

HALIHAX:
Printed for the Universtty by the Nova Scotia Printing Company, L 1889.

## CALENDAR

OF
DALHOUSIE COLLEGE

AND

## UNIVERSITY.

IIAIIFAX, NOUA SCOIIA.

1880-90.


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Printed for the University by the Nova Scotia Printing Company. 1889.

## NOTICE

Attention is directed to changes in $\S \S$ vir, viII, IX, xil, xill, xx.

## ERRATUM.

Appendix, page 1, for : Examination Papers, 1887-88, read, Examination Papers 1888-89.

## A DDENDA.

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First Year Matriculation in Arts. (p. 15.)
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The following Classical subjects are recommended :--
For 1890.-Latin.-Ccesar: Gallic War, Books II. and III ; or Virgil : Aneid, Book II. Composition : As in Arnold's, ly Bradley, Exer., 1-44.

Greek.-Xerophon: Anabasis, Book IV. or V. or VI.
For 1891.-Latin. - Caesar: Gallic War, Books IV. and V.; or Virgil : Aneid, Book II. Composition: As in 1890.

Greek.-Xenophon: Anabasis, Book V. or VI. or VII.
Junior Munro Exhibitions and Bursaries. (p. 33.)
The Classical subjects will be :
For 1890.-Latin.-Ccesar: Gallic War, Books II. and III Virgil: Eneid, Book II. Prose Composition: As in Arnold's Latin Prose Composition by Bradley, Exercises 1-44.

Greek.-Xenophon: Anabasis, Books IV., V., VI. Prose Composition: As in Fletcher and Nicholson (A. Bailie, Kingston, Ont.) Exercises, 1-28.

For 1891.-Latin.-Ccesar: Gallic War, Books IV. and V. Virgil : Eneid, Book II. Composition: As in 1890.

Greek.-Xenophon: Anabasis, Books V., VI., VII. Composition : As in 1890.

Copies of this Calendar, with the Examination Papers set in the session of 1888-89, may be obtained, at twenty-five cents each, from H. W. Barnes, Esq, Nova Scotia Printing Company, Halifax, N. S.

## CONTENTS.



## TIME TABLE-FACULTY 0F ARTS.

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| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

* The hour of this class may be changed if any of the members of it wish to take the History Class.


## University Almanac, 1889-90.

## 1889.

Aug. 26, M.-Last day for receiving notices of Supplementary and Matriculation Examinations (Law Faculty).
Sept. 3, Tu.-Session (Law Faculty) begins. Matriculation and Supplementary Examinations (Law Faculty).
3, "-Registration and payment of class fees (Law Faculty).
3, " -Meeting of Law Faculty, 4 p. m.
4, W.-Lectures begin (Law Faculty.)
5, Th.-Meeting of Senate, 11 A. M.
6, F.-Meeting of Faculty of Arts, 11 A. M.-Meeting of Faculty of Law, 4 P.M.
10, Tu.-3 P. M., Registration of candidates for Matriculation and Bursary Examinations.
11, W.-Session (Arts Faculty) begins.-Examinations for Senior and Junior Munro Exhibitions and Bursaries, and for 1st and 2nd Years Matriculation (Arts Faeulty), begin:
9.45 A. M., Latin.-3 p. m., Greek.

12, Th.- 10 A. м., Geometry.-3 p. m., Arithmetic and Algebra.
13, F.- $\quad 10$ A. M., History and Geography.-3 P. M., English Language.
14, Sa.- 10 A. M., Chemistry.-3 P. M., Botany.
16, M.- $\quad 10$ A. M., French.-3 p. M., German.
16, M.-Supplementary Examinations (Arts Faculty) begin 10 A. M.
19, Th.-Intimation as to elective subjects, to be made by Undergraduates of 3rd and 4th Years, on or before this day.
19, Th.-Meeting of Faculty of Arts, $10 \mathrm{~A} . \mathrm{M}$.
20, F.-Matriculation, Registration and Gymnasium Tickets issued at hours specified in notice in College Hall.
20, F.-Lectures begin (Art Faculty.)
23, M. - Meeting of Faculty of Law, 4 p. M.
24, Tu.-Convocation, 3 P. M.-Opening address by Prof. MacMechan.
Oct. 7, M.-Meeting of Governors.
9, W.-Final Matriculation Examinations (Arts Faculty) begin:

$$
3 \text { р. м., English. }
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10, Th.- 3 P. M., Classics and Modern Lanquages.
11, F.- 3 р. M., Mathematics.
12, Sa.- 10 A. M, Chemistry.
15, Tu.-Meeting of Faculty of Arts, 1 P. M.
16, W.-Last day for receiving applications for Medical Matriculation Examination.
17, Th.-Meeting of Faculty of Arts, 4 P. M.
18, F,-Returns as to residence and church attendance, to be made on or before this day.
30, W.-Session (Medical Faculty) begins. Matriculation (Medical Faculty) begins.
Nov. 2, Sa.-Results of Medical Matriculation Examination declared and certificates issued.
4, M.-Registration and payment of class fees. Lectures begin (Medical Faculty.)
7. Th.-Meeting of Faculty of Law, 4 р. m.

-     - Thanksgiving Day and the following day-no lectures.

Dec. 5, Th.-Meeting of the Faculty of Law, 4 p. M.
23, M.-No lectures. Christmas Vacation begins.

