our admiration and affection, of our pride and of our hopes, was suddenly taken from us, and it seemed as if we had never till then known how deeply we loved and reverenced him. What the country had lost in its great naval hero-the greatest of our own and of all former times-was scarcely taken into the account of grief. So perfectly, indeed, had he performed his part, that the maritime war, after the Battle of Trafalgar, was considered at an end; the fleets of the enemy were not merely defeated but destroyed; new navies must be built, and a new race of seamen reared for them, before the possibility of their invading our shores could again be contemplated. It was not, therefore, from any selfish reflection upon the magnitude of our loss that we mourned for him; the general sorrow was of a higher character.-Sourhey.
2. Translate the following unprescribed passages :-
(a) Hospite venturo cessabit nemo tuorum. ' Verre pavimentum, nitidas ostende columnas, Arida cum tota descendat aranea tela, Hic leve argentum, vasa aspera tergeat alter !' Vox domini fremit instantis virgamque tenentis. Ergo miser trepidas, ne stercore foeda canino Atria displiceant oculis venientis amici,

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Ne perfusa luto sit porticus; et tamen uno
Semodio scobis haec emendat servulus unus:
lllud non agitas, ut sanctam filius omni
Adspiciat sine labe domum vitioque carentem? Jutenal, xiv. 59.
(b) Vide quam sit varia vitae commutabilisque ratio, quam vaga volubilisque fortuna, quantae infidelitates in amicis, quam ad tempus aptae simulationes, quantae in periculis fugae proximorum, quantae timiditates. Erit erit illud profecto tempus et illucescet ille aliquando dies cum tu, salutaribus ut spero rebus tuis, sed fortasse motu aliquo communium temporum immutatis (qui quam crebro accidat, experti scire debemus,) et amicissimi benevolentiam et gravissimi hominis fidem et unius post homines natos fortissimi viri magnitudinem animi desideres.-Cicero, Pro Milone, 69.
3. Translate into English :-

Illud in his rebus longe fuge credere, Memmi, In medium summae quod dicunt omnia niti, Atque ideo mundi naturam stare sine ullis Ictibus externis neque quoquam posse resolvi Summa atque ima, quod in medium sint omnia nixa; Ipsum si quicquam posse in se sistere credis,
Et quae pondera sunt sub terris omnia sursum
Nitier in terraque retro requiescere posta,
Ut per aquas quae nunc rerum simulacra ridemus.
Et simili ratione animalia suppa vagari
Contendunt, neque posse e terris in loca caeli
Reccidere inferiora magis quam corpora nostra Sponte sua possint in caeli templa volare;
Illi cum videant solem, nos sidera noctis
Cernere, et alternis nobiscum tempora caeli
Dividere et noctes parilis agitare diebus.
Lucretius, i. 1052.
What theories of Empedocles and Anaxagoras are attacked in this book, and why?
4. (a) Give some account of Cicero as a letter-writer.
(b) Write notes upon Caesar as an author, Publilius Syrus, and Vitruvius.

Literary Scholarships of the Third Year. 343
5. (a) Explain, with examples, the formation of the diminutives of Latin nouns.
(b) Give four instances of ' compensatory lengthening.'
(c) Write a note upon the genitive and ablative cases as used to express price and value.

## LATIN.

Second Paper.
Examiner-Professor M‘Elderry.

1. Translate, with brief notes:-
(a) Ergo abolendo rumori Nero subdidit reos, et quaesis tissimis poenis affecit, quos per flagitia invisos vulguChristianos appellabat. Auctor nominis eius Christus, Tiberio imperitante, per procuratorem Pontium Pilatum supplicio affectus erat; repressaque in praesens exitiabilis superstitio rursum erumpebat, non modo per Iudaeam, originem eius mali, sed per urbem etiam, quo cuncta undique atrocia aut pudenda confluunt celebranturque. Igitur primum correpti qui fatebantur, deinde indicio eorum multitudo ingens haud perinde in crimine incendii quam odio humani generis convicti sunt. Et pereuntibus addita ludibria, ut ferarum tergis contecti laniatu canum interirent, aut crucibus affixi aut flammandi, atque ubi defecisset dies, in usum nocturni luminis urerentur. Hortos suos ei spectaculo Nero obtulerat, et circense ludicrum edebat, habitu aurigae permistus plebi vel curriculo insistens. Unde, quanquam adversus sontes et novissima exempla meritos, miseratio oriebatur, tanquam non utilitate publica sed in saevitiam unius absumerentur.-Tacitvs, Ann. xv. 44.
(b) Er. Tum piscatores, qui praehibent populo piscis foetidos,
Qui advehuntur quadrupedanti crucianti cantherio, Quorum odos subbasilicanos omnis abigit in forum : Eis ego ora verberabo surpiculis piscariis, Ut sciant, alieno naso quam exhibeant molestiam.

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Tum lanii autem, qui concinnant liberis orbas oves, Qui locant caedundos agnos, et dupla agninam danunt, Qui petroni nomen indunt verveci sectario; Eum ego si in via petronem publica conspexero, Et petronem et dominum reddam mortales miserrumos.

He. Eugepae ! edictiones aedilicias hic quidem habet: Mirumque adeo est, ni hunc fecere sibi Aetoli agoranomum.

Plautus, Captivi 813.
(c) Nunc Romanas res accipe. a.d. II Non. Quint. Sufenas et Cato absoluti; Procilius condemnatus. Ex quo intellectum est $\tau \rho \iota \sigma a \rho \epsilon \epsilon \pi \pi \alpha$ ítas ambitum, comitia, interregnum maiestatem, totam denique rempublicam flocci non facere : [Debemus] patrem familias domi suae occidere nolle; neque tamen id ipsum abunde: nam absolverunt xxu, condemnarunt xxviII. Publius sane deserto epilogo criminans mentes iudicum moverat. Hortalus in ea caussa fuit, cuiusmodi solet. Nos verbum nullum. Verita est enim pusilla, quae nunc laborat, ne animum Publii offenderet. His rebus actis, Reatini me ad sua $\tau \epsilon \mu \pi \eta$ duxerunt, ut agerem caussam contra Interamnates apud consulem et decem legatos; quod lacus Velinus, a M'. Curio emissus, interciso monte, in Narem defluit : ex quo est illa siccata, et humida tamen modice Rosea. Vixi cum Axio. Quin etiam me ad Septem aquas duxit. Redii Romam Fonteii caussa a.d. vir Idus Quint. Veni in spectaculum ; primum magno et aequabili plausu: (sed hoc ne curaris : ego ineptus, qui scripserim:) deinde, Antiphonti operam. Is erat ante manu missus, quam productus. Ne diutins pendeas, palmam tulit. Sed nihil tam pusillum, nihil tam sine voce, nihil tam verum. Haec tu tecum habeto. In Andromacha tamen maior fuit, quam Astyanax ; in ceteris parem habuit neminem. Quaeris nunc de Arbuscula: valde placuit. Ludi magnifici et grati. Venatio in aliud tempus dilata. Sequere nunc me in campum. Ardet ambitus;
 erat bessibus.-Cicero, $A d$ Att. iv. 15.
(d) Quin et supremo cum lumine vita reliquit, Non tamen omne malum miseris nec funditus omnes Corporeae excedunt pestes; penitusque necesse est Multa diu concreta modis inolescere miris.

## Literary Scholarships of the Third Year. 345

Ergo exercentur poenis, veterumque malorum Supplicia expendunt. Aliae panduntur inanes Suspensae ad ventos; aliis sub gurgite vasto Infectum eluitur scelus, aut exuritur igni; Quisque suos patimur manes; exinde per amplum Mittimur Elysium, et pauci laeta arva tenemus:
Donec longa dies, perfecto temporis orbe, Concretam exemit labem, purumque reliquit Aetherium sensum, atque aurai simplicis ignem. Has omnes, ubi mille rotam volvere per annos, Lethaeum ad fluvium deus evocat agmine magno : Scilicet immemores supera ut convexa revisant Rursus et incipiant in corpora velle reverti.

Virgil, Aeneid vi. 725.
(e) Horrenda late nomen in ultimas Extendat oras, qua medius liquor Secernit Europen ab Afro, Qua tumidus rigat arva Nilus: Aurum irrepertum, et sic melius situm Cum terra celat, spernere fortior,

Quam cogere humanos in usus
Omne sacrum rapiente dextra. Quicunque mundo terminus obstitit Hunc tangat armis, visere gestiens, Qua parte debacchentur ignes, Qua nebulae pluviique rores. Sed bellicosis fata Quiritibus. Hac lege dico, ne nimium pii Rebusque fidentes avitae

Tecta velint reparare Troiae. Horace, Odes iii. 3, 45.
(f) Saepe oculos, memini, tangebam parvus olivo, Grandia si nollem morituri verba Catonis
Discere, non sano multum laudanda magistro, Quae pater adductis sudans audiret amicis. Iure : etenim id summum, quid dexter senio ferret Scire erat in voto; damnosa canicula quantum Raderet; angustae collo non fallier orcae; Neu quis callidior buxum torquere flagello.

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Haud tibi inexpertum curvos deprendere mores,
Quaeque docet sapiens braccatis illita Medis
Porticus, insomnis quibus et detonsa iuventus
Invigilat, siliquis et grandi pasta polenta;
Et tibi quae Samios diduxit litera ramos
Surgentem dextro monstravit limite callem.
Stertis adhuc, laxumque caput, compage soluta,
Oscitat hesternum, dissutis undique malis?
Est aliquid quo tendis, et in quod dirigis arcum ?
An passim sequeris corvos testaque lutoque
Securus quo pes ferat, atque ex tempore vivis?
Persids, iii. 44.
2. (a) What were the formal causes of difference between Caesar and the Senate?
(b) Write a note upon Caesar's administration of the finances.
(c) 'There was more nobility, and above all more judgment, in the death of Cato than there had been in his life.' Explain.

## GREEK.

## First Paper.

> Examiner-Professor M‘Elderky.

## 1. Translate into Greek Prose :-

In these extremities the perverse obstinacy of the Athenians was very strange, who having at their backs, and at their own doors, an enemy little less mighty than themselves, did yet send forth another fleet into Sicily to inrade a people no less puissant which never had offended them. It often happens that prosperous event makes foolish counsel appear wiser than it was, which came to pass many times among the Athenians, whose vain conceits Pallas was said to turn unto the best. But where unsound adrice, finding bad proof, is obstinately pursued, neither Pallas nor Fortune can be justly blamed for a miserable issue. This second fleet of the Athenians, which better might have served to convey home the

## Literary Scholarships of the Third Year. 347

former, that was defeated, after some attempts made to small purpose against the Syracusans, was finally quite vanquished; whereby the camp of the Athenians was driven to break up and fly away by land, in which flight they were overtaken, routed, and quite overthrown in such wise that scarce any man escaped.-Sir W. Raleigh.

## Unprescribed Passages.

2. Translate into English :-
[Theseus offers help to Oedipus.]





 $\theta$ ө́̀ $\lambda \omega$ 'тєре́є $\sigma a l$, $\delta \dot{v} \sigma \mu о \rho$ ' Oi'סímov, тíva












Sophocles, Oed. Col., 551 ff.







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 $\pi \epsilon i \theta \omega$;-Plato, Gorgias, p. 493d.
3. (a) Enumerate, with examples, the different forms of perfect reduplication.
(b) Explain fully the usages of oủ $\mu \dot{\eta}$, oủX ö $\pi \omega$, $\vec{a} \lambda \lambda \grave{\alpha} \nu \grave{\eta}$ $\Delta i a, \mu \grave{v} \nu \mathrm{ov} v, \mu \epsilon ̀ \nu \delta \dot{\eta}$.

(d) Give instances (two in each case) of analogy in gender and in syntax, and of compensatory lengthening of vowels.

## GREEK.

## Second Paper.

## Examiner-Professor M‘Elderry.

1. Translate, with notes upon grammar or subject-matter where needful:-






 ì $\chi \theta$ v̀s, ös кє фá $\gamma \eta \sigma \iota \Lambda v \kappa$ áovos ả $\rho \gamma \epsilon ́ \tau \alpha$ d $\eta \mu o ́ v$.



Номев, Il. xxi, 120 ff. James Hardiman Library, NUI Galway

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Id., Iliad xxul, 490 ff.






 ì $\mathrm{K} \iota \theta \alpha \iota \rho \grave{\omega} \nu, \tau i \mu^{\prime}$ é $^{\delta} \in ́ \chi o v ; ~ \tau i ́ \mu^{\prime}$ où $\lambda \alpha \beta \grave{\omega} \nu$



$\lambda o ́ \gamma \varphi \pi \alpha \lambda \alpha ı a ̀ ~ \delta \omega ́ \mu \mu \theta^{\prime}$, oiov ảpá $\mu \epsilon$


Sophocles, Oed. Tyr. 1384 ffi.
(d) $\tau \epsilon \grave{\alpha} \nu, Z \epsilon \hat{v}, \delta \dot{v} \nu a \sigma \iota \nu \tau i s$ ảv $\nu \rho \omega \hat{\nu}$ $\dot{v} \pi \epsilon \rho \beta a \sigma i ́ \alpha \kappa \alpha \tau \dot{\alpha} \sigma \chi о$;
 ойтє $\theta \epsilon \omega \hat{\nu}$ äккцато九
$\mu \eta ̂ v \epsilon \varsigma, ~ a ̆ \gamma \eta ́ \rho \omega s ~ \delta \AA ̀ ~ \chi \rho o ́ v \varphi ~ \delta \nu v a ́ \sigma \tau \alpha s$
$\kappa а т є ́ \chi \epsilon \iota$ ' $O \lambda \dot{\nu} \mu \pi т о v$
$\mu а \rho \mu а \rho о ́ є \sigma \sigma \alpha \nu ~ a i ̈ \gamma \lambda \alpha \nu$.




 s 2

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 $\pi \rho i ̀ v \pi v \rho i ̀ ~ \theta \epsilon \rho \mu \hat{~} \pi o ́ \delta \alpha$ тis $\pi \rho o \sigma \alpha v ́ \sigma \eta$.
бoфía $\gamma$ àp è̉к $\tau 0 v$
$\kappa \lambda \epsilon \iota \nu o ̀ \nu$ ย̈ $\pi \sigma \varsigma \pi \epsilon ́ \phi \alpha \nu \tau \alpha \iota$,


$\theta \epsilon o ̀ s ~ a ̈ \gamma \epsilon \iota \pi \rho o ̀ s ~ a ̈ ́ \tau \alpha \nu^{*}$
 Iv., Antig. 605 ff.


 ov̉ $\pi \tau \eta \nu o ̀ \nu ~ o ̈ p \nu \iota \nu, ~ o v ̉ \delta \grave{~} \theta \hat{\eta} \rho^{\prime}$ ỏ $\rho \epsilon \iota \beta a ́ \tau \eta \nu$


 фóvov фóvov đ̀̀ $\mathfrak{\rho} v ́ \sigma \iota o v ~ \tau i ́ \sigma \omega ~ \tau a ́ \lambda a s ~$




$$
\text { Iv., Philoc. } 952 \text { ff. }
$$













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 $\pi \alpha \nu \tau \alpha ́ \pi \alpha \sigma \iota \tau \grave{̀} \nu \psi v \chi \grave{\eta} \nu \tau v \phi \lambda \omega \theta \epsilon i \not \eta \nu \quad \beta \lambda \epsilon ́ \pi \omega \nu \pi \rho o ̀ s ~ \tau \alpha ̀ ~ \pi \rho \alpha ́ \gamma \mu a \tau a$






2. (a) Write notes upon Kinadon, Salaethus, Iphicrates, Konon.
(b) Contrast the Spartan and the Athenian imperial systems.
(c) Give some account of the operations about Sphakteria.
3. (a) Estimate Xenophon's value as an historian. Name the chief lost historians of the fourth century b.c., and their works.
(b) Explain the terms-'trilogy,' 'tetralogy,' 'coryphaeus,' ' orchestra,' 'deus ex machina,' 'hypocrites,' 'parodos,' ' kommos.'
4. (a) What were the functions of the archons and strategi?
(b) Reconstruct the Athenian annual budget for the years before the Peloponnesian War.

## 352 Literary Scholarships of the Third Year.

## FRENCH.

## Examiner-Professor Steinberger.

I. Traduire en français:-

Jean de Bloch being dead, yet speaketh to the world, and will continue to speak through the Museum of War and Peace which he has created on the shores of the Lake of Lucerne, and which was opened on Saturday, June 7th, by M. Passy in the presence of an assembly of the friends of peace of all nations. The distinguished founder, whose marble bust surrounded with laurels stands in the great hall of the Museum, was represented by his son, M. Henri de Bloch, his widow, Madame de Bloch, and her two daughters, the Countess Koscielska, whose husband is a conspicious figure among the Polish members of the Prussian Herrenhaus, and her widowed sister, Madame Holynska. One of their guests made a remark that the late benefactor had after his death added to the benefits he had conferred upon the world by making the members of his brilliant and accomplished family better known to the leaders of Western thought and progress. To this may be added the further observation that he has still further increased the debt which we owe him by reminding us of the existence-of the continued and indestructible existence-of the Poles among the family of nations.

A Russian chronicler once bitterly complained that for centuries Russia was hidden from the eyes of mankind behind the two menacing spectres, the Pole and the Tartar, which enveloped her on the West and on the East.

## Litterature franģaise.

Faire connaître le rôle que joue le point d'honnsur dans la tragédie du Cid.

Ecrire, à grands traits, l'analyse du troisième chant de l'art poétique de Boileau.

Nommer et caractériser les œuvres principales de Molière, Racine, Boileau.
III. Epreuve orale sur les auteurs prescrits.

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GERMAN.<br>Examiner-Professor Steinberger.<br>I.-Composition.

Translate into German :-
Horace has prettily compared poems to those paintings of which the effect varies as the spectator changes his stand. The same remark applies with at least equal justice to speeches. They must be read with the temper of those to whom they were addressed, or they must necessarily appear to offend against the laws of taste and reason; as the finest picture, seen in a light different from that for which it was designed, will appear fit only for a sign. This is perpetually forgotten by those who criticise oratory. Because they are reading at leisure, pausing at every line, reconsidering every argument, they forget that the hearers were hurried from point to point too rapidly to detect the fallacies through which they were conducted; that they had no time to disentangle sophisms, or to notice slight inaccuracies of expression; that elaborate excellence, either of reasoming or of language, would have been absolutely thrown away. To recur to the analogy of the sister art, these connoisseurs examine a panorama through a microscope, and quarrel with a scene-painter because he does not give to his work the exquisite finish of Gerard Dow.

## II.-Deutiafe siteratur.

1. "Der erfte §rutzugg." Mberblita iber ben Gang ber Ereeig=

2. ©dillers ",WaUfenfein." über Den Werth biefes Dramas nad. Эnfalt und form. ©haratterfizzen ber நauptperjonen in ben Piccolomini.
3. Seffing. ©eine Bebeuturg als Mitbegrinder ber tlafiififen Weriobe ber beutiden Qiteratur.
III.—Mutndidide Pruifung über bie bargefdriefenen Berfe.

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## ENGLISH.

## First Paper.

Examiner-Professor Trencr.

1. State briefly the textual problem presented by Hamlet.

Is Hamlet's character brought out by comparison with the characters of others?
2. Consider Shakespeare's presentation of the character of Antonio, and of Jessica. Why is the story of Jessica introduced at all?
3. Compare Milton's blank verse with Shakespeare's. Give an account of the person of Mammon, and of his speech at the Council.
4. What moral and mental characteristics does Bacon exhibit in his essays? Do the essays often remind you of his part in public life?

Essay.-The marks allotted to essay will be awarded upon the answering of these four questions.

## ENGLISH.

## Second Paper.

Examiner-Professor Trench.

1. Write a note on the origin of Spenser's stanza, and its suitability for his purposes.

Annotate the words:-salvage; forwearied ; paynim ; unweeting; yfere; eftsoones; thewes.
2. Criticise briefly Sidney's treatment of English poetical literature. Why does he not mention Shakespeare: and would you expect him to care much for Shakespeare?
3. What is a sonnet? Give some account of the sonnetwriting of 1579-1616.
4. Write an account of Shakespeare's historical plays. Are there any other historical plays besides his, in his period ?

# Literary Scholarships of the Third Year. 355 

## LOGIC.

Examiner-Professor Trench.
Discuss:-

1. "In Formal Logic we are not really concerned with the validity of our thoughts."
2. "Connotation and denotation vary inversely."
3. "When I assert that A is $\mathbf{B}, \mathrm{I}$ am stating a relation between two concepts."
4. "The fourth figure is of no use."
5. "All poets are not imaginative; some philosophers are poets: therefore some philosophers are not imaginative."

## HISTORY.

Examiner-Professor Trench.

1. Sketch the relations subsisting between Charles the First and the Parliament up to 1642 .
2. Write a short account of the career of Shaftesbury. And write short notes upon-Naseby; the Navigation Act; the Act of Uniformity.
3. Narrate the political history of Ireland from 1625 to the landing of Cromwell.
4. Review the state of affairs in France when Henry the Fourth ascended the throne; and when he died.
5. Consider the causes of the Thirty Years' War. And summarise the terms of the Treaty of Westphalia.

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## SCIENCE SCHOLARSHIPS OF THE THIRD YEAR.

## MATHEMATICAL PHYSICS.

## (For Arts and Engineering.)

## Examiner-President Anderson.

1. State and prove the proposition called the Triangle of Forces.
$A, B, C, D$ are four small holes in a rertical lamina; and four elastic strings of natural lengths $O A, O B, O C, O D$ are attached to a point $O$ in the lamina, their other ends being passed through $A, B, C, D$ respectively, and attached to a small heary ring $P$. If the lamina be turned in its own plane about $O$, show that $P$ will describe a circle on it.
2. State the laws of Limiting Friction, and explain how they may be verified by experiment.

A right circular cone is placed with its base on a rough horizontal plane. A string is attached to its vertex, and then pulled in a horizontal direction. If the tension of the string be gradually increased until the cone begins to move, will the motion be sliding or tilting?
3. State the principle of Virtual Work, and prove it for a system of forces in a plane.
4. Define Work and Momentum. Show that the work done in lifting any number of weights is equal to the work done in lifting a weight equal to their sum tbrough the vertical height through which their centre of gravity is lifted.
5. A particle is projected with velocity $V$, at an angle a with the horizon. Find its range on a plane through the point of projection whose inclination to the horizon is $\beta$.
6. $2 n$ small smooth rings are fixed at equal intervals in a horizontal circle, and an endless string is passed through them in order. If the loops of the string between each consecutive pair of rings support pulleys of weight James Hardiman Library, NUI Galway

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$\boldsymbol{P}, Q, R, \ldots \& c .$, respectively, the portions of each leop not in contact with the pulleys being vertical, show that the pulley $P$ will descend with acceleration

$$
g\left(\frac{\frac{1-2 n}{P}+\frac{1}{Q}+\frac{1}{\vec{R}}+\cdots}{\frac{1}{P}+\frac{1}{Q}+\frac{1}{R}+\cdots}\right)
$$

7. Find the position of the centre of pressure on a plane triangle with one side in the surface, (1) when no atmosphere is present, (2) when there is an atmosphere.
8. A cylindrical diving-bell is lowered into water by means of a rope: neglecting the thickness of the bell, find how the tension of the rope varies as the bell is lowered.
9. Prove that the illumination at a point on the ground at a distance $d$ from a uniformly bright wall of infinite length and height $h$ is proportional to $1-d / \sqrt{h^{2}+d^{2}}$.
10. Prove the formula $A$ tan $z$ for the correction for refraction of the altitude of a star, pointing out the assumptions made in the proof.

## EXPERIMENTAL PHYSICS.

## Examiner-President Anderson.

1. A graduated glass tube contains a column of liquid. Find the relations between the coefficients of cubical expansion of the liquid and the glass when (a) the real length, and (b) the apparent length of the liquid column is independent of changes of temperature.
2. Light from an electric arc is allowed to pass through an incandescent sodium-flame, and then examined with a spectroscope. Under what conditions will the sodium-lines in the spectrum observed be (a) dark, and (b) bright?
3. What is meant by the internal pressure of a liquid Show how to find an approximate value for it from the principle of the conservation of energy, the latent heat of vaporization of the liquid being given.

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4. Explain why a telescope does not increase the apparent brightness of a planet, but does increase the apparent brightness of a fixed star.
5. Find the fundamental note and overtones of a given stretched string, having a given mass attached to its middle point. Show that, in general, these overtones are not harmonics of the fundamental.
6. Define the moment of a magnet.

A spherical magnet of radius $a$ is uniformly magnetized : find its moment, the intensity of magnetization being $I$.
7. Find the magnetic force inside a very long solenoid whose axis is rectilinear, when a current of strength $C$ is passing through it. Investigate, also, the case of a solenoid with a circular axis.
8. Define the coefficient of mutaal induction of two coils, and describe a method for measuring it.
9. Explain how the density of electrification of the Earth's surface may be determined experimentally.
10. Give a short explanatory description of the wireless telegraphic method.

## CHEMISTRY.

Examiner-Professor Senier.
[Formula, equations, and diagrams are to be used whenever possible.]

1. Describe a method (a) for the preparation of dry hydrochloric acid, (b) for determining its composition, (c) for finding its molecular weight, and (d) state in round numbers the figures for $b$ and $c$ that have been obtained.
2. How may carbon monoxide be prepared and its composition determined?
3. State what reactions take place between chlorine and solutions of the following:-hydrogen sulphide, ammonia, potassium hydroxide, ferrous sulphate, potassium ferrocyanide.

## Science Scholarships of the Third Year. 359

4. Explain the meaning of the terms 'allotropy' and 'isomerism.' Illustrate by examples of each, and suggest an explanation.
5. Contrast the action of heat on potassium cyanide and on mercuric cyanide.
6. Given some mercury, state how you would proceed to prepare the following mercury compounds:-mercuric oxide, red and yellow ; mercuric iodide, red and yellow; mercurous chloride.

## ZOOLOGY AND BOTANY.

Examiner-Professor Richard J. Anderson.

1. Classify Crustacea. Describe the nervous system in a Crayish.
2. Define Lacertilia; and describe the circulatory apparatus of the green Lizard.
3. Classify Carnivora, and note the distinctive characters in each group.
4. State the functions of the various glands found associated with the alimentary canal in Mammals.
5. Compare the structures seen under the microscope in a thin transverse section of a Dicotyledon of one year's growth with the structures seen in a similar section of a Monocotyledon.
6. Write an account of the calyx.
7. Define the Papaveraceæ, Umbelliferæ, and the Scrophularineæ.
8. Write a short account of Insectivorous Plants.

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## GEOLOGY, MINERALOGY, AND PHYSICAL GEOGRAPHY.

Examiner-Professor Richard J. Anderson.

1. Define the terms:-'dip fault,' 'outlier,' 'strike joint,' ' repeat,' ' overthrust,' ' eskers,' ' laccolite,' ' escarpment,' 'talus,' 'hade' (of a fault), 'slickensides,' and 'breccia.'
2. How would you determine the age of a stratified rock? What errors must one guard against in the inrestigation?
3. Write an account of the Cretaceous System.
4. Write a brief account of the physical features of Europe.
5. What changes in the composition and movements of air affect the value of observations made with instruments of precision?
6. Give the notation for the faces of the prism of the trimetric system; and define the terms 'macrodome,' ' brachypinacoid,' ' pyramid ' (face), and ' prism ' (face).
7. Give the characters and composition of six copper ores.
8. Give a short account of the feldspars.

## SENIOR SCHOLARSHIP IN ANCIENT CLASSICS.

## GREEK.

First Paper.
Examiner-Profrssor M'Elderry.

1. Translate into Greek Prose :-

In these extremities the perverse obstinacy of the Athenians was very strange, who having at their backs, and at their own doors, an enemy little less mighty than themselves, did yet send forth another fleet into Sicily to in rade a people no less puissant which never had offended them. It often happens James Hardiman Library, NUI Galway

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that prosperous event makes foolish counsel appear wiser than it was, which came to pass many times among the Athenians, whose vain conceits Pallas was said to turn unto the best. But where unsound advice, finding bad proof, is obstinately pursued, neither Pallas nor Fortune can be justly blamed for a miserable issue. This second fleet of the Athenians, which better might have served to convey home the former, that was defeated, after some attempts made to small purpose against the Syracusans, was finally quite vanquished; whereby the camp of the Athenians was driven to break up and fly away by land, in which flight they were overtaken, routed, and quite overthrown in such wise that scarce any man escaped.-Sir W. Raleigif.

## Unprescribed Passages.

2. Translate into English :-
[Theseus offers help to Oedipus.]
 тàs ai $\mu a \tau \eta \rho a ̀ s ~ o ̉ \mu \mu a ́ \tau \omega v$ סıaф $\theta o \rho a ̀ s$





 aủtós $\tau \epsilon \chi \grave{\eta} \sigma \grave{\eta} \delta \dot{v} \sigma \mu о \rho o s ~ \pi а р а \sigma \tau a ́ \tau \iota s . ~$










Sophocles, Oed. Col., 551 ff.

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 Plato, Gorgias, p. 493d.
3. (a) Enumerate, with examples, the different forms of perfect reduplication.
(b) Explain fully the usages of ov̉ $\mu \dot{\eta}$, oủX ${ }^{\circ} \pi \omega s, a ̉ \lambda \lambda a ̀ ~ \nu \grave{\eta}$ $\Delta i a, \mu \in \grave{\nu}$ oũv, $\mu \grave{e} \nu \delta \dot{\eta}$.

(d) Give instances (two in each case) of analogy in gender and in syntax, and of compensatory lengthening of vowels.

## GREEK.

## Second Paper.

Examiner-Professor M‘Elderry.

1. Translate, with brief notes where necessary :-




$\nu \omega \nu ~ \nu ı к а ф о р i ́ a s ~ \delta ́ ́ \delta є к-~$
Jame $\operatorname{tdt}$ arp

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 ỏфєí $\lambda \epsilon \iota \delta^{\prime}$ ' $\epsilon \tau \iota, \pi a \tau \rho i ́ a \nu$

 $\theta a \mu \grave{\alpha} \mu \epsilon ̀ \nu$ ' $I \sigma \theta \mu \iota a ́ \delta \omega \nu \delta \rho \epsilon ́ \pi \epsilon \sigma-$ Oaı ка́ $\lambda \lambda \iota \sigma \tau о \nu$ ä $\omega \tau о \nu$ ढ̀v ПvӨioucí $\tau \epsilon \nu \iota \kappa \hat{\nu} \nu$

д́ $\rho \epsilon \iota \hat{\alpha} \nu \gamma \in \Pi_{\epsilon} \lambda_{\epsilon} \epsilon a ́ \partial \omega \nu$
$\mu \grave{\eta} \tau \eta \lambda \dot{\sigma} \theta \epsilon v$ ' $\Omega a \rho i ́ \omega v a \nu \epsilon \hat{\epsilon} \sigma \theta a \iota$.