## 1890.

Jan. 2, Th.-Meeting of Governors.
7, Tu.-Lectures resumed.
9, Th.-Meeting of Faculty of Jaw, 4 P. M.
31, F.-George Munro Day.-No lectures.
Feb. 3, M.-Meeting of the Senate, 4 P. M.
6, Th.-Meeting of the Faculty of Law, 4 p. M.
14, F.-Last day of Lectures (Law Faculty).
17, M.-sessional Examinations (Law Faculty) begin.
19, W.-Ash Wednesday.-No lectures.
May 1, Sa.-Last day for receiving M. A. Theses
10, M.-Meeting of Senate, 4 P M.
28, F.-Last day of Lectures (Arts Faculty).-Meeting of Faculty of Arts, 4 P. M.
April 1, Tu.-Meeting of Governors.-Last day for receiving applications for Primary and Final M. D., C. M. Examinations.
2, W.-Sessional Examinations (Arts Faculty) begin :

> 9.45 A. M., Latin.
> 3 p. M., Practical Physics.

3, Th. - $10 \mathrm{~A} . \mathrm{M}$. French.
3 p. M., Botany, Hon. English.
4, F.-Good Friday.
5, Sa.- 10 A. M., Ethies. Addl. Latin (1st and 2nd Years), Hon. Greek, Hon. Math., Hon. Exp. Phys., Hon. Phil.
3 P. M., Addl. Latin (3rd and 4th Years).
7, M.- 10 A. M., Mathematics, Physics (3rd and 4th Years).
3 p. M., History (3rd Year), Hon. Latin, Hon. Chemistry, Hon. History.
8, Tu.- 10 A. M., Logic, Hon. Greek, Hon. Math. Phys., Hon. Exp. Phys., Hon. Phil.

9, W.- 10 A. M., English (2nd, 3rd and 4th Years).
3 р. M., German.
10, Th.- 10 A. M., Greek, Hon. Math., Hon. Phil., Hon. Hist., Hon. Chem.
11, F.- 10 A. M., Inorganic Chemistry, History (4th Year).
3 P. M., Metaphysics, Prac. Chemistry, Addl. Greek (1st and 2nd Years), Hon. Latin.
I1, F.-Lectures close (Medical Faculty).
12. Sa.-Certificates of Class attendance (Medical Faculty) issued.

14, M.-Sessional Examinations (Arts Faculty) continued :
10 A. M., Mathematies, Dynamics, Political Economy, Hon. Exp. Phys.
3 p. M., Addl. Greek (3rd and 4th Years), Hon. Phil., Hon. Hist.
15, Tu. - 10 A. M., Addl. Mathematies, Addl. Physies and Dynamics, Hon. Greek.
3 p. M., AddI. English, Hon. English.
" "-Last day for returning books to the Library.-Primary and Final M. D., C. M. Examinations begin.

16, W.-Sessional Examinations (Arts Faculty) continued : 10 A. M., Hon. Latin, Hon. Math., Hon. Phil., Hon. Chem.
19, Sa.-Meeting of Faculty of Arts, 10 A. m.
21, M.-Oral Examinations (Medical Faculty).
22, Tu.-Meeting of the Senate, 10 A. M-Results of Sessional Examinations declared.
24, Th.-3 p. M., Convocation.

## HISTORICAL SKETCH.

Dalhousie College was founded by the Earl of Dalhousie in 1821, "for the education of youth in the higher branches of science and literature."

The original endowment was derived from funds collected at the port of Castine, in Maine, daring its occupation in 1814 by Sir John C. Sherbrooke, then Lieutenant-Governor of Nova Scotia. These funds the Buitish Goverument authorized the Earl of Dalhousie, Sir John's successor, to expend "in defraying the expenses of any improvement which it might seem expedient to undertake in the province"; and the Earl, believing that " a Seminary for the higher branches of education is much needed in Halifax - the seat of the Legislature-of the courts of justice--of the military and mercantile Society," decided upon "founding a College or Academy on the same plan and principle of that at Edinburgh," "open to all occupations and sects of religion, restricted to such branches only as are applicable to our present state, end having the power to expand with the growth and improvement of our society."

The original Board of Governors consisted of the Governor-General of British North America, the Lieutenant-Governor of Nova Scotia, the Bishop, the Chief Justice and President of Council, the Provincial Treasurer and the Speaker of the House of Assembly.

After unsucressful efforts on the part of both the British Government and the Board of Governors to effect a union with King's College, the only other then existing in the Province, this College went into operation in 1838, under the Presidency of the Rev. Thomas McCulloch, D.D., and with a staff of three Professors.

By an Act passed in 1841, University powers were conferred on the College, and the appointment of the Governors was vested in the Lieutenaat-Governor and Council.

In 1843, President McCulloch died, and in 1945 the College was closed, the Governors considering it "advisable to allow the funds of the institution to accumulate."

In 1848, an Act was passed anthorizing the Lieutenant-Governor and Council to appoint a new board of Governors "to take such steps for rendering the institution useful and efficient as to His Excellency may seem fit." This Board, from 1849 to 1859, employed the funds of the University to support a High School.

In 1856, the Arts department of the Gorham College, Liverpool, N. S., was transferred to this College, " with a view to the furtherance of the establishment of a Provincial University," and an attempt was made to conduct the Institution as a University under the Act of 1841. This union, however, came to an end in 1857.

In 1863, the College was re-organized under the following Act:-

> An Act for the Regulation and Support of Dalhousie College.
(Passed the 20th day of April, A.D., 1863.)
Whereas, it is expedient to extend the basis on which the said College is established, and to alter the constitution thereof, so as the benefits that may be fairly expected from its invested capital and its central position may, if possible, be realized, and the design of its original founders, as nearly as may be, carried out.

## Be it enacted by the Governor, Couneil, and Assembly as follows :-

1. The Board of Governors now appointed, consisting of the Honorable William Young, the Honorable Joseph Howe, Charles Tupper, S. Leonard Shannon, John W. Ritchie, and James F. Avery, Esyuires, shall be a body politic and corporate, by the name and style of the Governors of Dalhousie College, at Halifax, and shall have and exercise all usual powers and anthorities as such, and have the title, control and disposition of the building on the Parade, at Halifax, and of the property and funds belonging to the said College, and held for the use thereof by the present Governors; and all vacancies at the Board shall be filled up on recommendation of the remaining members thereof by the Governor-in-Council ; and any of the Governors shall be removable by the Governor-in-Council, at the instance of the Board of Governors.
2. Whenever any body of Christians, of any religious persuasion whatsoever, shall satisfy the Board that they are in a position to endow and support one or more chairs or professorships in the said College, for any branch of literature or science, approved of by the Board, such body in making such endowment; to the extent of twelve hundred dollars a year, shall have a right, from time to time, for every chair endowed, to nominate a Governor to take his seat at the Board, with the approval of the Board of Governors and of the Governor-in-Council, and shall also have a right, from time to time, to nominate a Professor for such chair, subject to the approval of the Buard of Governors; and in the event of the death, removal, or resignation of any person nominated under this section, the body nominating shall have power to supply the vacancy thus created.
3. The same rigbt of nominating a Professor from time to time shall belong to any individual or number of individuals, who shall endow to the same extent and support a cbair or professorship, and to the nominee of any testator by whose will a chair or professorship may be so endowed.
4. The Governors shall have power to appoint and to determine the duties and salaries of the President, Professors, Lecturers, Tutors, and other officers of the College, and from time to time to make statutes and bye-laws for the regulation and management thereof, and shall assemble together as often as they shall think fit, and upon such notice as to them shall seem meet, and for the execution of the trust hereby reposed in them.
5. The said College shall be deemed and taken to be a University, with all the usual and necessary privileges of such institutions; and the students shall have liberty and faculty of taking the degrees of bachelor, master, and doctor, in the several arts and faculties at the appointed times; and shall have liberty within themselves of performing all scholastic exercises for the conferring of such degrees, and in such manner as shall be directed by the statutes and bye-laws.
6. No religious tests or subscriptions shall be required of the professors, scholars, graduates, students, or officers of the College.
7. The internal regulation of the said College shall be committed to the Senatus Academicus, formed by the respective chairs or professorships thereof, subject in all cases to the approval of the Governors.
8. The Legislature shall have power, from time to time, to modify and control the powers conferred by this Act.
9. The Acts heretofore passed in relation to Dalhousie College are hereby repealed, except the Act passed in the fourth year of his late Majesty King George the Fourth, entitled, "An Act authorizing the lending of a sum of money to the Governors of Dalhousie College, and for securing the repayment thereof."

This Act was afterwards amended by the following Acts :-
An Act to amend the Act for the Regulation and Support of Dalhousie College.
(Passed the 6th day of May, A. D., 1875).
Be it enacted by the Governor, Council, and Assembly, as follows :-

1. The present Board of Governors, consisting of nine persons, shall be increased to a number not exceeding fifteen; and the Board shall be filled up by new nominations made on the same principle as set forth in the first section of the Act hereby amended; and any of the Goveınors shall be removable, as heretofore, by the Governor-inCouncil.
2. The Governors shall have power to affiliate to Dalhousie College any other Colleges desirous of such affiliation, or any schools in arts, in theology, in law, or in medicine, and to make statutes for such affiliations, and for the regulation and management thereof, on the same principles as obtain in other Universities, and to vary and amend such statutes from time to time. Provided always, that such statutes of affiliation, before they go into effect, shall be submitted to and receive the sanction of the Governor-in-Council.
3. So much of chapter 24 of the Acts of 1863, entitled, "An Act for the Regulation and Support of Dalhousie College," or of any other Act, as is inconsistent with this Act, is repealed.

An Act to provide for the Organization of a Law Faculty in connection with Dalhousie College, and for other purposes.
(Passed the 14th day of April, A. D., 1881.)
Be it enacted by the Governor, Council, and Assembly, as follows:-

1. The Governors of Dalhousie College at Halifax, shall, in addition to the powers conferred on them by section 2 of chapter 27 of the Acts of 1875, entitled, "An Act to amend the Act for the Regulation and Support of Dalhousie College," have power to organize a Faculty of Law in connection with such College; and to appoint professors or lecturers in law, and out of the revenues of the College to provide for the maintenance and support of such Faculty, and to make rules for the regulation and management of such Faculty, and for the granting of degrees in law on the same principles as obtain in other universities, and to vary and amend such rules from time to time.
2. Section 3 of chapter 24 of the Acts of 1863 , entitled, " An Act for the regulation and support of Dalhousie College, is amended by adding the words "and governor" after the word "professor" in the said section, and any individual who has hitherto endowed a chair or chairs in the College shall have a right to nominate a governor for each chair endowed, in the same way as if section 3 aforesaid had been originally passed as now amended.
3. Section 1 of the said chapter 27 of the Acts of 1875 , is amended by adding the words " provided, however, that in the event of any body of Christians, individual, or number of individuals, endowing and supporting one or more chairs or professorships in the said College, as provided by sections 2 and 3 of the Act hereby amended, and of such body of christians or individuals nominating a professor or governor by virtue thereof, the number of Governors may be increased beyond fifteen, but such increase shall be limited to the number of such chairs or professorships as may after the passing of this Act be founded by virtue of the said sections 2 and 3 ."