$\tau \omega \rho$ A ̈̈avtos äкоvбєv. ڤ
Tı $\mu$ о́ð $\eta \mu \epsilon, \sigma \grave{\varepsilon} \delta^{\prime} \dot{a} \lambda \kappa \grave{\alpha}$
$\pi а ү к \rho a \tau i o v ~ \tau \lambda \alpha ́ \theta v \mu o s ~ a ́ \epsilon ́ \xi \epsilon \iota . ~$
Pindar, Nemeans in, 1-15.
(b) каі̀ $\tau o ̀ ~ \mu \epsilon ̀ v ~ \pi \rho o ̀ ~ \chi \rho \eta \mu a ́ \tau \omega \nu ~$ $\kappa \tau \eta \sigma \iota \omega \nu$ ӧкขоs $\beta$ ал̀̀ $\nu$ $\sigma \phi \epsilon \nu \delta o ́ v a s \dot{a} \pi^{\prime} \epsilon \dot{v} \mu \epsilon ́ \tau \rho o v$,
 $\pi \eta \mu o v a ̂ s \gamma^{\prime} \mu \omega \nu$ ä $\gamma \alpha \nu$,




 $\pi \rho \circ \pi \alpha ́ \rho o \iota \theta$ 'ảvóòs $\mu \in ́ \lambda \alpha a \nu$ aí $\mu \alpha$ тís à $\nu$
 oủ $\delta \grave{\text { c̀ }} \tau$ òv ỏ $\rho \theta 0 \delta a \hat{\eta}$ $\tau \hat{\omega} \nu \phi \theta \iota \mu \epsilon ́ v \omega \nu \dot{\alpha} \nu \alpha \dot{\alpha} \gamma \epsilon \nu$
 Aeschyles, Agamemnon, 978 ff.





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Oрavouévas кєраías.

$\delta \nu \sigma \pi a \lambda \epsilon \hat{\imath} \tau \epsilon \delta_{i ́ v a}$.



$\delta \iota^{\prime} \alpha i ̄ \omega \nu=s \delta_{\epsilon} \tau \grave{\nu} \nu \pi \rho \grave{\nu} \nu \stackrel{\circ}{\partial} \lambda \beta o \nu$
є $\rho \mu \alpha \tau \iota \pi \rho о \sigma \beta a \lambda \omega \nu$ бі́каs


AIE.
ф $\eta \mu \grave{~ к} \mathfrak{a} \gamma \boldsymbol{\gamma}$.




AIS.
$\phi \eta \mu i ̀ \kappa$ к̉јш́.






 $\sigma a \lambda \pi \iota \gamma \gamma_{0} \lambda о \gamma \chi v \pi \eta \nu \alpha ́ \delta \alpha \iota, \sigma \alpha \rho \kappa \alpha \sigma \mu о \pi \iota \tau v о \kappa \alpha ́ \mu \pi \tau \alpha \iota^{*}$

 ös, ク้̈ какоîs $\pi$ оv $\pi \epsilon \rho เ \pi \epsilon ́ \sigma \eta, ~ к а i ̀ ~ \pi \lambda \eta \sigma i o v ~ \pi а \rho а \sigma \tau \hat{\eta}$,
 Aristophanes, Frogs, 954 ff.
















Theocrites, vir, 143 ff.




 Х $\rho o ́ v o v ~ \gamma \iota \nu с \mu \epsilon ́ v \eta$, จйтє $\pi a \mu \mu \epsilon ́ \gamma \epsilon \theta \epsilon \varsigma$, ov̀ $\gamma \grave{\alpha} \rho$ à $\mu a \dot{\eta} \dot{\eta} \theta \epsilon \omega \rho i ́ a$


















 Lxsias, Kajà 'Epatoo日évovs, 18, 19.

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 тoủvavtiov.-Demosthenes, de Falsa Legatione, 251-2.
2. (a) Sketch the history of Olynthus during the fourth century.
(b) Trace the career of the Second Athenian Empire. Wherein did its constitution differ from that of the former?
3. (a) How far is the evolution of comedy illustrated by Aristophanes' career? What is known of Menander, and from what sources?
(b) Give some account of the Eleusinian Mysteries.

## LATIN.

## First Paper.

## Examiner-Professor M‘Elderra.

1. Translate into Latin :-

The death of Nelson was felt in England as something more than a public calamity. Men started at the intelligence and turned pale, as if they had heard of the loss of a dear friend. An object of our admiration and affection, of our pride and of our hopes, was suddenly taken from us,
and it seemed as if we had never till then known how deeply we loved and reverenced him. What the country had lost in its great naval hero-the greatest of our own and of all former times-was scarcely taken into the account of grief. So perfectly, indeed, had he performed his part, that the maritime war, after the Battle of Trafalgar, was considered at an end; the fleets of the enemy were not merely defeated but destroyed; new navies must be built, and a new race of seamen reared for them, before the possibility of their invading our shores could again be contemplated. It was not, therefore, from any selfish reflection upon the magnitude of our loss that we mourned for him; the general sorrow was of a higher character.-Souther.

## 2. Translate the following unprescribed passages :-

(a) Hospite venturo cessabit nemo tuorum.

- Verre pavimentum, nitidas ostende columnas, Arida cum tota descendat aranea tela, Hic leve argentum, vasa aspera tergeat alter!' Vox domini fremit instantis virgamque tenentis. Ergo miser trepidas, ne stercore foeda canino Atria displiceant oculis venientis amici, No perfusa luto sit porticus; et tamen uno Semodio scobis haec emendat servulus unus: lllud non agitas, ut sanctam filius omni Adspiciat sine labe domum vitioque carentem?

Juvenal, xiv. 59.
(b) Vide quam sit varia vitae commutabilisque ratio, quam vaga volubilisque fortuna, quantae infidelitates in amicis, quam ad tempus aptae simulationes, quantae in periculis fugae proximorum, quantae timiditates. Erit erit illud profecto tempus et illucescet ille aliquando dies cum tu, salutaribus ut spero rebus tuis, sed fortasse motu aliquo communium temporum immutatis (qui quam crebro accidat, experti scire debemus,) et amicissimi benevolentiam et gravissimi hominis fidem et unius post homines natos fortissimi viri magnitudinem animi desideres.-Cioero, Pro Milone, 69.

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8. Translate into English :-

Illud in his rebus longe fuge credere, Memmi, In medium summae quod dicunt omnia niti, Atque ideo mundi naturam stare sine ullis Ictibus externis neque quoquam posse resolvi Summa atque ima, quod in medium sint omnia nixa; Ipsum si quicquam posse in se sistere credis, Et quae pondera sunt sub terris omnia sursum Nitier in terraque retro requiescere posta, Ut per aquas quae nunc rerum simulacra videmus. Et simili ratione animalia suppa ragari Contendunt, neque posse e terris in loca caeli Reccidere inferiora magis quam corpora nostra Sponte sua possint in caeli templa volare; Illi cum videant solem, nos sidera noctis Cernere, et alternis nobiscum tempora caeli Dividere et noctes parilis agitare diebus. Lucbetios, i. 1052.
What theories of Empedocles and Anaxagoras areattacked in this book, and why?
4. (a) Give some account of Cicero as a letter-writer.
(b) Write notes upon Caesar as an author, Publilius Syrus, and Vitruvius.
5. (a) State Verner's Law.
(b) What is meant by ablaut? Give examples in all the series.
(c) Write a note upon the pronunciation of the vowels and diphthongs in Latin.

## LATIN.

## Segond Paper.

Examiner-Professor M‘Elderry.

1. Translate, with brief notes :-
(a) Eadem aestate cohors Usiporum per Germanias conscripta et in Britanniam transmissa magnum ac memorabile facinus ausa est. Occiso centurione ac militibus, qui ad
tradendam disciplinam immixti manipulis exemplum et rectores habebantur, tris liburnicas adactis per vim gubernatoribus ascendere; et uno renavigante, suspectis duobus eoque interfectis, nondum vulgato rumore ut miraculum praevehebantur. Mox ad aquam atque utilia raptum egressi et cum plerisque Britannorum sua defensantium proelio congressi, ac saepe victores, aliquando pulsi, eo ad extremum inopiae venere, ut infirmissimos suorum, mox sorte ductos vescerentur. Atque ita circumvecti Britanniam, amissis per inscitiam regendi navibus, pro praedonibus habiti, primum a Suebis, mox a Frisiis intercepti sunt. Ac fuere quos per commercia venumdatos et in nostram usque ripam mutatione ementium adductos indicium tanti casus inlustravit.-Tacitus, Agricola, 28.
(b) Quid, si vidisset praetorem curribus altis Exstantem, et medii sublimem pulvere Circi, In tunica Iovis, et pictae Sarrana ferentem Ex humeris aulaea togae, magnaeque coronae Tantum orbem, quanto cervix non sufficit ulla? Quippe tenet sudans hanc publicus, et, sibi Consul Ne placeat, curru servus portatur eodem. Da nunc et volucrem, sceptro quae surgit eburno, Illinc cornicines, hinc praecedentia longi Agminis officia et niveos ad frena Quirites, Defossa in loculis quos sportula fecit amicos. Tum quoque materiam risus invenit ad omnes Occursus hominum, cuius prudentia monstrat, Summos posse viros et magna exempla daturos Vervecum in patria crassoque sub aere nasci. Ridebat curas, nee non et gaudia vulgi, Interdum et lacrumas, cum Fortunae ipse minaci Mandaret laqueum, mediumque ostenderet unguem.
(c) Cum ante lucem vin. Kal. ad te [de Dionysio] litteras dedissem, vesperi ad nos eodem die venit ipse Dionysius, auctoritate tua permotus, ut suspicor. Quid enim putem aliud? Etsi solet eum, cum aliquid furiose fecit, paenitere. Nunquam autem cerritior fuit quam in hoc negotio. Nam,

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quod ad te non scripseram, postea audivi a tertio miliario timuisse,

multa, inquam, mala cum dixisset : suo capiti, ut aiunt. Sed en meam mansuetudinem ! Conieceram in fasciculum una cum tua vehementem ad illum epistolam: hanc ad me referri volo, nec ullam ob aliam causam Pollicem servum a pedibus meis Romam misi. Eo autem ad te scripsi, ut, si tibi forte reddita esset, mihi carares referendam, ne in illius manus perveniret. Nori si quid esset, scripsissem. Pendeo animi exspectatione de re Corfiniensi, in qua de salute rei publicae decernetur. Tu fasciculum, qui est $\mathrm{Mr}^{\prime}$. Curio inscriptus, velim cures ad eum perferendum, Tironemque Curio commendes et ut det ei, si quid opus erit in sumptum, roges.-Cicero, ad Att. viii. 5.
(d) Quaerendum igitur, quem ad modum aegritudine privemus eum, qui ita dicat:
' . . . pol mihi fortuna magis nunc defit quam genus. Namque regnum suppetebat mi, ut scias, quanto e loco, Quantis opibus, quibus de rebus lapsa fortuna occidat.'

Quid? huic calix mulsi impingendus est, ut plorare desinat, aut aliquid eius modi? Ecce tibi ex altera parte ab eodem poeta:
' Ex opibus summis opis egens, Hector, tuae.'
Huic subvenire debemus; quaerit enim auxilium :
' Quid petam praesidi aut exequar quove nunc Auxilio exili aut fuga freta sim?
Arce et urbe orba sum. Quo accidam? quo applicem?
Cui nec arae patriae domi stant, fractae et disiectae iacent,
Fane flamma deflagrata, tosti alti stant parietes
Deformati atque abiete crispa
Scitis, quae sequantur, et illa in primis:
' O pater, o patria, o Priami domus, Saeptum altisono cardine templum! Vidi ego te astante ope barbarica Tectis caelatis, laqueatis, Auro, ebore instructam regifice.'

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O poetam egregium! quamquam ab his cantoribus Euphorionis contemnitur. Sentit omnia repentina etnecopinata esse graviora. Exaggeratis igitur regiis opibus, quae videbantur sempiternae fore, quid adiungit?

- Haec omnia vidi inflammari, Priamo vi vitam evitari, Iovis aram sanguine turpari.'
Praeclarum carmen! Est enim et rebus et verbis et modis lugubre. Eripiamus huic aegritudinem. Quo modo? Conlocemus in culcita plumea, psaltriam adducamus, hedychri incendamus scutellam, dulciculae potionis aliquid videamus et cibi. Haec tandem bona sunt, quibus aegritudines gravissimae detrahantur; tu enim paulo ante ne intellegere quidem te alia ulla dicebas.-ID. Tusc. Disputationes, iii. 44.
(e) Koıvà фí $\lambda \omega \nu$ haec sunt, haec sunt tua, Candide, коьvó,

Quae tu magniloquus nocte dieque sonas:
Te Lacedaemonio velat toga lota Galeso,
Vel quam seposito de grege Parma dedit:
At me quae passa est furias et cornua tauri,
Noluerit dici quam pila prima suam.
Misit Agenoreas Cadmi tibi terra lacernas :
Non vendes nummis coccina nostra tribus.
Tu Libycos Indis suspendis dentibus orbes:
Fulcitur testa fagina mensa mihi.
Immodici tibi flava tegunt chrysendeta mulli :
Concolor in nostra, cammare, lance rubes.
Grex tuus Iliaco poterat certare cinaedo:
At mihi succurrit pro Ganymede manus.
Ex opibus tantis veteri fidoque sodali
Das nihil, et dicis, Candide, кouvà фí $\lambda \omega \nu$ ? Martlal, ii. 43.
2. (a) 'The dyarchy is a transparent fiction.' Explain fully.
(b) What annexations were made by Rome under Claudius? Briefly explain the circumstances of each.
(c) 'Here for the first time the Christian sect appears on the stage of profane history.' Give a full account of this occasion.

## SENIOR SCHOLARSHIP IN ENGLISH AND MODERN LANGUAGES.

## ENGLISH.

## First Paper.

Examiner-Professor Trenol.

1. Consider the extent to which, in writing Richard the Third, Shakespeare may have been influenced by Marlowe, whether in the method of character-drawing, or in the metrical form.
2. Show clearly Shakespeare's object in introducing the Gloucester story into King Lear. Is the Unity of Action annulled thereby?
3. Give, in your own language, Chaucer's description of the Prioress. Write notes upon 'yronne,' ' lovyer,' 'as Austin bit,' ' rouncy,' ' algate,' 'forward (noun).'
4. Show, from The Task, the chief characteristies of Cowper's style.
5. Explain Coleridge's quotation from Mr. John Davies' poem.

## ENGLISH.

## Second Paper.

## Examiner-Professor Trenol.

1. Write a short account of the work of Southey; and of the oarlier poems of Tennyson.
2. Write a short Essay on 'Byron's powers as Dramatist and as Satirist.'
3. Write a short Essay on 'Wordsworth's Lyrical Poems considered as a "criticism of life."'

## FRENCH.

Examiner-Professor Steingerger.

1. Traitez le thème suivent:-

La renaissance de l'esprit industriel en Irlande.

## 2. Traduisez en français :-

Lord Salisbury, we were told confidently, would resign as soon as the Coronation was over. Will he resign now that the Coronation has been postponed? Mr. Julian Ralph, in his article on "The Marquis of Salisbury" in the Century Magaine, does not discuss this question, but his article is worth summarising. Lord Salisbury (says Mr. Ralph) will probably be quoted and discussed by generations yet unborn, if only because he was three times Prime Minister when England was breaking her narrower bonds and assuming an Imperial character. He will be regarded as a brake upon the speed of this transition-as an anachronistic figure representative of all the Conservatism of his fellow-countrymen, holding back with bulldog grip the excess of the spirit of our electric age.

There is little trace of the aristocrat, says Mr. Ralph, about Lord Salisbury's appearance. His figure is huge, bent, clumsy. But his face is that of an intensely reflective man, sober, even grave, and very haughty. In his old days he cut an awkward figure when addressing his fellow-members of the House of Commons. He gesticulated clumsily, and his voice was hard and inflexible. As a politician he was not depended upon by his own party; and so biting and severe were his retorts in debate, so seemingly needless and uncalled for were his sarcastic utterances, that many members heartily disliked and many others feared him. By the time he had passed to the House of Lords he had mellowed a great deal and learnt to control himself. As a speaker he keeps apart from his hearers, for he has no magnetic or sympathetic quality in his voice or personality. He lacks geniality. He is sincere, but his sincerity is manifested without enthusiasm ; and his eloquence is better calculated to please the educated than the plain people.
3. Epreuve orale sur les auteurs prescrits.

## GERMAN.

## Examiner-Professor Stensberger.

## I.- $\mathfrak{Z y e m a ~ z u ~ e i n e m ~ b e u t i f i e n ~} \mathfrak{M} u f f a k:-$

Mithelm $\mathfrak{Z e l l}$ als freibeitsfeld.

## II.-Man überfege in's bueutide:-

In the dawning light of a Sunday morning this summer, a woman crept up the steep steps of one of the great blocks of " model" dwellings in South London. Reaching the top, she broke the window with her boot, and with one mad leap crashed lifeless on the pavement sixty feet below. What drove her to suicide? The Coroner's verdict, "Insanity through starvation," told only a part of the bitter story. She was the victim of our cruel social system which separates rich from poor-those who can give help from those who so sorely need it. Had this poor despairing woman but had a friend to hold out a strong hand, this tragedy might have been averted, and sorrows might have been changed into the light of gladness and good. The Browning Settlement in Walworth exists to find out and help in love and brotherhood all who need a helping hand. Such a tragedy as is above described ought never to be possible in England; and as such agencies of brotherly helpfulness as the Browning Settlement are multiplied, it will become ever less possible. We thrill with horror at this tragic ending of one life ; but how many, how few ever give a thought to the hundreds of little lives being slowly destroyed in the courts and alleys of the great metropolis, of the men and women who fight life's hard fight with failing strength and fainting heart, and at last the unequal fight ends. Ve victis. Not once nor twice, but many times it has been found that timely help, a rest from work in country air, a holiday by the sea has given new life and hope and health. But this need can all too seldom be met out of the scanty earnings of the unskilled worker, so such agencies as the Browning Settlement step in and secure the much-needed holiday.


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## SENIOR SCHOLARSHIP IN MATHEMATICS.

## First Paper.

Examiner--Professor Bromwich.
[Not more than EIGHT questions should be attempted.]

1. If

$$
\lim _{x=+\infty} \phi(x)=+\infty, \quad \lim _{x=+\infty} \psi(x)=+\infty,
$$

prove that

$$
\lim _{x=+\infty} \frac{\phi(x)}{\psi(x)}=\lim _{x=+\infty} \frac{\phi^{\prime}(x)}{\psi^{\prime}(x)},
$$

provided that the limit on the right exists, and that $\psi^{\prime}(x)$ is always positive for values of $x$ greater than some definite number. By considering the two special cases
(i) $\phi(x)=x+\sin x, \quad \psi(x)=x$,
(ii) $\phi(x)=x+\sin x \cos x, \quad \psi(x)=e^{\sin x}(x+\sin x \cos x)$,
show (i) that the existence of the limit on the left does not ensure the existence of the limit on the right ; and (ii) that if the second condition is violated, the limit on the left may not exist, even though the limit on the right is perfectly definite.
2. The tangent and normal at an ordinary point of a plane curve are taken as axes, so that we can write

$$
y=a x^{2}+b x^{3}+c x^{4}+\ldots
$$

the series conrerging for sufficiently small values of $|x|$. Prove that if $s$, $\kappa$ are the arc and curvature at the point $(x, y)$, then

$$
\begin{aligned}
& 8=x+\frac{2}{3} a^{2} x^{3}+\frac{3}{2} a b x^{4}+\ldots \\
& \kappa=2 a+6 b x+12\left(c-a^{3}\right) x^{2}+\ldots
\end{aligned}
$$

Deduce that we have

$$
\kappa_{0}=2 a, \quad\left(\frac{d \kappa}{d s}\right)_{0}=6 b, \quad\left(\frac{d^{2} \kappa}{d^{2} s}\right)_{0}=24\left(c-a^{3}\right)
$$

where the suffix 0 relates to the origin.

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Show also that the conic of closest contact at the origin is

$$
y=a x^{2}+(b / a) x y+\left(a c-b^{2}\right) y^{2} / a^{3} .
$$

3. The function ( $f x, y, s$ ) is homogeneous in $x, y, z$ of degree $(n+1)$; prove that if $f(x, y, z)=0$

$$
\frac{y z-\dot{y} z}{f_{1}}=\frac{\dot{x} \dot{x}-\dot{x} x}{f_{2}}=\frac{x \dot{y}-\dot{x} y}{f_{3}} \underline{y}=\lambda,
$$

and that

$$
\left|\begin{array}{ccc}
x, & y, & z \\
\dot{x}, & \dot{y}, & \dot{z} \\
\ddot{x}, & \ddot{y}, & \ddot{z}
\end{array}\right|=\frac{\lambda^{3}}{n^{2}}\left|\begin{array}{ccc}
f_{11}, & f_{12}, & f_{13} \\
f_{21}, & f_{22}, & f_{23} \\
f_{31}, & f_{32}, & f_{33}
\end{array}\right|,
$$

where

$$
\dot{x} \equiv \frac{d x}{d t}, \quad \ddot{x}=\frac{d^{2} x}{d t^{2}}, \& c . \quad f_{1}=\frac{\bar{c} f}{\hat{c} x}, \quad f_{11} \equiv \frac{\hat{c}^{2} f}{\partial x^{2}}, \& c .
$$

4. If

$$
f(a)=\int_{0}^{\infty} e^{-a x} \frac{\sin x}{x} d x \quad(a>0)
$$

prove that

$$
\begin{aligned}
\frac{1}{h}[f(a)-f(a+h)]=\int_{0}^{1 / \sqrt{\lambda}} e^{-a x}\left(\frac{1-e^{-h x}}{h x}\right) & \sin x d x \\
& +\int_{1 / / \bar{h}}^{\infty} e^{-(a+\mu) x} \sin x d x
\end{aligned}
$$

where $h$ is supposed to be positive, and $0<\mu<h$.
How would this be altered if $h$ were negative?
Deduce that

$$
f^{\prime}(a)=-\int_{0}^{\infty} e^{-a x} \sin x d x
$$

Evaluate the last integral and so prove that

$$
f(a)=\tan ^{-1}(1 / a),
$$

the angle being between 0 and $\frac{1}{2} \pi$.
5. Prove that if $a>0$

$$
\begin{aligned}
& \int_{0}^{\infty} \frac{\sin x}{x} d x-\int_{0}^{\infty} e^{-a x} \frac{\sin x}{x} d x \\
& \quad=\int_{0}^{1 / \sqrt{a}} a e^{-\lambda x} \sin x d x+\int_{x / / \bar{a}}^{\infty} \frac{\sin x}{x} d x-\int_{\mathrm{I} / / \bar{a}}^{\infty} e^{-a x} \frac{\sin x}{x} d x
\end{aligned}
$$

where

$$
0<\lambda<a .
$$

Prove that, of the last three integrals, the first is less, numerically, than $\sqrt{a}$; while the second and third are each less than $2 \sqrt{a}$ in numerical value. Deduce that

$$
\int_{0}^{\infty} \frac{\sin x}{x} d x=\lim _{a=0} \int_{0}^{\infty} e^{-a x} \frac{\sin x}{x} d x=\frac{\pi}{2} .
$$

6. State the properties of a uniformly convergent series of functions of $x$ with reference to (i) continuity; (ii) term-byterm differentiation ; (iii) term-by-term integration.

Are there corresponding properties with respect to uniformly convergent infinite integrals? Illustrate by means of the integrals discussed in questions 4, 5 .
7. Find the tangent cone drawn from $\left(x_{0} y_{0} s_{0}\right)$ to the ellipsoid

$$
x^{2} / a^{2}+y^{2} / b^{2}+\mathrm{z}^{2} / c^{2}=1 ;
$$

and discuss the locus of ( $x_{\mathrm{o}} y_{0} \mathrm{z}_{0}$ ) in case the cone cuts the plane $s=0$ in a rectangular hyperbola.
8. Write down the equation to any hyperboloid which has the axis of $s$ as a generator; and prove that the normals at points along the axis of 8 trace out a paraboloid (hyperbolic).
9. Find the centre and lengths of the semiaxes of the section of the paraboloid
by the plane

$$
x^{2} / a+y^{2} / b=2 z
$$

$$
l x+m y+n z+p=0 .
$$

Show that, if the section is a real circle,

$$
l=0, \quad m / n= \pm(a / b-1)^{\frac{1}{2}}, \quad \text { and } \quad p / n<\frac{1}{2}(a-b)
$$

(if $a>b>0$ ); but that there are no real circular sections if $a, b$ have opposite signs.

378 Senior Scholarship in Mathematics.
10. A quadric is given by its tangential equation (the condition that the plane

$$
l x+m y+n z+p=0
$$

should touch it); this equation is

$$
f(l, m, n, p)=0
$$

determine the relations to the quadric of
(i) the point

$$
x=f_{1} / f_{4}, \quad y=f_{z_{j}} / f_{4}, \quad z=f_{3} / f_{4}
$$

(ii) the point (i) for the special values

$$
l=0, \quad m=0, \quad n=0 .
$$

Prove that the equation

$$
\begin{aligned}
& f(l, m, n, p) \cdot f\left(l_{0}, m_{0}, n_{0}, p_{0}\right) \\
& \quad-\frac{1}{4}\left(l_{0} f_{1}+m_{0} f_{2}+n_{0} f_{3}+p_{0} f_{4}\right)^{2}=0
\end{aligned}
$$

represents the plane section of the quadric by the plane

$$
l_{0} x+m_{0} y+n_{0} \tilde{y}+p_{0}=0 .
$$

[Note, $\left.\quad f_{1} \equiv \frac{\partial f}{\partial l}, \& c.\right]$.
11. The origin is taken at an ordinary point of a surface, so that we may putits equation in the form

$$
2 x=a x^{2}+b y^{2}+\ldots
$$

for sufficiently small values of $|x|$ and $|y|$. The normal is drawn at $(x, y, z)$ : prove that, approximately,
(i) the angle between the normal and the axis of $s$ is $r / R \sin \phi ;$
(ii) the shortest distance between these two lines is $r \cos \phi ;$
(iii) the distance of the shortest distance from the surface is $R \sin ^{2} \phi$;
where

$$
\tan \phi=\left|\left(a x^{2}+b y^{2}\right) /(a-b) x y\right|, \quad r^{2}=x^{2}+y^{2}
$$

and $R$ is the radius of curvature of the section through the axis of $z$ and the point ( $x, y, z$ ).

Second Paper.<br>Examiner-Professor Bronwtoh.

[Not more than eiget questions should be attempted.]

1. Normals are drawn from any point to the conic

$$
a x^{2}+b y^{2}+c=0 \text { : }
$$

prove that, if

$$
l x+m y+n=0, \quad l^{\prime} x+m^{\prime} y+n^{\prime}=0
$$

are a pair of opposite chords joining the four feet, then

$$
l l^{\prime} / a=m m^{\prime} / b=n n^{\prime} / c .
$$

Deduce that, if one of the four feet is fixed, say at $\left(x_{0}, y_{0}\right)$, the sides of the triangle formed by the other three feet touch the parabola whose tangential equation is

$$
a x_{0} m n+b y_{0} n l+c l m=0 .
$$

Show that the focus of the parabola is given by

$$
a x x_{0}+b y y_{0}-c=0, \quad a y x_{0}-b x y_{0}=0 .
$$

2. Prove that one parabola can be drawn to touch any four straight lines; and, if the axes are chosen so that the parabola is $y^{2}=4 a x$, find the equations to the three circles described on the diagonals of the quadrilateral as diameters. Prove that the circles are coasal and have the directrix $x+a=0$ as radical axis.
[Take the four lines as $x-t y+a t^{2}=0, t=a, \beta, \gamma, \delta$.]
3. Prore that one deltoid (three-cusped hypocycloid) can be drawn to touch any four straight lines; and that the axes can be chosen so that the equations to the four lines become

$$
x t^{2}+y t=c\left(t^{3}+1\right), \quad t=a, \beta, \gamma, \delta,
$$

where $x, y$ are conjugate complex coordinates, and $t$ is complex with the absolute value unity.
Find the orthocentre $\left(O_{4}\right)$ and the circumcentre $\left(C_{4}\right)$ of the triangle formed by the first three lines; show that they are equidistant from the origin, and deduce a theorem on the lines which bisect at right angles the lines $O_{1} C_{1}, O_{2} C_{2}$, $O_{3} C_{3}, O_{4} C_{6}$.

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4. Trace the curve

$$
y z^{2}+8 x^{2}+x y^{2}=0
$$

the triangle of reference being equilateral, with the unitpoint at the centre; and find its intersections with the 6 bisectors of the angles of the triangle. Find the conic of closest contact at the point $x=0, y=0$.
5. Show that the conic passing through the 6 points of contact of tangents from the origin to the cubic
is

$$
\begin{aligned}
u_{3}+u_{2}+u_{1}+u_{0} & =0 \\
u_{2}+2 u_{1}+3 u_{0} & =0 .
\end{aligned}
$$

[ $u_{a}$ denotes a polynomial in $x, y$, of degree $a$ ].
6. If the three asymptotes of a cubic meet in a point on the curve, prove that this point is an inflexion, and is also the centre of the curve.

Trace the curve $\quad x y(x-y)=x+y$.
7. Given

$$
y z-\xi^{2}=z x-\eta^{2}=x y-\zeta^{2}=\eta \zeta-x \xi=\zeta \xi-y \eta=\xi \eta-s \zeta=k,
$$

find how many independent relations between $x, y, z, \xi, \eta, \zeta$ these amount to.

Prove that, if $k$ is not zero,

$$
x-\xi=y-\eta=s-\zeta=(x y z-\xi \eta \zeta) / k .
$$

8. Integrate the differential equation (which gives the motion of chain falling from a coil)-

$$
x \frac{d^{2} x}{d t^{2}}=g x-\left(\frac{d x}{d t}\right)^{2}
$$

given that $x=0$ initially.
9. Prove that the orthogonal trajectories of the curves
are given by

$$
\left(r-1 / r^{2}\right) \cos \theta=\text { constant }
$$

$$
\left(r^{2}+2 / r\right) \sin ^{2} \theta=\text { constant }
$$

Trace roughly both sets of curves. NUI Galway

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10. Integrate completely the equations-
(i) $\frac{d^{2} y}{d x^{2}}-y=\cosh x=1+\frac{x^{2}}{2!}+\frac{x^{4}}{4!}+\ldots$,
(ii) $x^{2}(1-x) \frac{d^{2} y}{d x^{2}}+2 x^{2} \frac{d y}{d x}-2(1-2 x) y=0$
by assuming solutions of the type

$$
x^{a}\left(A_{0}+A_{1} x+A_{2} x^{2}+\ldots\right)
$$

when $a$ is an index to be found.
Reduce your solutions to finite terms.
11. If

$$
\left(\frac{d x}{d t}\right)^{2}=1+x^{4}, \quad\left(\frac{d y}{d t}\right)^{2}=1+y^{4},
$$

find the value of

$$
\left(x \frac{d^{2} y}{d t^{2}}-y \frac{d^{2} x}{d t^{2}}\right) /\left[x^{2}\left(\frac{d y}{d t}\right)^{2}-y^{2}\left(\frac{d x}{d t}\right)^{2}\right]
$$

in terms of $x, y$. Hence, prove that

$$
\left(x \frac{d y}{d t}-y \frac{d x}{d t}\right) /\left(1-x^{2} y^{2}\right)=\text { constant },
$$

and that (if this constant is taken to be $\sqrt{\cot a}$ ), the relation between $x$ and $y$ is

$$
x^{2} y^{2}+2 x y \sec \alpha+1=\left(x^{2}+y^{2}\right) \tan a .
$$

12. Integrate the partial differential equations
(i) $2 x \frac{\partial \mathrm{z}}{\partial x}+(y-x) \frac{\partial x}{\partial y}=8$;
(ii) $\left(y^{2}+y z+z^{2}\right) \frac{\partial z}{\partial x}+\left(z^{2}+z x+x^{2}\right) \frac{\partial z}{\partial y}=x^{2}+x y+y^{2}$.