In pursuance of the Act of 1863, the Preshyterian Church of the Lower Provinces closed their College, and agreed to support two chairs in this University ; the Synod of the Maritime Provinces in connection with the Church of Scotland fonnded one chair ; and the College opened in that year, under the Principalship of Rev James Ross, D. D., and with an Arts Faculty of six Professors.

In 1868, a Faculty of Merlicine was organized, which in 1875 developed into the Halifax Medical College. In 1885 the Faculty was re-organized.

In 1883 a Faculty of Law was added.
In 1879, George Munro, Esq., of New York, a native of this Province, placed in the hands of the Governors the funds necessary for the endowment of a Professorship of Physics. In 1881, he established a Professorship of History and Political Economy. In 1882, he founded a chair of English Language and Literature. In 1883, he alded to the staff of the College a Professor of Constitutional and International Law, and Tutors in Classics and Mathematics. In 1884, he founded a Professorship of Metaphysics. Since 1880, he has provided the University with Exhibitions and Bursaries, to the amount of $\$ 54,798.61$, which, according to his own desire, have been so offered for competition as to stimulate to greater activity and efficiency the High Schools and Academies of Nova Scotia and the neighboring Provinces.

The Governors desire to place on permanent record their high sense of Mr. Munro's enlightened puhlic spirit, and their gratitude to him for the munificent manner in which he has come to their help in the work of building up an unsectarian University in Nova Scotia.

To connect the donor's name for all time with the benefits thus conferred both on the University and on his native country, the chairs which he has founded shall be called the George Munro Chatrs of Physics, of History and Political Economy, of English Language ant Literature, of Constitutional and International Law, and of Metaphysics respectively.

In 1883, Alexander McLeod, Ese., of Halifax, bequeathed to the University the residue of his estate. The following is an extract from his will:--
"All the residue of my Estate I give and bequeath to the Governors of Dalhousie College or University in the City of Halifax in

Trust, that the same shall be invested and form a fund to be called the McLeod University Fund, and the interest and income of which shall be applied to the endowment of three or more professorial chairs in said College as they may deem proper; but this bequest is made upon these conditions, namely, that if at any time the said College or University should cease to exist, or be closed for two years, or be made a sectarian college, then and in any such case, the said Fund and all accumulations thereof shall go to the said Synod of the Maritime Provinces of the Presbyterian Church in Canada, to be used for the purposes of higher education in connection with said Synod, and it is further stipulated that no part of this Fund shall ever be used, either by said Governors of Dalhousie College or by the said Synod, as a collateral security under any circumstances whatever."

According to the provisions of the will, the McLeod Chatrs of Classics, Chemistry and Modern Languages were founded.

In 1886, Sir Wilitam Young, one of the oldest and best friends of the College, subscribed $\$ 20,000$ to start a Building Fund. In 1887, Sir William Young bequeathed to the University half the residue of his estate, together with a Prize Fund of $\$ 4000$, and the amount remaining unpaid of his subscription to the Building Fund. The following are extracts from his will:
"I bequeath to the Governors of Dalhousie College at Halifax, the sum of $\$ 4000$ to be kept continually invested hy them, and that they shall apply the income derived therefrom in fonnding and maintaining a prize of a gold medal of the value of $\$ 50$, to be called Sir Wiiliam Young's medal, and to lie annually awarded for scholastic en inence, and to have the recipient's name engraved thereon, with the year of his attendance at College, and in founding and maintaining such other prizes for distribution among the students of said College as the Governors may from time to time approve."
"Having agreed and promised to the Governors of Dalhonsie College to pay them the sum of $\$ 20,000$ to aid in the erection of their building now in progress, I direct my executors to pay the said sum from time to time as it may be required by the said Governors."
"All the rest and residue of my estate I direct my executors to divide into two even and equal parts or shares, and to pay over one such part or share to * * *, and the other part or share to the Governors of Dalhousie College at Halifax, for the general purposes of said College."
"In the event of my having paid to Dalhousie College during my life-time any part of said sum of $\$ 20,000$ hereinhefore mentioned, as agreed to be paid to them to aid in the erection of the college buildings, I do direct my executors to pay to said Governors the balance only, if any, that may be due on said sum at the time of my decease."

In 1887, J. F. Avery, M. D., made the following bequest to the College :-
"I give and bequeath the sum of $\$ 500$ to Dalhousie College in the City of Halifax, to be at the disposal of the Senatus of the said College, and the interest theleof to be appropriated for an annual prize."