# SENIOR SCHOLARSHIP IN NATURAL PHILOSOPHY. 

## MATHEMATICAL PHYSICS.

Examiner-President Anderson.

1. Prove that the algebraical sum of the moments of two forces about a line is equal to the moment of their resultant.
2. Using polar coordinates, obtain expressions for the coordinates of the centre of mass of a given solid body. A plane is drawn through the mean axis of an ellipsoid so as to cut the surface in a circle: show that the centre of mass of either of the portions into which the ellipsoid is divided is at a distance $\frac{3}{8} \frac{a c}{b}$ from the plane, where $a, b, c$ are the lengths of the semi-axes.
3. Obtain the equation of the common catenary, and prove that in the catenary of uniform strength, the tension at any point varies as the radius of curvature at that point.
4. Define a conservative system of forces, and prove that in the motion of a particle under such a system $\frac{1}{2} m o^{2}+V$ is constant, where $V$ is the potential energy.
5. If a particle move under a force $P$ tending to a fixed point, show that the polar equation of its path is

$$
u+\frac{d^{2} u}{d \theta^{2}}=\frac{P}{h^{2} u^{2}} .
$$

6. A body is rotating in three dimensions: under what conditions will the axes of rotation remain permanent?

A semi-circular plate, radius $a$, has its centre fixed at a height $h$ above a rough plane on which it rests. Find the period of small oscillations.
7. A rhombus of four equal uniform rods of length $a$ freely jointed together is laid on a smooth horizontal plane with one James Hardiman Library, NUI Galway

## Senior Scholarship in Natural Philosophy. 383

angle equal to $2 a$. The opposite corners are connected by similar elastic strings of natural lengths $2 a \cos a, 2 a \sin \alpha$. Prove that if one string be slightly extended, and the rhombus left free, the periods during which the strings are extended in the subsequent motion are in the ratio

$$
(\cos a)^{\frac{3}{2}}:(\sin a)^{\frac{3}{2}} .
$$

8. Find the principal points of a double concave lens, index of refraction $\mu$, the radii of curvature of its two surfaces being respectively $r$ and $s$, and its thickness $t$.
9. A right circular cone floats in a liquid of twice its density. Investigate the condition for stability, and find the times of its principal oscillations.
10. How would you find the right ascension of a fixed star in an observatory without making use of observations already made on other stars?

## EXPERIMENTAL PHYSICS.

> Examiner-President Anderson.

1. What is meant by the viscosity of a gas or liquid?

What explanation of viscosity is furnished by molecular theories?
2. Enunciate the Second Law of Thermodynamics.

The parts of a body whose temperature is not uniform are brought to a common temperature by means of perfect thermodynamic engines. Find an expression for the final temperature.
3. What do you understand by the triple point?

Draw a figure showing the relative positions of the steamwater, water-ice, and ice-steam lines for water-substance in the neighbourhood of the triple point.
4. Describe Forbes's method of finding the conductivity of a substance for heat.
5. Define an electric 'image.'

A point charge of positive electricity is placed inside a metallic sphere at zero potential at a given distance from the centre. Find the density of the induced charge at any point of the inner surface.

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6. Explain the principle of the 'water-dropper' used in determining the electric potential of the atmosphere at any point.
7. Explain the action of any common type of electric induction machine.
8. Light from a point source is allowed to pass directly through a small hole in a screen placed at right angles to the direction of the incident beam, and then falls on another screen behind. Explain the changes in the intensity of illumination at the centre of the pattern on the latter screen, when its distance from the first screen is altered.
9. Convergent plane-polarized light is allowed to pass through a thin plate of a uniaxal crystal cut perpendicular to the optic axis, and is then examined with an analysing Nicol. Describe and explain the phenomena observed.
10. What is Verdet's constant, and how is its value found for any substance?

## SENIOR SCHOLARSHIP IN CHEMISTRY.

## Examiner-Professor Senier.

[Formula, equations, and diagrams are to be used whenever possible.]

1. Explain the reactions which occur between phosphorus triiodide and glycerol.
2. Show the relation of the compound formed by the interaction of benzene and sulphuric acid to sulphurous acid. Adduce experimental evidence.
3. Explain the meaning of the term 'hydrolysis,' and illustrate by the instances of (a) formonitrile, (b) ethyl acetic acid ester, (c) cane sugar, and (d) salicin.
4. Discuss the present knowledge of the constitution of cyanuric, acides Hardiman Library, NUI Galway

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5. How may pure chloroform be prepared? Show its relation to (a) formic acid, and (b) ethyl alcohol.
6. Contrast the behaviour respectively of potassium cyanide and silver cyanide towards ethyl iodide, and show what has been inferred therefrom respecting the constitution of prussic acid.

Seoond and Third Days' Examination. Examiner-Professor Semier.
[Give the results at which you arrive, with full experimental proof.]

1. Green crystals-make a complete qualitative and quantitative examination.
(Ferrous ammonium sulphate.)

## SENIOR SCHOLARSHIP IN NATURAL HISTORY.

## ZOOLOGY AND BOTANY.

Examiner-Professor Riofard J. Anderson.

1. Give an account of Ungulata, defining the chief groups and sub-groups carefully.
2. Define the Malvacex and Euphorbiacea. Refer to the varieties of the Andrecium.
3. Give some account of movements in plants.
4. Dissect the animal placed on the table.

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## BLAYNEY EXHIBITION.

## MATHEMLTICS.

## Examiner-Professor Bromwich.

[Note.-Full credit will be given for three-fockths of the paper.]

1. If $x=a^{4}-8 a, y=4\left(a^{3}+1\right)$, verify that both $x+y$ and $x^{3}+y^{3}$ are perfect squares. Hence find a solution of the equation $x^{3}+y^{3}=z^{2}$, where $x, y, z$ are positive integers.
2. If $\xi / x\left(y^{3}-z^{3}\right)=\eta / y\left(x^{3}-x^{3}\right)=\zeta / z\left(x^{3}-y^{3}\right)$, then

$$
\frac{\xi^{3}+\eta^{3}+\xi^{3}}{\xi \eta \zeta}=\frac{x^{3}+y^{3}+z^{3}}{x y z} .
$$

Factorize and so evaluate the determinant

$$
\left|\begin{array}{c}
a, b, c, d \\
b, a, d, c \\
c, d, a, b \\
d, c, b, a
\end{array}\right|
$$

3. The points $A(x=a), B(x=b)$ are taken on the axis of $x$ (in an oblique set of coordinates). Taking any point $Q, A Q$ and $B Q$ are joined; a point $R$ is then determined by drawing $B R$ parallel to $A Q$ and $A R$ to cut $B Q$ on the axis of $y ; R S$ is drawn parallel to $A B$, to meet $A Q$ in $S$. Find the coordinates of $R$ and of $S$ in terms of those of $Q$; and prove that $Q S$ is divided in a constant cross-ratio by the point $\boldsymbol{A}$ and the line $x=-b$.
4. Tangents are drawn from a point $T(\xi, \eta)$ to the parabola $y^{2}=x$; if the points of contact are $\left(a^{2}, a\right)$ and $\left(b^{2}, b\right)$, show that $\xi=a b, \eta=\frac{1}{2}(a+b)$. Find the coordinates of $N$, the intersection of the corresponding normals, in terms of $\xi$ and $\eta$; deduce that, when the normals are perpendicular the line $T N$ is parallel to the axis of $x$, while

5. Assuming the expansion in powers of $x$ (where $x$ is numerically less than 1) of the function $(1+x)^{1 / n}$, where $n$ is an integer, find the corresponding expansion of $\log _{0}(1+x)$, by evaluating in two ways the limiting value

$$
\lim _{n=\infty}\left[n\left\{(1+x)^{1 / n}-1\right\}\right] .
$$

6. From the expansion obtained in question 5, prove that when $x$ is a positive proper fraction

$$
\log _{e}\left(\frac{1+x}{1-x}\right)=2\left[x+\frac{1}{3} x^{3}+\frac{1}{6} x^{5}+\ldots\right] .
$$

Use this series to find $\log _{6} \frac{3}{2}$ and $\log _{6} \frac{4}{8}$, each to five decimal places; and so find $\log _{e} 2$ and $\log _{c} 3$.
7. Prove that the conic

$$
\frac{x^{2}}{p}+\frac{y^{2}}{q}=1
$$

is cut at right angles by each of the two families of conics:-
(i) $\frac{x^{2}}{p+\lambda}+\frac{y^{2}}{q+\lambda}=1 ;$
(ii) $\frac{x^{2}}{p}-\frac{y^{2}}{q}+\frac{2 x y}{\mu}=\frac{p-q}{p+q}$,
where $\lambda$ and $\mu$ are both arbitrary.
8. Find the centre of the conic

$$
4 / x^{2}+24 x y+34 y^{2}+58 x-44 y+48=0
$$

and show that its principal axes are inclined at an angle arctan. (3/4) to the coordinate axes; and that the lengths of its principal axes are $\frac{2}{5} \sqrt{3}$ and $\frac{1}{5} \sqrt{6}$.

Reduce the parabola

$$
(3 x-4 y)^{2}+50(x-y)+48=0
$$

to its simplest form.
9. Prove that, if $y=1+x^{2}$, and if $t / x$ is numerically less than $\frac{2}{5}$,

$$
\left[1+(x+t)^{2}\right]^{-s}=\frac{1}{y^{3}}\left[1+\sum_{r=1}^{\infty} \frac{1}{2}(r+1)(r+2)\left(\frac{2 t x+t^{2}}{-y}\right)^{r}\right]
$$

and find the coefficient of $t^{6}$ in the expansion. Deduce, or prove in any way, that

$$
\frac{d^{0}}{d x^{6}}\left(\frac{1}{y^{3}}\right)=\frac{720}{y^{6}}\left[28\left(\frac{4 x^{2}}{y}\right)^{3}-105\left(\frac{4 x^{2}}{y}\right)^{2}+90\left(\frac{4 x^{2}}{y}\right)-10\right] .
$$

10. If $y=x^{1 / x}$, where $x$ is positive, find the value of $\frac{d y}{d x}$, when $x=1$ and when $x=2$. Calculate also the greatest value of $y$. Plot roughly the curre determined by this equation, and prove that $y=1$ is the asymptote.
11. If $y^{2}=a x^{2}+2 b x+c$, rerify that, when $a$ is positive,

$$
\int_{x_{1}}^{x_{2}} \frac{d x}{y}=\frac{2}{\sqrt{a}} \tanh ^{-1}\left(\frac{\left(x_{2}-x_{1}\right) \sqrt{a}}{y_{2}+y_{1}}\right),
$$

where $y_{1}$ and $y_{2}$ are the values of $y$, which correspond to $x=x_{1}$ and $x=x_{2}$, respectively. Eraluate also

$$
\int_{x_{1}}^{x_{2}}\left(\frac{p x+q}{y_{3}}\right) d x .
$$

12. The points of a certain curve are given by

$$
x=\frac{t^{m-1}}{m-1}-\frac{t^{m+1}}{m+1}, \quad y=\frac{2}{m} t_{m}, \quad(m>1),
$$

where $t$ is a positive parameter. Express $t$ in terms of $\phi$, the angle between the tangent and the axis of $x$; and prove that ( $s$ being the are measured from the origin)

$$
s^{2}=x^{2}+m^{2} y^{2} /\left(m^{2}-1\right) .
$$

## MA'THEMATICAL PHYSICS.

## Examiner-President Anderson.

1. One end of a heavy rod of length $2 a$ is fastened to a fixed peg by a string of length $l$ : the rod passes over another smooth peg in the same horizontal line with the former, and hangs in equilibrium in the vertical plane through the pegs. Show that if $\theta$ and $\phi$ be the inclinations to the vertical of the string and rod,

2. Find the position of the centre of gravity of a uniform circular arc. Find also the position of the centre of gravity if the density varies as the distance from one end measured along the arc.
3. Define simple harmonic motion.

Show that an elliptic harmonic motion may be resolved into two motions of the same period along any two conjugate diameters of the ellipse, these motions differing in phase by a quarter of a period.
4. Three straight lines are equally inclined to one another in a plane, and three equal particles $P, Q, R$ move along them with velocitiea $u, v, w$. Show that the velocity of $P$ relative to the centre of gravity of the three particles is

$$
\frac{1}{3}\left(4 u^{2}+v^{2}+w^{2}-w v+2 u w+2 u v\right)^{\frac{1}{2}} .
$$

5. Prove that the density at points in a horizontal plane in a heary fluid at rest under grarity is the same, provided we can move from any one point to any other without leaving the plane or the liquid.
6. Find the centre of pressure of a circle immersed in a homogeneous liquid at rest under gravity, when the centre is at a given depth.

Deduce the position of the centre of pressure of an ellipse under similar circumstances.
7. Find the focal length of a lens equivalent to two thin lenses haring the same axis and of given focal lengths, one concave, the other convex.

Show that the focal length of the thin lens equivalent to a thick lens, with one face plane, is independent of the thickness.
8. Prove that the least deviation possible for a ray which passes in a principal plane through a prism of refracting angle $i$ and index $\mu(>1)$ is

$$
2 \sin ^{-1}\left(\mu \sin \frac{i}{2}\right)-i
$$

9. Show how the duration of twilight gives a measure of the height of the atmosphere.
10. Prove the formula $\sin p=\sin P \sin z$, where $P$ is the moon's horizontal parallax when its zenith distance is $\%$.

# THE 'DR. AND MRS. W. A. BROWNE' SCHOLARSHIP. 

## GERMAN.

First Paper.<br>Examiner-Profrssor Cadic, D.Lut.

Write, in German, an Essay (of about 100 lines) on :-
Gine $\mathfrak{B e f f i d r e i f u n g ~ w o n ~ G a t w a y ~ u n d ~} \mathfrak{H z g e g e n b}$.
Or; -


## GERMAN.

## Second Paper.

Examiner-Profrssor Cadio, D.Lit.
Translate into German :-
To find a new phase of gipsy life in Great Britain one must go as far as Scotland. In that country of mountains, in the midst of an austere nature, in contact with the ancient Britons of the north, the character of the 'Romany' has become grander and more romantic in its tendencies. There the gipsies do not seem to have been, at any time, so numerous as in England; several of their original tribes exist no longer ; their chiefs have been seized by the law, and the members of their families either became dispersed, or they attached themselves to other groups.

## FRENOH.

First Paper.
Examiner-Professor Cadio, D.Litt.
Write, in French, an Essay (of about 100 lines) on :-
De l'influence des livres.

$$
O r,-
$$

Description d'une des capitales de l'Europe.

## FRENCH.

## Second Paper.

Examiner-Professor Cadic, D.Lit.
Translate into French :-
Temple, however, will scarcely carry with him any great accession of authority to the side either of religion or of infidelity. He was no profound thinker. He was merely a man of lively parts and quick observation, a man of the world among men of letters, a man of letters among men of the world.
Mere scholars were dazzled by the Ambassador and Cabinet Counsellor ; mere politicians by the Essayist and Historian.
But neither as a writer nor as a statesman can we allot to him any very high place.

## LAW SCHOLARSHIP OF THE FIRST YEAR.

## REAL PROPERTY.

## Examiner-Professor Campion.

1. Define the term 'settlement' within the meaning of the Settled Land Act; and state the mode by which capital arising under that statute is secured and applied.
2. Three estates-a fee-simple, a lease for lives, and a leasehold for 100 years-are settled by the same deed in the following terms :-
' To A for life, remainder to B and the heirs of his body.'

What are B's legal powers of disposition in respect of each of these estates?
3. Classify future estates, as distinguished from those in possession, and compare their characteristics (as distinguished each from the other).
4. Define the following devise, and state the legal grounds on which it is based :-
' To A for life, remainder to his unborn son for life, remainder to the first and other sons of such unborn son in succession in tail.'
5. When personalty is settled on trusts corresponding with the limitations of real estate, i.e. 'to A for life, remainder to his sons successively in tail,' state the result as regards the vesting of the personalty, and the proviso by which that result may be aroided.
6. State the legal grounds on which the appointment of intervening trustees effectuates the desired result in the following cases (before the statutes now applicable thereto) :-

Trustees to bar 'dower.' Trustees to preserve 'contingent remainders.'
7. State the nature of the estate created by the following devise of lands:-
' To A and B (both men) and the heirs of their two bodies.'
8. State the four unities which distinguish a 'joint tenancy,' the statute having enacted that a contingent remainder may be capable of taking effect, notwithstanding that the particular prior estate may determine before the contingent remainder vests.
Subject to what qualification as regards the estate does that enactment operate?
9. Give an example of the application of the statutory provision amending the Descent Act, when there was a total failure of the heirs of the 'purchaser.'

Define the latter term (' purchaser') within the meaning of the statute.
10. A man in possession of an estate for lives renewable for ever, dies intestate without issue, but leaving a wife surviving.
Is she entitled to dower?
State her rights under the Intestates Estate Act (1890).
11. Define a right of way by 'prescriptive right,' the nature and character of the user essential to its creation, how extinguished by what is termed ' unity of possession.'
12. A man dies possessed of real and personal estates, having mortgaged the former: state the origin and effect of 'Locke King's Acts' as to the property primarily liable to discharge the mortgage-debt (as between the two classes above mentioned).

## JURISPRUDENCE.

Examiner-Professor Wardele.

1. Distinguish between 'mortgage,' 'pawn,' 'lien,' ' hypothec.' Explain the meaning of 'jus in rem,' 'person,' ' quasi-contract,' ' adjective law,' ' legal fictions.'
2. In what sense does Holland use the term 'law'?

What objections have been pointed out by Maine?
What reasons have been alleged for the rule 'Ignorantia juris haud excusat'?

## 394 Law Scholarship of the Second Year.

3. What do you understand by the term ' a legal right'? What, according to Holland, are the elements of a right? He mentions four possible modes of classifying rights?
4. Enumerate the principal classifications of 'things.'
5. Write an essay on the growth of custom as a source of law.
6. Compare the jus protorium of Rome with Equity as administered by an English Chancellor.
7. Reproduce some of the principal theories which have been advanced as to the origin of political societies.
8. How does Austin analyse the term 'command'?

In what sense does he use the words 'superiority,' ‘ sanction,' 'aristocracy'?
9. Enumerate the leading divisions apparently contemplated in Austin's system of Jurispradence.
10. Explain the following passages or expressions :-
'The historical and analytical schools' of jurists.
' Rights may be regarded under two aspects, either as at rest or as in motion.'
' The movement of the progressive societies has hitherto been a movement from Status to Contract.'

## LAW SCHOLARSHIP OF THE SECOND YEAR.

## PERSONAL PROPERTY AND CONTRACTS.

Examiner-Professor Campion.

1. State exceptional cases where a man on his marriage may settle property on himself until he becomes a bankrupt, and then over to another party, and state the legal grounds for sustaining such exceptions.
2. When a deed contains a condition in restraint of trade, what elements are essential to the validity of that condition as regards the extent of the condition, and the nature and character of the deed itself?

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8. What is the essential difference between a 'Partnership' and a simple 'Joint Ownership'? State the legal basis on which the former rests, and which determines the liability of the members inter se.
4. State apparent exceptions to the rule that mutuality of obligation is essential to the validity of a contract.
5. When an agent contracts with a third party without disclosing his principal, state the relative rights and liabilities of the principal and the third party.
6. State the five classes of the fourth section of the Statute of Frauds, and the legal construction of each as judicially decided.
7. In what special cases does a general lien exist? Is lien affected by taking a security for payment of the debt at a future time?
8. In what respect has a solicitor's lien been enlarged by a recent statute?
9. When personal property (such as stock) is incapable of actual delivery, what is the true criterion by which to determine whether a 'voluntary assignment' of it is complete?
10. When an action is brought on a promise made by the defendant, distinguish a consideration 'executory' from a consideration already past and 'executed,' and state the elements required to sustain an action in the latter case.
11. When illegality of contract is pleaded, what is the distinction between the following :-
(a) When by such contract a man undertakes or promises to do two things, one of which is legal and the other illegal;
(b) Where the consideration of the contract is partly illegal and partly legal?
12. Classify contracts, and state the characteristics of each. Define the principle of estoppel, its extent, and the qualification to which it is subject.

## ROMAN LAW.

## Examiner-Professos Wardell.

1. Explain-fas, jus, status, existimatio, usucapio, praescriptio, emphyteusis, peculium castrense, nomina transscripticia.
2. What is meant by 'capitis deminutio'? State the various problems and give an outline of the discussions which have arisen in connexion with this term.
3. State what you know of the early law of Rome; and note the principal changes introduced by (a) the Servian reforms, (b) the Twelve Tables.
4. What causes operated on the growth of the Roman law during the latter half of the Republic? Write a short history of the development of the law of contract during this period.
5. Classify 'prædial servitudes' and give examples. What were the principal rules with regard to them? Was there any exception to the general rule that servitudes are always passive?
6. How were contracts classified under the Roman law?

Distinguish between contracts of loan, pledge, deposit, and show their common features.
7. Write a short history of the Roman law of marriage.

- 8. Enumerate the different kinds of wills known to the Romans.

What was the purport of the action 'de inofficioso testamento'?
9. Define a 'donatio mortis causa.' State its essential conditions, and distinguish between gifts 'mortis causa' and legacies.
10. What do you know of the following :-Labeo, Pomponius, Papinian, Ulpian, Gaius? Name their principal works.

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## MEDICAL SCHOLARSHIPS OF THE SECOND YEAR.

## ANATOMY.

Examiner-Professor Pye.

1. Describe the articular surfaces of the humerus.
2. Describe the movements that occur at the occipitoatloid articulation.
3. The anatomy and action of the following muscles:trapezius, flexor sublimis digitorum, soleus.
4. A general account of the morphology of the skull seen from above (norma verticalis).
(Further Examination in Dissecting-room.)

## CEEMISTRY.

Examiner-Professor Senier.

## [Formula, equations, and diagrams are to be used whenever possible.]

1. Describe a method (a) for the preparation of carbon dioxide, (b) for the determination of its composition, (c) for finding its molecular weight, and (d) state in round numbers the figures for $b$ and $c$ which have been obtained.
2. Explain (a) how nitrous oxide suitable for use as an anæsthetic may be prepared, and (b) how admixture of other oxides of nitrogen or of air may be detected.
3. State ( $a$ ) what reactions take place between ozone, chlorine, and hydrogen peroxide respectively, and potassium iodide, and ( $b$ ) how ozone and chlorine may be distinguished when present in the air in minute proportions.
4. Explain (a) the reaction which takes place when formic acid and sulphuric acid are heated together, and (b) how this change helps to explain the action of hot sulphuric acid on potassium ferrocyanide.
5. Give an account of the present state of knowledge of the phenomena of alcoholic fermentation, including the discovery of zymase.

## 398 Medical Scholarships of the Third Year.

## ZOOLOGY AND BOTANY.

Examiner-Professor Riciabd J. Anderson.

1. Classify Crustacea. Describe the nervous system in a Crayfish.
2. Define Lacertilia; and describe the circulatory apparatus of the green Lizard.
3. Classify Carnivora, and note the distinctive characters in each group.
4. State the functions of the various glands found associated with the alimentary canal in Mammals.
5. Compare the structures seen onder the microscope in a thin transverse section of a Dicotyledon of one year's growth with the structures seen in a similar section of a Monocotyledon.
6. Write an account of the calyx.
7. Define the Papaveracer, Umbelliferæ, and the Scrophularinex.
8. Write a short account of Insectivorous Plants.

The following papers were also set for this Examina-tion:-

Natural Philosophy, see p. 339. French or German, see pp. 327, 329.

## MEDICAL SCHOLARSHIPS OF THE THIRD YEAR. PHYSIOLOGY.

## Examiner-Professor Pre.

1. What is the action of intestinal juice on food? Refer to the experiments that bear on the question.
2. What is the pressure of air on the lungs during inspiration and expiration respectively?
3. Write an account of the white cells of the blood, stating how various kinds are distinguished from one another.
4. Describe a convoluted tube of the kidney.
(Further Examination in Physiological Laboratory.)

## ANATOMY.

## Examiner-Professor Pre.

1. How would you make a dissection to expose the pancreas in situ?
2. The fourth cranial nerve:-Describe its deep origin and its distribution superficially.
3. Describe the corpora quadrigemina.
4. Give the exact anatomy of the capsular ligament of the hip-joint.
5. Describe the deep palmar arch (arterial), including its relations.
(Further Examination in Dissecting Room.)

## MATERIA MEDICA.

## Examiner-Professor Colahan.

1. Describe the train of symptoms termed hydragerism; also those produced by the inhalation of the vapor of mercury for a lengthened period.
2. Describe the physiological action of antipyrine. How do you explain its antipyretic action? and enumerate the unfavourable symptoms to which it may give rise.
3. What is the difference in the chemical composition and physiological and therapeutical actions of chloral hydras and butyle chloral hydras? Give their doses and preparations.
4. Describe the physiological action and therapeutic value of camphor. Give its preparations and doses.
5. Enumerate the preparations of-(a) belladonna; (b) assafæetida; (c) colchicum ; (d) lithia. Give their doses.

## 400 Medical Scholarskips of the Fourth Year.

## CHEMISTRY.

> Examiner-Professor Senier.
[Give the results at which you arrive, with full experimental proof.]

1. Pale pink crystals. Search for one basic and one acidic radicle. (Manganese chloride or manganese sulphate.)
2. A colourless solution. Identify the solid dissolved. (Barium hydroxide or calcium hydroxide.)
3. A yellow powder. Identify it. (Mercuric oxysulphate or mercuric oxide.)

## MEDICAL SCHOLARSHIPS OF THE FOURTH YEAR.

## PHYSIOLOGY.

Examiner-Profsssos Prr.

1. What functions have been assigned to the central grey matter of the spinal cord? Refer to experimental evidence.
2. Describe the changes that take place in the lens from infancy to old age.
3. How has it been shown that the production of voice is due to the vibration of the vocal cords? Describe their anatomical features.
4. What is known of the function of the organ of Corti?
(Further examination in the Physiological Laboratory.)

## Medical Scholarships of the Fourth Year． 401

MATERIA MEDICA．<br>Examiner－Professor Colahan．

1．Alcoholism is met with in several forms；enumerate them，and the several causes which induce them．

2．Criticise the following prescriptions：－
（a） P Quiniæ Sulphatis， Acidi Sulphurici Diluti， Spt．Ammoniæ Aromatici， Aquæ Distillatæ， Mist．
（b）P Tincturæ Ferri Perchlor．， Acidi Acetici Diluti， Liq．Ammoniæ Acetat．， Aquæ Distillatæ， Mist．
（c）P Caffeinæ Citratis， Potass．Iodidi， Aquæ Distillatæ， Mist．
（d）B Sodii Salicylatis， Acidi Sulphurici Dil．， Spiritus Chloroformi， Aquæ Distillatæ， Mist．
gr．i．
mi．
$\mathrm{m} \times \mathrm{x}$ ．
$\operatorname{ad} f 弓 \mathrm{i}$ 。
$m x$.
$m \mathrm{v}$
3 iv.
$\operatorname{ad} f \xi \mathrm{~F}$.
grs．v．
grs．v．
ad 3 i ．
grs．$x$.
M x ．
$\mathrm{m} \times \mathrm{x}$ ． $\operatorname{ad} f$ 万
（e）Rx Liq．Arsenici et Hydrarg．Iodidi，m x． Quiniæ Sulphatis， Acidi Sulphurici Diluti， Aquæ Distillatæ， grs．ii． Aquæ Distillatæ，$f$ i． Mist．

3．Compare the advantages and disadvantages of the Pre－ parations of Strophanthus in diseases of the heart with those of Digitalis．

4．Describe the sleep produced by Chloral Hydras，and its action on the nervous system．State also its disadvantages in single or continued doses．

5．Describe the pharmacological action and therapeutic value of Calabar Bean．Give its preparation and doses．

## 402 Medical Scholarships of the Fourth Year.

## MEDICINE.

## Examiner-Professor Lynham.

1. Write a short account of abscess of the brain
2. Give the symptoms and treatment of acute catarrhal enteritis.
3. What are the causes of sciatica? How would you treat it?
4. Give the symptoms and prognosis of acute yellow atrophy of the liver.
5. Direct the treatment, both general and medical, of a case of chronic interstitial nephritis.

## SURGERY.

## Examiner-Professor Brereton.

1. In wounds in the course of vessels and nerves, contrast symptoms and later conditions:-

> 1st, wounds of arteries;
> 2nd, wounds of vein;
> 8rd, wounds of nerves.
2. What are the three plans of treatment for fractured patella?
8. What are the injuries about the elbow-joint?
4. Describe symptoms of general and localized peritonitis.
5. Where in the abdomen would you make incision for exploratory laparotomy, and where for appendicitis?

# Engineering Scholarships of the Second Year. 403 

## SENIOR SCHOLARSHIP IN ANATOMY AND PHYSIOLOGY.

## Examiner-Professor Pre.

1. Uric acid: write notes on (a) its preparation; (b) characteristics ; (c) derivatives, with oxidising agents. What rational formule have been suggested for uric acid?
2. Describe the origin, course, and distribution of the Vagus nerve.
3. Write an account of Pawlow's experimental work, so far as it bears on the function of digestion.
4. Describe the development of the Mandible.
5. Describe the Amnion and Allantois from origin to full growth. Make diagrams to illustrate your answer.
6. Practical question on brain.
(Further examination conducted in Laboratory.)

## ENGINEERING SCHOLARSHIPS OF THE SECOND YEAR.

## mathematics.

First Paper.
Examiner-Professor Bromwich.
[Not more than wine questions should be attempted.]

1. Reduce the expression

$$
\frac{5^{4} \times 75^{4} \times\left(2^{2} \times 27^{5} \div 5^{2}\right)^{3}}{\left(15 \times 180 \times 9^{3}\right)^{6}}
$$

to a form containing powers only of $2,3,5$; and so express the fraction as a decimal.
2. Reduce the expressions to a common denominator
(i) $(1+x)^{-2}-\left(1-2 x+3 x^{2}\right)$,
(ii) $(1+x)^{-3}-\left(1-3 x+6 x^{2}\right)$.