In 1887, Mrs. Harriet Elizabeth Mackenzie, or Morrison, of Stornoway, Scotland, formerly of l'ictou, N. S., made the following bequest :-
"To Dalhousie College, $£ 1,000$ for founding a bursary for students attending said College, subject to such conditions and regulations as
the governing body of said College may appoint, but with this proviso, that said bursary shall be called the 'Mackenzie Bursary, and that students of the name of Mackenzie, Maclean. and Fraser, shall have a preference in the selection of beneficiaries therefor."

The following donations have been made to the Endowment Fund :
Hon. Sir Km. Young, W. J. Stairs, Esq., Hon. Stayley Brown, John Gibson, Esq., John P. Mott, Esq., Wm P. West, Esq., Thos. A. Ritchie, Esq,, and Hon. Robert Boak, $\$ 1000$ each; Adam Burns, Esq., Peter Jack, Esq., Hon. Jeremiah Northup, Prof. Lawson and Alex. McLeod, Esq., $\$ 500$ each.

The following subscriptions have been made to the Building Fund:
Rev. Lonis H. Jordan, $\$ 1000$; John Doull, John S. McLean, R. Sedgewick, $\$ 750$ each; Thomas Bayne, John McNab, Adam Burns, Hon. R. Boak, Dr. Avery, $\$ 500$ each ; President Forrest, $\$ 375$; James Forrest $\$ 300$ : Prof. John Johnson, Peter Jack, Wm Miller, Prof. MeDonald, \$250 each ; Prof. Mactregor, A. \& W'. Mackinlay, \$225 each; Prof. Alexander, Wallace Graham, $\$ 200$ each; James Scott, R. B. Seeton, Rev. John Mc Millan, Wm. Robertson, J. C. Mackintosh, H. McD. Henry, John Y. Payzant, Pearson, Morrison \& Forbes, $\$ 150$ each ; J. G. Stewart, $\$ 120$; Rev. E. Scott, Peter Ross, H. IV. C. Boak, Pictou Academy, $\$ 100$ each ; Wm. 13. Wallace, Arthur Drysdale, E. Newcombe, Alfred Costley, H. W. Barnes, Hugh McKenzie, $\$ 75$ each; W. C. Silver, Graham Fraser, $\$ 50$ each ; E. McKay, $\$ 30$; J. M. Stewart, $\$ 25$; Kev. A. Falconer, $\$ 20$; J. H Sinclair, Dr. J. Stewart, $\$ 10$ each. In all $\$ 10,640$.

The following donations have been made from time to time to meet current expenses:

Hon. Sir Wm. Young, \$200; John Doull, Esq., \$400; J. S. Maclean, Esq., $\$ 300$; J. F. Avery, Esq., M. I., S. Fleming, Esq,, C. M. 14., Rev. Principal Grant, I). D., W. J. Stairs, Esq., Thos. Bayne, Esq., John Gibson, Esq., Rev. J. MeMillan, B. D., and John McNab, Esq., $\$ 200$ each ; James Scott, Esq., and A. K. Mackinlay, Esq., $\$ 180$ each; Hon. R. Boak, and the Medical Facnlty, \$160 each; Rev. President Forrest, D. D., How. A. G. Jones, and Geo. Thomson, Esq., $\$ 150$ each ; A Burns, Esq., $\$ 125$; J. J. Bremner, Esq., $\$ 120$; B. H. Collins, Esq., J. Donaldson, Esq., Prof. J. DeMill, Prof. J. Johnson, Prof. G. Lawson, Prof. J. Liechti, Alex. McLeod, Esq., Robt. Morrow, Esq., Hon. Jeremiah Northup, Joseph Northup. Esq., T. A. Ritchie, Esq., Rev. Principal Ross, D.D., Ed. Smith, Esq., R. H. Skimmings, Esq., John Stairs, Esq., James Thomson, Esq., and Hon. Sir Charles Tupper, $\$ 100$ each; J. W. Carmichael, Esq., C. D. Hunter, Esq., Major-General Laurie, Messrs. Lawson, Hariington \& Co., Prof. C. Macionald, J. P. Mott, Esq., and Hon. Judqe Ritchie, $\$ 80$ each; G. P. Mitchell, Esq., and Hon. S. L. Shannon, \$60 each ; J. B. Duffus, Esq., R. W. Fraser, Esq., Peter Jack, Esq., and W. H. Neal, Esq., $\$ 50$ each ; with smaller sums amounting to $\$ 1349$.

The following donations have been made for the purpose of providing scientific apparatus:

Hon. Sir William Young, $\$ 500$; Prof. J. G. MaeGregor, $\$ 200$; The Alumni Association, $\$ 150$; J. F. Avery, Esq., M. D., Thomas Bayne, Esq. Hon. R. Boak, Alex. McLeod, Esq., John MeNab, Esq., Hon. Jeremiah Northup, W. J. Stairs, Esq., and W. P. West, Esq., \$100
each ; Thos. A. Brown, Esq., Messrs. Doull \& Miller, Mess:s. Esson \& Co., John Gibson, Esq., Peter Jack, Esq., and Prof. G. Lawsou, J. S. Maclean, Esq., Robert Morrow, Esq., Hon. J. W: Ritchie, James Thomson, Esq., and a Friend, $\$ 50$ each ; with smaller sums amounting to $\$ 645$.

For other benefactions, see under headings : Library, Museum, and Gymnasium.