## 404 Engineering Scholarskips of the Second Fear.

Use your results to prove that the errors in replacing $(1.027)^{-2}$ and ( $\left.1: 027\right)^{-3}$ by

$$
1-2(\cdot 027)+3(.027)^{2} \text { and } 1-3(.027)+6(\cdot 027)^{2}
$$

are respectively less than $4(\cdot 027)^{3}$ and $10(\cdot 027)^{3}$; and so calculate their values to three places of decimals.
3. In an optical instrument, the relation between $x, y$, the distances of the object and image from a fixed point, are connected by a relation of the type $y=(A x+B) /(x+C)$, where $\mathcal{A}, B, C$ are constants of the instrument. It is found by observation that the values $y=1,2,0$ correspond to $x=0,1,2$, respectively : find the ralues of $y$ which correspond to $x=3, x=4$.
4. If $\frac{x}{1+t}+\frac{y}{2+t}+\frac{z}{3+t}+\frac{x y z}{(1+t)(2+t)(3+t)}=0$
for all values of $t$, find $x, y, z$.
5. Three lines $O A, O B, O C$ meet in a point $O$ making $A O B=B O C=30^{\circ}$; a fourth line $A B C$ cuts $O B$ at an angle $45^{\circ}$. If the perpendicular from $O$ on $A B C$ is of length 10 , find $A B, B C$; and prore that the geometric mean between the perpendiculars from $A, C$ on $O B$ is also of length 10.
6. Given $a=112, b=167, C=65^{\circ}$, find the other angles of the triangle, and the radius of the circumcircle.
7. $A B C D$ is a quadrilateral circumscribed to a circle of radius 10 ; the angles are, in order,

$$
A=75^{\circ}, \quad B=85^{\circ}, \quad C=95^{\circ}, \quad D=105^{\circ}:
$$

find the lengths of the four sides.
8. If $a, \beta$ are the two distinct values of $\theta$ which satisfy

$$
\frac{\cos \theta}{\cos \phi}+\frac{\sin \theta}{\sin \phi}+1=0,
$$

prove that

$$
\cos a \cos \beta=-\cos ^{4} \phi, \quad \sin a \sin \beta=-\sin ^{4} \phi .
$$

Hence prove that $a, \beta$ are two of the roots of the equation in $\theta$,

$$
\frac{\cos ^{3} \phi}{\cos \theta}+\frac{\sin ^{3} \phi}{\sin \theta}-1=0 .
$$

Engineering Scholarships of the Second Year. 405
9. Plot the graphs of
(i) $y=\left(x^{2}-x+1\right) /\left(x^{2}+x+1\right)$,
(ii) $y=\left(x^{2}+x+1\right) /(x-1)(x-2)$,
(iii) $y=\left(x^{2}-1\right) / x(x-2)$.
10. Differentiate

$$
\frac{2 x}{1+x^{2}}, \quad \log \frac{2 x}{1+x^{2}}, \quad \sin ^{-1} \frac{2 x}{1+x^{2}} .
$$

11. Calculate the slope of the lines joining the point ( 1,1 ) to the three points of the curve $y=2 x /\left(x^{2}+1\right)$, which are given by

$$
x=1 \cdot 1, \quad x=1 \cdot 01, \quad x=\cdot 9 ;
$$

and contrast these values with that of $\frac{d y}{d x}$ at the first point.
12. Prove that, if $x$ is positive and steadily increases, the function ( $\tan ^{-1} x-x$ ) decreases, but ( $\tan ^{-1} x-x+\frac{1}{3} x^{2}$ ) increases. Hence show that $\tan ^{-1} x$ lies between $x$ and $x-\frac{1}{3} x^{3}$, and use this to find $\tan ^{-1} x$, correct to the nearest minute of arc, when $x=\frac{1}{20}$.

## Mathematics.

## Second Paper.

## Examiner-Professor Bromwich.

[Not more than NINE questions should be attempted.]

1. The three straight lines $A B, C D, E F$ are parallel, prove that the three intersections of $(A C, B D)(C E, D F)$, $(E A, F B)$ are in the same straight line.
2. Explain what you understand by the orthogonal projection of a figure in space. Prove that a right angle projects into a right angle; if one of its arms is parallel to the plane of projection:'
3. Given the plans and elevations of two intersecting straight lines $l, m$, draw the traces of the plane containing $l, m$, explaining clearly your construction.

Given the traces of the plane and the plan of $l$, draw the elevation of $l$; and construct the angle of inclination of $l$ to the horizontal.
4. Prove the accuracy of the following method for enlarging (or diminishing) a given diagram. Two lines $l, m$ are drawn on a sheet of tracing paper, to intersect in $K$; take any marked point $O$ on the diagram. Place $K$ over $O$, and let $l$ cut the figure in $L$; on the tracing-paper, draw $L M$ perpendicular to $l$ to cut $m$ in $M$; then turn the tracing-paper through a right angle about $L$, and prick off the point on the original diagram which is below M. Repeat the process, letting the tracing paper be placed in rarious positions about $O$; the locus of the points pricked off is the new diagram.
5. Draw a straight line $A B C$, making $A B 2 \frac{1}{2}$ inches, $B C 1$ inch long; draw any two straight lines through $A$ and $C$ to cut in $E$. Join $E B$, and take $F$ at random on this line ; join $A F$ to cut $C E$ in $G$, and $C F$ to cut $A E$ in $H$. Join $G H$ to cut $A B C$ in $D$; measure $C D$ as carefully as you can.

Repeat the construction, taking $\boldsymbol{E}$ on the opposite side of $A B C$; compare the two values found for $C D$.
6. In either of the figures constructed in question 5 , bisect $A G$ in $M$; join $E D$ and bisect it in $N$; join $M N$ to cut $C H$ in $P$. Measure the difference between the lengths $C P, H P$.
7. A line is drawn through the point $\left(x_{0} y_{0}\right)$ to make an angle of $45^{\circ}$ with the radius to ( $x_{i} y_{0}$ ) from the origin: prove that the equation to the line is

$$
\left(x_{0}-y_{0}\right) x+\left(x_{0}+y_{0}\right) y=x_{0}{ }^{2}+y_{0}{ }^{2} .
$$

Find the locus of ( $x_{0} y_{0}$ ) if the line cuts the axis of $x$ in a fixed point.
8. Find the condition that the lines joining ( $t^{2}, t$ ) and $\left(v^{2}, v\right)$ to the origin may be perpendicular ; and use this to prove that if a chord of the parabola $y^{2}=x$ subtends a right angle at the vertex, then the chord passes through the fixed point ( 1,0 ).

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9. The line

$$
2 y=1+t(2 x-3 \sqrt{ } 3)
$$

is drawn through the point
on the ellipse

$$
x=\frac{1}{2}(3 \sqrt{ } 3), \quad y=\frac{1}{2}
$$

$$
\frac{1}{9} x^{2}+y^{2}=1:
$$

find the equation to show where the line cuts the curve again. Deduce, or otherwise prove, that the tangent at the given point is

$$
x / \sqrt{ } 3+y=2 .
$$

Find the perpendicular on the tangent from the centre; and prove that the intercept on the tangent between the point of contact and the perpendicular is 2 .
10. If the sides of a spherical triangle are $90^{\circ}, 120^{\circ}, 144^{\circ}$, calculate the angles, and prove that the sum of the angles is $450^{\circ}$.
11. Find the side of a spherical equilateral triangle each of whose angles is $120^{\circ}$; and prove that the chord of each side is $v(8 / 3)$ times the radius of the sphere.

## CHEMISTRY.

## Examiner-Professor Senier.

[Formula, equations, and diagrams are to be used whenever possible.]

1. Describe a method (a) for the preparation of ammonia from ammonium sulphate, (b) for the determination of its composition, (c) for finding its molecular weight, and (d) state in round numbers the figures for $b$ and $c$ that have been obtained.
2. State what reaction takes place between hydrogen dioxide and silver oxide; and what may be inferred from this as to the existence of elementary molecules.

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3. Describe the behaviour of sulphur when subjected gradually to the action of heat, and suggest an explanation.
4. Explain fully what is meant by ' hardness' in waters, how this may be estimated, and its importance to industries and public health.
5. Suggest a method by which ' alkali ' may be obtained from sea-water.

## ENGINEERING.

## Examiner-Professor Townsend.

1. Given the projections of a point and of a line, construct the projections of a line passing through the point, and making a given angle with the given line.
2. Given the three facial angles of a trihedral angle, construct the three dihedral angles.
3. A cylinder whose diameter is $1 \frac{1}{2}$ inches lies on the horizontal plane, and the projection of its axis makes an angle of $45^{\circ}$ with the ground-line: construct the traces of a tangent plane to the cylinder, making an angle of $60^{\circ}$ with the horizontal plane.
4. The quadrilateral abcd, in the accompanying diagram A, is the base of a pyramid lying in the horizontal plane; and $V^{\prime} V^{\prime \prime}$ are the horizontal and vertical projections of its vertex : find the horizontal and vertical projections of the points where the line meets the pyramid.
5. In the accompanying diagram B, efghklmn is a regular octagon lying in the ground-plane; $P P^{\prime}$ is a line in the ground-plane on which the picture-plane stands; $E$ is the horizontal projection of the eye, which is 6 feet over the ground-plane: construct by means of 'measuring points' the perspective of the octagon, using a scale of 2 feet to 1 inch.

Engineering Scholarships of the Second Year. 409
6. In the accompanying diagram C , the square $a b c d$ lying in the ground-plane, whose side is 1 inch , is the base of a prism whose height is $\frac{3}{4}$ of an inch, $E$ is the projection of the eye on the ground-plane, and its height over the groundplane is $1 \frac{1}{4}$ inches, $L L^{\prime}$ is the line in the ground-plane on which the picture-plane stands (for the natural perspective) : you are required to construct a perspective of the prism three times the size of the natural perspective.
7. Sketch a door-way of the Perpendicular style of architecture, and mention the period during which this style prevailed.
8. Sketch the capital of a column of the Choragic monument of Lysicrates.
9. The coordinates of a parabola are 3 inches measured along the diameter, and $2 \frac{1}{2}$ inches perpendicular to it, the origin being the vertex : construct the parabola by means of points, and find the focus of the curve.
10. Find the length of a line in inches, on the sixth-inch Ordnance Map, whose square represents 15 acres 2 roods 20 perches Irish measure.

The following papers were also set at this Examination:-
French or German, see pp.327, 329.
Experimental Physics, see p. 389.
Drawings executed in the First Year.

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## ENGINEERING SCHOLARSHIP OF THE THIRD YEAR.

## MATHEMATICS.

## Examiner-Professor Bromwtch.

[Not more than EIGHT questions should be attempted.]

1. The roots of the quadratic equation
are

$$
\begin{gathered}
\lambda(x / c+c / x)+\mu(c x+1 / c x)=1 \\
x=a, \quad x=\beta:
\end{gathered}
$$

show that

$$
(\lambda \alpha \beta-\mu)(\lambda-\mu a \beta)=\left(\lambda^{2}-\mu^{2}\right)^{2}(a+\beta)^{2}
$$

Also prove that this relation becomes

$$
\lambda(\alpha / \beta+\beta / \alpha)+\mu(a \beta+1 / \alpha \beta)=1, \quad \text { when } \quad \mu^{2}=\lambda^{2}+\lambda .
$$

2. The three straight lines $A B, C D, E F$ are parallel, prove that the three intersections of $(A C, B D),(C E, D F)$, $(E A, F B)$ are in the same straight line.
3. Prove that a right angle becomes a right angle in an orthogonal projection, if one of its arms is parallel to the plane of projection: show also that the ratio of any area to its orthogonal projection is constant.
4. The traces of a plane on two perpendicular vertical planes make given angles with the horizontal: construct graphically the angle of slope of the plane, giving a careful account of your method.
5. If the sides of a spherical triangle are $90^{\circ}, 120^{\circ}, 144^{\circ}$, find the angles, and prove that their sum is $450^{\circ}$. What is the area of the triangle?
6. Three points $A, B, C$ are taken on the axis of $x$; $A R, A Q$ are drawn through $A$ to make angles $\tan ^{-1} q, \tan ^{-1} r$, respectively, with the axis of $x ; B P, B R$ make angles $\tan ^{-1} r, \tan ^{-1} p ; C Q, C P$ make angles $\tan ^{-1} p, \tan ^{-1} q:$ prove that $P, Q, R$ are in the same straight line.

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7. A triangle $A B C$ is formed by the three points ( 1,1 ), $(-1,-1),(p, 1 / p)$ on the rectangular hyperbola $x y=1$; a fourth point $S(q, 1 / q)$ is taken on the curve, and $S L, S M$, $S N$ are perpendiculars drawn from $S$ to $B C, C A, A B$, respectively. Find the coordinates of $L, M, N$, and prove that the circle through $L, M, N$ is

$$
(1+p q)\left(x^{2}+y^{2}\right)-\left(1+q^{2}\right)(p x+y / q)=0
$$

8. The number 30 is to be divided into $n$ equal parts ( $n$ being an integer) so that the product of all the parts may be as great as possible: find $n$, given that $1 / e=-3679$ to four places of decimals.
9. Find the tangent and radius of curvature of the curve

$$
y=x(x-1) /\left(x^{2}+x+1\right)
$$

at the points $(0,0),(1,0)$.
10. Find

$$
\int x \sin ^{2} x d x, \quad \int \frac{x^{2} d x}{\sqrt{1+x}}, \quad \int \frac{d x}{x^{4}+5 x^{2}+4}
$$

11. Find the whole area of the curves
(i) $y^{2}=(x-1)(2-x)$,
(ii) $x^{2} y^{2}=(x-1)(2-x)$.

## OHEMISTRY.

Examiner-Professor Senier.
[Give the results at which you arrive, with full experimental proof.]

1. Blue crystals. Search for one basic and one acidic radicle. (Cupric nitrate.)
2. A colourless solution. Identify the solid dissolved. (Tartaric acid.)
3. A white hygroscopic powder. Search for one basic and one acidic radicle. (Potassium nitrate.)

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## ENGINEERING.

## Examiner-Professor Townsend.

1. Describe the adjustments and principle, and read the vernier, of the instrument set before you.
2. In the accompanying diagram $L$, you are required to draw from the point 5 two lines forming with the line $A B$ a triangle whose area shall equal the area of the polygon 123456789, and to find its area in Irish acres, roods; and perches.
3. In the annexed figure abcd, show how to draw a line from the point $f$ to a point on the line ad dividing the area into two equal parts.

4. 

| Depth in feet. | Macneill's Tabular Numbers, <br> second series. | Distance <br> in feet. | Volume in <br> cubic yards. | Area of <br> slopes in <br> square yards. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31 | 27 | Multiple. <br> 1.0741 | Additive. <br> 46.796 | 132 |  |
| 27 | 24 | .9444 | 36.167 | 198 |  |

## Engineering Scholarship of the Third Year. 413

With the above data of a cutting, fill up the columns for the volumes and areas of slopes, the base being 30 feet, and the ratio of slopes $1 \frac{1}{2}$ horizontal to 1 perpendicular.
5. A level is set up at a point $A$ in a direct line between two points $B$ and $C$, the reading on $B$ is $12 \cdot 57$ feet, and its distance from $A$ is 5 chains ; the reading on $C$ is 6.30 , and its distance from $A$ is 20 chains : calculate the difference in level between the points $B$ and $C$, taking the curvature of the Earth into account.
6. The external angle between the extreme tangents of a railway curve is $41^{\circ} 40^{\prime}$, and the distance from their intersection to the middle point of the curve is 5.859 chains: calculate the radius and the length of the curve in chains.
7. A paraboloid of revolution is filled with water and rests on its vertex : calculate the time in minutes that it will take to empty itself through an orifice at the vertex, $H$ being the height of the paraboloid, $p$ its parameter, $a$ the area of the orifice, and $c$ the coefficient of discharge.
8. Make a vertical cross-section, an external elevation, and an internal elevation, of the head of a window in a wall two-brick thick.
9. Make a sketch of a scarf-joint to resist a cross-strain, and also of a tusk tenon, and describe the purpose for which the latter is used in carpentry.
10. Describe the kinds of timber most suitable for the following purposes:-piles, posts, floors, wet positions, street pavement, interior joinery, large timbers in carpentry.

The following papers were also set at this Examination :Mathematical Physics, see p. 356.

Drawings executed in the Second Year.

## ( 414 )

## SENIOR SCHOLARSHIP IN ENGINEERING.

Examiner-Professor Tomxsend.

1. A beam 32 feet long is supported at the ends, and carries an uniform load of 1 ton per foot-run on half its length, measured from one of the points of support: construct the curve whose ordinates will represent the moments at the several points of the beam, using a scale of 8 feet to the inch for position, and of 30 foot-tons to the inch for moments.
2. 