In addition to the members of the present staff, the following have been Professors or Lecturers in the University :

Rev. Thomas McCulloch, D.D., 1838-43, President, and Professor of Moral Philosophy, Logic and Rhetoric.
Rev. Alexander Romans, 1838-42, Classics.
Rev. James McIntosh, 1838-44, Mathematics and Natural Philosophy.
Rev. Frederick Tomkins, M. A., LL. D. (Lond.), now Barrister, London, G.B., 1856-7, Mathematics and Natural Philosophy.
Rev. George Cornish, B A. (Lond.), now Professor of Classics, McGill College, 1856-7, Classics.
Thomas McCulloch, 1863-5, Natural Philosophy.
John James MacKenzie, M.A., Ph.D., 1877-79, Physics.
Herbert A. Bayne, M. A., Ph. D., F. R. S. C., late Professor of Chemistry. Royal Military College, Kingston, Ont., 1877-79, Organic Chemistry and Chemical Analysis.
James DeMill, A.M., 1866-80, Rhetoric and History.
Rev. David Honeyman, D. C. L., F. S. A., F. R. S. C., Provincial Museum, Halifax, 1878-83, Geology and Palæontology.
Rev. James Ross, D.D., 1863-85, Principal, and Professor of Ethics.
J. G. Scherman, M.A., D.Sc., now Professor of Ethies and Metaphysics, Cornell University, 1882-86, English Literature and Metaphysics.
Hon. J. S. D. Thompsos, now Minister of Justice, 1883-86, Leeturer on Procedure and Evidence.
Robt. Sedgemick, B. A., Q.C., now Deputy Minister of Justice, 1883-88, Lecturer on Equity Jurisprudence.
W. J. Alexander, B. A., Ph. D., now Professor of English in the University of Toronto, 1884-89, Professor of English Language and Literature.

## , Dalhousic Collegr \& Cmibersity.

## BOARD OF GOVERNORS.

Hon. Sir Adams G. Archibald, K. C. M. G., P. C., D. C. L., Q. C., Chairman.<br>Hon. Sir Charles Tupprr, K. C. M. G., C. B., M. D., M. P.<br>Hos. S. L. Shannon, D. C. L., Q. C., Judge of Probate.<br>Rev. John McMillan, M. A., B. D.<br>Rev. President Forrest, D. D.<br>Hon. Alfred G. Jones, P. C., M. P.<br>John Doull, Esq.<br>Rev. Robert Murray.<br>Hon. James Macdonald, Chief Justice of Nova Scotia.<br>Wallace Graham, Esq., A. B., Q. C.<br>E. L. Newcombe, Esq., B. A., LL. B., Representive of the Alumni Association.<br>Aram Burns, Esq.<br>A. H. Mckay, Esq., B. A.<br>His Worshif the Mayor of halifax, ex officio.<br>D. A. Camprell, Esq, M. D., Representative of the Alumni Association.<br>J. Norman Ritchie, Esq., Judge of the Supreme Court, Nova Scotia. Geo. Thomson, Esq.<br>James Forrest, B. A., Treasurer. William M. Doull, Secretary.

## SENATUS ACADEMICUS.

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Rev. William Lyale, Ll. D.
Charles Macdonald, M. A.
Joun Johnson, M. A.
fieorge Lawson, Ph. D., Ll. D., F. I. C., Secretary, J. G. MacGhegor, M. A., D. Sc.

Richard C. Weldon, M. A., Ph. D., M. P.
James Liechti, M. A.
Benjamin Russell, A. M.
James Seth, M. A.
Archibald MacMechan, B. A.

## ACADEMIC STAFF.

Rev. Presinent Forrest, D. D., F. S. Sc. Lond., George Munro Professor of History and Political Economy.
Rev. William Liyall, Ll. D., F. R. S. C., Professor of Logic and Psychology.
Charles Macdonald, M. A. (Aberd.), Professor of Mathematics.
John Johnson M. A. (Dub.), McLead Professor of Classics.
George Lawson, Ph. D., Ll. D., F. I. C., F. R. S. C., McLeod Professom of Chemistry and Mineralogy.
James Liechit, M. A. (Vind.), McLeod Professor of Modern Languages.
James Gordon MadGregor, M. A. (Dal.), D.Sc. (Lond.), F.R.SS. E. \& C., George Munro Professor of Physics.
Righard Chapman Weldon, A. M. (Mt. All.), Ph. D. (Yale), George Munro Professor of Constitutimal and International Lav.
Benjamin Russell, A. M. (Mt. All.), Professor of Contracts, Lecturer on Bills and Notes, Sales and Equity.
James Seth, M. A. (Edin.), George Munro Professor of Metaphysics and Ethics.
Archibald MacMechan, B. A. (Toronto), George Munro Professor of English Language and Literature.
Hon. Samuel Leonard Shannon, D. C. L. (Vind.), Q. C., Judge of Probate, Lecturer on Real Property and Crimes, and Examiner in Medical Jurisprudence.
Wallace Graham, A. B. (Acad.), Q. C., Lecturer on Insurance.
John Young Payzant, A. M. (Acad.), Lecturer on Torts.
C. Sidney Harrington, Q.C., Lecturer on Evidence and Partnership.

Hon. Charles J. Townshend, B. A., B. C. L. (Vind.), Judge of the Supreme Court, Lecturer on Equity Jurisprudence.
William Henry Waddell, Lecturet on Voice Culture and Elocution.
John Somers, M. D. (Bell. Hosp. Med. Coll., N. Y.), Examiner in Physiology and Histology.
George L. Sinclair, M. D. (Coll. P. and S., N. Y.), M.D. (Univ. Hal.), Examiner in Anatomy and Practical A natomy.
D. A. Campbell, M. D., C. M. (Dal.), Examiner in Materia Medica and Therapeutics.
A. W. H. Lindsay, B. A. (Dal.), M. D., C. M. (Dal.), M. B , C. M. (Edin.), Examiner in Anatomy and Practical Anatomy.
John Stewart, M. B., C. M. (Edin.), Examiner in Surgery.
A. C. Page, M. D. (Harv.), President N. S. Medical Board, Examiner in Medicine.
Wm. B. Slayter, M. D. (Chic.), L. Midw. (Dub.), M. R. C. S. Eng., L. R. C. P. Lond., F. O. S. Lond., Examiner in Obstetrics and Diseases of Womeriand Children.
Hon. D. McN Parker. M. D. (Edin.), L. R. C. S. Edin, Examiner in Obstetrics and Diseases of Women and Children.
Edward Farrell, M.D. (Coll. P. and S., N. Y.), Examiner in Surgery.
Andrew J. Cowif, M.D. (Univ. Penn.), M. R. C. P. Lond, Examiner in Clinical Medicine.

John F. Black, M.D. (Coll. P. and S., N. Y.), Examiner in Clinical Surgery.
Alexanieer P. Reid, M. D., C. M. (MeGill), L. R. C. S. Edin., L. C. P. and S. Can, Supt. Hospital for Insane, Examiner in Medical Jurisprudence
Arthur Morrow, M. B., C. M. (Edin.), Examiner in Physiology and Histology.
William H. Simson, Ph. G. (Phil.), Mem. N. S. Ph. Soc, Examiner in Pharmacy.
James Curtis Shaw, B. A (Dal), George Munro Tutor in Classics.
Alex. MoGeechy Morrison, B.A. (Dal ), George Munro Tutor in Mathematics.
Davil) Bailey, Chief Instructor in Gymnastics.

Librarian: Professor Seth.
Assistant Librarians: $\left\{\begin{array}{l}\text { Mr. Shaw. }\end{array}\right.$ \{ Mr. Morrison.

Curator of the Museum: Professor Lawson.

Janitor: Archibald Dunlop.

## daculty of Axts.

The President.<br>Professors: Lyall, Macdonald, Johnson, Lawson, Liechti, MacGregor, Seth,<br>Secretary of the Faculty-Professor MacGregor.

Tutors : Shaw.
Morrisun.

## §I.-COURSES OF INSTRUCTION.

## I.-CLASSICS.

(McLeod Professorship.)
$\qquad$
Tutor......................... James C. Shaw, B. A.
First Year Latin Class.
Professor's Class-Mondays, Wednesdays, and Fridays, 10-11 A.M.After Christmas the class is conducted by the Tutor.
$\ddagger$ Tutorial Class--Mondays and Wednesdays, 12 M.-1 P. M.
Subjects of study :
Cicero: Pro Milone (Purton's, University Press, Cambridge.) *Pro Lege Manilia. (Wilkins's, Macmillan, Lond.) Virgil: Eneid, Book VI. (Page's, Macmillan, Lond.). Composition : Arnold's Latin Prose by Bradley, (Rivingtons, London). Grammar: Syntax and Prosody (Allen and-Greenough's, Ginn, Boston.) History : Roman History (Smith's, Harpers, N. Y.)

[^0]
## Second Year Latin Class.

$\ddagger$ Mondays, Wednesdays and Fridays, 11 A.M.-12 M.
Subjects of study :
Horace: Odes, Rooks I, *II, *III, (Page's, Macmillan, London) ; Livy : Book I, (Stephenson's, Macmillan, London). Composition : Easy Pieces for Latin Prose, Second Series, (Champneys and Rundall, Rivingtons, London). History: Grecian History (Smith's smaller edit., Harpers, N. Y.

## Third and Fourth Year Latin Class.

Mondays, Wedneselays and Frilays, 12 M.-1 P. M.

Subjects of study in alternate years :
For 1889-90.-Tacitus : Agricola (Church \& Brodribb's, Macmillan, London.) Plautus : Captivi (Harrington's, Harpers, N. Y.) Juvenal : Satires III, X, XIIl, (Hardy's, Macmillan, London, 5 s. )-Composition: Bennett's Second Latin Writer, (Rivingtons, London.)

For 1890-91.--Horace: Selected Satires, (Greenough's, Ginn \& Co., Boston.) Tacitus: Annals, Bk. I, (Smith's or Anthons's.)-Composition: Bennett's Second Latin Writer, (Rivingtons, London). $\dagger$ Tacitus: Annals, Bk. XIV. Merivalés Hist. of the Romans, chaps. xxx, xxxi, xxxii, xxxix-xli.

First Year Greek Class.
Tuesdays and Thursdays, 10-11 A.M.; Fridays, 12 M.-1 P.M.
$\ddagger$ (Conducted by the Tutor.)
Subjects of study :
Lucian: Vera Historia, (Jerram's, Clarendon Press, Oxford.) *Xenophon : Cyropædia. Book I, (Gorham's, Whittaker, London.) Composition: Elementary Greek Prose Competion, (by Fletcher \& Nicholson, pub. by W. Bailie, Kinyston, Ont., ) introductory rules ; oral and *written exercises.-Grammar : Accidence, (Goodwin's, Ginn \& Co., Boston.)