In the above girder, 70 feet span, the bracing consisting of right-angled triangles, the uniform load is $\frac{1}{2}$ a ton per foot-run, and the rolling load 1 ton per foot-run : calculate the maximum tensile stress in diagonal 2 and bay $c$, resulting from both loads on the lower flange.
3. A beam $A B 28$ feet long is supported at one end $A$, and at a point 20 feet from $\boldsymbol{A}$, it is loaded with 2 tons at 6 feet from $A$, with 3 tons 14 feet from $A$, and with $1 \frac{1}{2}$ tons at $B$ : construct the curve of moments, and find the reactions at points of support, by Culman's theorem, using a scale of 8 feet to one inch for the position of the loads, and 2 tons to one inch for weights.
4. Calculate the working load in tons of a rectangular pillar of wrought iron, 10 feet long, whose sectional area $=4 \times 3$ inches, and whose ends are securely fixed, the factor of safety being 4.

## Senior Scholarship in Engineering.

5. In a railway lattice-girder, whose length is $l$, the permanent load per foot-run is = the rolling road per footrun : calculate the proportion of the length that the counter-bracing should occupy.
6. State the relative advantages and disadvantages of a flange rail and a bull-headed rail.
7. Sketch the type of roof recommended by Mills for a railway-station where the width between the external walls is 120 feet, and state its weight in tons per square of area covered. If only one span of 210 feet were adopted for a roof, what would be the weight per square of area covered?
8. Describe the relative merits of the breakwaters at Holyhead and Cherbourgh, and make a figured crosssection of each.
9. Describe Stoney's method of constructing quays in deep water in Dublin.
10. Make a sketch of a double-acting switch-bolt in connexion with the points of a railway.

Drawings executed in the Third Year.

## 416 Queen's College, Galway, Students' Societies.

## STUDENTS' LITERARY AND DEBATING SOCIETY.

| Patron, |  | President Anderson. |
| :---: | :---: | :---: |
| President, |  | Professor Trench. |
| Chairman, .. | .. .. | Isaac Flack. |
| Vice-Chairman, | .. .. | John E. A. Lynhan |
| Hon. Treasurer, | .. $\quad$. | Robert A. M. L. M'Crea. |
| Hon. Secretaries, | .. .. | George Egan. <br> Alexander L Harrisan |
|  |  | (Philip C. Fogarty. |
| Other members of | he Committee, | Thomas May. |
|  |  | Daniel Brode |
|  |  | Arthur J. W. Compton. |

## BIOLOGICAL SOCIRTY.

(Founded, 1889.)
This Society meets in the Physiological Laboratory on Friday evenings at 7.30 p.m.

President, .. .. .. .. .. Professor Pye.
Secretary, .. .. .. .. .. Dr. Sandys.

## CELTIC LITERARY SOCIETY.

Patron, .. .. .. .. .. Professor Pye.
President, .. .. .. .. .. Professor Trench.
Chairman, .. .. .. .. .. Daniel Broderick.
Hon. Treasurer, .. .. .. .. Patrick J. Grogan.
Hon. Secretaries, .. .. .. \{Stephen J. M•Donagh.
George Egan.
Other members of the Committee, .. $\left\{\begin{array}{l}\text { Francis P. Byrne. }\end{array}\right.$ James Hardiman Library, in Paul Flynn.

## Queen's College, Galiuay, Students' Societies. 417

Q. C. 1 .<br>(College Magazine.)

Editors, .. .. .. .. .. $\left\{\begin{array}{l}\text { John E. A. Lynham. } \\ \begin{array}{l}\text { Stephen J. M‘Donagh. } \\ \text { Thomas May. }\end{array}\end{array}\right.$

## ATHLETIC UNION.

| President, | . | . | .. | . |
| :--- | :--- | :--- | :--- | :--- |
| Hon. Treasurer, | Pressor Trench. |  |  |  |
| Hon. Secretary, .. | .. | .. | .. | Professor Senier. |
| Isaac Flack. |  |  |  |  |

The Athletic Union embraces the following Clubs:-
FOOTBALL CLUB.
RUGBy.


ASSOCIATION.


## 418 Queen's College, Galway, Students' Societies.

## HOCKEY CLUB.



## TENNIS CLUB.



CRICKET CLUB.

| Patron, | ". $\quad . \quad$. | Professor Senier. |
| :---: | :---: | :---: |
| President, | .. $\cdot$ - | . Professor Townsend. |
| Captain, .. | $\cdots \quad .$. | James J. Hannigan. |
| Hon. Treasurer, | .. .. .. | Samuel M'Causland. |
| Hon. Secretary, | .. .. .. | .. John R. Burke. |
| Other members of | the Committee, | .. $\left\{\begin{array}{l}\text { James J. A. Gannon. } \\ \text { Arthur L. Clarke. }\end{array}\right.$ |

In addition to the above, the following Clubs, which are not connected with the Athletic Union, exist in the College:-

CYCLING CLUB.


## Queen's College, Galway, Students' Societies. 419

## handball cldb.



## STUDENTS' READING-R00M CLOB.

Chairman, .. .. .. .. .. Daniel Broderick.
Hon. Secretary, .. .. .. .. Philip C. Fogarty.
Hon. Treasurer, .. .. .. .. George Egan.
Other members of the Committee, .. $\begin{aligned} & \text { Robert B. M.Lachlan. }\end{aligned}$
Cuthbert F. Montagu.


[^0]:    * Conjoint Fee, £3.
    $\dagger$ Students of Natural History are admitted to the Practical Biology Class on payment of $£ 1$. Additional Attendances, $£ 1$ per month.
    $\ddagger$ Except in Jurisprudence and Political Economy, in which the fees are £2 eachames Hardiman Library, NUI Galway

[^1]:    * The third Session above referred to, as in the Statute relating to Senior Scholarships, may have been attended by Candidates in any one of the Queen's Colleges in Ireland, or in a College of any University in the United Kingdom.

[^2]:    * One Senior Scholarship in Anatony and Physiology, value £40, will also be open for competition at commencement of Session 1903-1904, tenable for one year, by a Student who shall have attended the Medical School of this College for at least Two Sessions, and shall have obtained a Degree in Arts or Medicine, or a Diploma in Medicine from a Licensing Body. The Senior Scholar shall act as Demonstrator, if appointed, and shall assist the Professor in such way as the Council shall prescribe.

[^3]:    * The Council may withhold Scholarships in either department on the ground of insuffcient answering, and may assign Scholarships so withheld to the other department.
    If a Candidate be placed first in the order of merit in both departments, he is entitled to two Junior Scholarships, but in no other case can the same person hold two Scholarships simultaneously.
    +Candidates for Junior Scholarships of the First Year in Arts or Engineering must declare which they intend to compete for, as competition for both is inadmissible.
    $\ddagger$ Non-Matriculated Students, who satisfy the Registrar that they have been bonâ fide Candidates at the Current Matriculation Examination of the Royal University, may be admitted to the Scholarship c 3

[^4]:    Examinations on payment of the stated Fees, but cannot be elected to Scholarships unless they produce to the Registrar Certificates of having passed that Matriculation Examination, on or before the day on which the Scholarships are awarded.

[^5]:    * The answering of Mr. Edward H. M•Grath was very favourably reported on by the Examiner.
    $\dagger$ The answering of Miss Janet H. Perry was highly commended by the Examiner.
    $\ddagger$ Resigned Scholarship on being appointed to Lectureship in the Owens College, Manchester.
    § Resigned on being appointed Professor of Chemistry in the Catholic University School of Medicine, Dublin.
    $\|$ Resigned on being appointed Kodak Company's Research Assistant to Professor Senier.

[^6]:    * Matriculation Certificates of the Queen's Colleges, Belfast and Cork, and of the Royal University of Ireland, and of other Universities. are accepted by this College.

[^7]:    * Any Candidate selecting Group No. III. will be at liberty to substitute for Ethics any one of the three subjects included in Group No. IV.

[^8]:    *These books are recommended, but are not indispensable; most of them will be found in the Library.

[^9]:    *These books are recommended, but are not indispensable; most of them will be found in the Library.

[^10]:    * Every person who, as a Matriculated or as a Non-Matriculated Student of the University of Dublin or of any of the Queen's Colleges in Ireland, shall have attended or shall attend any prescribed Lectures, and shall have passed or shall pass any prescribed Examinations of the Professors of the Faculty of Law in the said University of Dublin or in any of the said Queen's Colleges, for a period of Two Collegiate Years, and who shall have duly served as an Apprentice under Indentures for the term of four years, in like manner as by this Act provided respecting the service for the term of five years, shall at any time after the expiration of five years from the commencement of such attendance on Lectures, or of such period of service, which shall first happen, be qualified to be sworn and to be admitted as an Attorney or Solicitor respectively, according to the nature of his service, of the several and respective superior Courts of Law or Equity in Ireland, as fully and effectually to all intents and purposes as any person having been bound and having served five years is qualified to be sworn, and to be admitted or enrolled and registered an Attorney or Solicitor under or by virtue of this Act.-Extract.-29 \& 30 Victoria, cap. 84.

[^11]:    * The Royal University and other Licensing Bodies require a certificate of attendance for three months at an hospital devoted to the treatment of fever.

[^12]:    * For further information as to the arrangements for clinical teaching (which are liable to alteration) application should be made to Professor Pye, Hon. Sec. of Medical Staff of Galway Hospital.

[^13]:    * For Conditions of Tenure and for Exhibitions, see pages 13, 14, By a recent regulation of the Council, all Scholarships and Exhibitions of the Second, Third, and Fourth Years may now be competed for by Students who have attained the requisite standing in any Medical School recognised by the College Council, and have passed the Matriculation Examination in the College.
    + See pages 48, 49.
    $\ddagger$ Scholars of the First Year shall be exempt from attendance on Lectures in French (or German), and Physics, who shall produce Certificates of (a) having passed a University Examination, which includes these two subjects, or (b) of having attended a Course of Lectures in these two subjects in any Institution recognised by the Council of this College. In place of French (or German), the Council may accept another language as an alternative.

[^14]:    * The Candidates thay select either French or German. Wheri elitering his name with the Bursar, the Candidate shall declare the subjects which he selects for Examination.

[^15]:    Anatomy and Physiology.
    Practical Anatomy.
    Theory and Practice of Surgery.

    Midwifery and Diseases of Women.
    Theory and Practice of Medicine.
    Medical Jurisprudence.

[^16]:    * Students shall be exempt from attendance on Lectures in Experimental Physics who shall produce a Certificate of having passed a University Examination, or of having attended a Course of Lectures in any Institution recognised by the Coilege Council, in this subject.

[^17]:    *Students may attend the two Classes on payment of a single fee; but a Student who has taken Class II. in his First Year cannot claim re-attendance if he wishes to take the Class again in his Second Year. Scholars who wish to claim exemption from half the Class-fees must attend one Class only (Class I. in the First Year, Class II. in the Second Year).

[^18]:    * See foot-note on previous page.

[^19]:    * Having obtained First place in both divisions, retains both Scholarships.

[^20]:    * Having obtained First place in both divisions, retains both Scholarships.
    $\dagger$ According to Minute of Council.

[^21]:    * Having obtained First place in both divisions, retains both Scholarships.

[^22]:    *Ineligible, having obtained Scholarship in other division.

[^23]:    *Having obtained First place in both divisions, retains both Scholarships.
    $\dagger$ Ineligible, having obtained Scholarship in other division.

[^24]:    * Having obtained First place in both divisions, retains both Scholarships.

[^25]:    * Ineligible, baving obtained Scholarship in other division.
    $\dagger$ Mr. Mac Donnell was awarded an Exhibition in the Medical Faculty in lieu of this Scholarship.

[^26]:    * Ineligible, having obtained Scholarship in other division.

[^27]:    * Having obtained First place in both divisions, retains both Scholarships.

[^28]:    * Previously M‘Douald.
    $\dagger$ Ineligible, having obtained Scholarship in other division.

[^29]:    * Ineligible, having obtained Scholarship in other division.
    †Having obtained First Place in both divisions, retains both Scholarships.

[^30]:    * Having obtained First Place in both divisions, retains both Scholarships.

[^31]:    * Having obtained First Place in both divisions, retains both Scholarships.

[^32]:    *Ineligible, having obtained Scholarship in other division.

[^33]:    * Ineligible, having obtained Scholarship in other division.

[^34]:    * Ineligible, having obtained Scholarship in other division.

[^35]:    * Ineligible, having obtained Scholarship in other Division.

[^36]:    * Has gained an open Exhibition in Modern History at Merton Coll., 0xford.
    + Ineligible, having obtained Scholarship in other division. Awarded a Special Prize.

[^37]:    * Having obtained First place in both divisions, retains both Scholarships.
    $\dagger$ Ineligible, having obtained Scholarship in other division.
    ${ }_{\dagger}+$ Resigned.

[^38]:    * Having obtained First place in both divisions, retains both Scholarships,

[^39]:    * Ineligible, having obtained an Arts Scholarship of the Third Year Science Division.
    $\dagger$ Ineligible, having obtained a Scholarship in the Science Division.

[^40]:    *Ineligible, having obtained a Medical Scholarship of the First Year -Science Division.
    $\dagger$ Having obtained First place in both divisions, retains both Scholarships.
    $\ddagger$ Ineligible, having obtained a Scholarship in the Literary Division, James Hardiman Library, NUI Galway

[^41]:    * Ineligible, having obtained the Senior Scholarship in Anatomy and Physiology.

[^42]:    * Ineligible, having obtained a Senior Exhibition.
    $\dagger$ Ineligible, having obtained a Scholarship in Arts of the Third Year (Scienç Division).

[^43]:    * Ineligible, having obtained a Scholarship in other division.
    $\dagger$ Having obtained First place in both divisions, retains both Scholarships.

[^44]:    * Awarded a Special Prize of $£ 50$ for distinguished answering.

[^45]:    * Mr. Gallagher has been appointed County Surveyor of Wicklow.
    + Mr. M•Dermott has been appointed Assistant County Surveyor for Roscommon.
    $\ddagger$ Mr. O'Hara bas been appointed Assistant County Surveyor for Tyrone.

[^46]:    * There is a Centre in Queen's College, Galway.

[^47]:    * There is a Centre in Queen's College, Gulway.
    $\dagger$ Attention is directed to the fact that, to constitute a subject, both English and History require to be supplemented as set forth in III,

[^48]:    * All candidates who present themselves at the M.A. Degree Examination in any group of subjects included in the First Part of the Examination for the D.S.. Degree, shall, if eligible for both the B.Se. Degree and for the M.A. Degree, specify for which of these Degrees they desire to present themselves; and they shall be entitled to obtain the Degree only which they so specify.

[^49]:    * All Candidates are required to lodge Certificates of having attended this Course in accordance with these regulations,

    > James Hardiman Library, NUI Galway

[^50]:    * At all Professional Examinations one-half of the maximum number of marks assigned to a subject will be the general Pass Standard.
    $\dagger$ Candidates at this Examination must exhibit reasonable proficiency in the use of the Ophthalmoscope and the Laryngoscope.

[^51]:    * At all Professional Examinations 35 per cent. of the maximum number of marks assigned to a subject will be the general Pass Standard.

[^52]:    *These Regulations are liable to alterations for future Examinations. James Hardiman Library, NUI Galway

[^53]:    * A Syllabus, defining in general terms the character of the ExaminaSecretary, Carious subjects, may be obtained on application to the

[^54]:    *A Syllabus, defining in general terms the character of the Examination in the various subjects, may be obtained on application to the Secretary, Civil Service Commission.

[^55]:    There was also a Practical Examination in the Laboratory for Candidates in Medicine and Engineering. James Hardiman Library, NUI Galway