## Second Year Greek Class.

$\ddagger$ Tuesdays and Thursdays, 11 A.M.-12 M.
Subject of study :
Homer : Odyssey, Book IX, (Edward's, Cambridge University Press.) Xenophon : Hellenica, Book II, (Underhill's, Clarendon Press, Oxford.) *Demosthenes: Olynthiacs, (Oxford ed. with notes.)-Composition : As in First Year's Class; also Sidgwick's Introduction to Greek Prose Composition.

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## Third and Fourth Year Greek Class.

Tuesdays and Thursdays, 12 M.-1 P. M.
Subjects of study in alternate years:
For 1889-90.-Plato : Apologia Socratis: (Adam's, Clarendon Press, Oxford). Aeschylus: Prometheus Vinctus.-Composition : Sidgwick's Introduction to Greek Prose Composition : introductory rules ; oral and *written exercises. *Philology : Müller's Science of Language, vol. I, chaps. 1-7.

For 1890-1.-Demosthenes : Philippics, I, II, III, (Tarbell's, Ginn \& Co., Boston.) Euripedes : Medea, (Verral's, Macmillan, Lond.)Composition : Sidgwick's Introduction to Greek Prose Composition; oral and *written exercises. *Philology : Peile's Primer of Comparative Philology. †Euripides: Hecuba.

## Advanced Class.

## Twice or three times a week.

In this class the Latin and Greek Subjects prescribed for the Special Course in Classies are read, and Prose Composition is regularly practised.

## II.-MODERN LANGUAGES.

(McLead Professorship.)
Professor. $\qquad$ James Libchti, M. A.

First French Class.
T'uesdays and Thursdays, 3-4 P. M.
Subjects of study :
Macmillan's Progressive French Reader, II year, (Fasnacht.) Molière: Le Bouryeois Gentilhomme, (Macmillan \& Co.) Exercises in Grammar and Composition.

Text Booles: Brachet's Public School Elementary French Grammar. Other Text Books required will be announced at the opening of the Session.

## Second French Class.

> Tuesdays and Thursdays, 2-3 P. M.

Subjects of study :
Molière's : Le médecin malgre lui. Racine : Athalie, (Macmillan \& Co.) Corneille: Horace. Translation from English writers. Exercises in Syntax.

Molière's Misanthrope (Macmillan \& Co.) and either Saintine's Picciola or Madame de Staël's L'Allemagne are prescribed for private reading to candidates for a First Class position at the Sessional Examinations.

Text Books: Brachet's Public School French Grammar. Other Text Books required will be announced at the opening of the Session.

[^2]
## Third French Class.

> Tuesdays and Thursdays, 9-10 A. M.

Subjects of study :
Molière: Les femmes savantes. Racine: Esther, (Macmillan \& Co.) Corneille: Le Cid, (Clarendon Press). Translations from English writers. Original Essays. Lectures on French Literature.

Molière's Tartufe (Macmillan \& Co.) and either Chateaubriand's Itineraire de Paris à Jerusalem, or Cousin's Du Vrai, du Beau et du Bien are prescribed for private reading to candidates for a First Class position at the Sessional Examinations.

Text Book: Brachet's Public School French Grammar.

## First German Class.

Mondays, Wednesdays and Fridays, 3-4 P. M.
Subjects of study:
Adler's Reader, parts III, IV and V; Schiller: Wilhelm Tell, (Macmillan \& Co.) Act. I. Exercises in Grammar and Composition.

Text Book: Otto's German Grammar. Other Text Books required will be announced at the opening of the Session.

## Second German Class.

Mondays, Wednesdays and Fridays, 2-3 P. M.
Subjects of study :
For 1889-90. Goethe: Hermann und Dorothea, (George Bell \& Sons.) Schiller: Maria Stuart, (Macmillan \& Co.) Lectures on German Literature.

For 1890-91. Goethe: Egmont. Schiller: Maria Stuart, (Macmillan \& Co.) Translations from English writers. Lectures an German Literature.

Schiller's Jungfrau von Orleans, and either Heine's Prosa (by C. A. Buchheim, Marmillan \& Co.) or Gustav Freytag's Soll und Haben are prescribed for private reading to candidates for a First Class position. at the Sessional Examinations of 1889.

Text Buok: As in First Class.
Third German Class.
Mondays, Wednesdays and Fridays, 9-10 A. M.
Suhjects of study:
For 1889-90.-Goethe: Egmont. Lessing: Nathan der Weise. Prose composition. Lectures on German Literature.

For 1890-91.-Lessing: Minna von Barnhelm (Macmillan \& Co.) Goethe : Götz von Berlichingen (Macmillan \& Co.) Prose composition. Lectures on German Literature.

Schiller's Wallenstein's Tod, (George Bell \& Sons), and either Goethe's Faust, part I. (by Jane Lee ; Macmillan \& Co.) or Schiller's Geschichte des Abfalls der Niederlande are prescribed for private reading to candidates for a First Class position at the Sessional Examinations of 1880.

# III.-ENGLISH LANGUAGE \& LITERATURE. $\dagger$ 

(George Munro Professorship.)
Professor.
First Year Class.
Tuesdays and Thursdays, 12-1 P. M.
Composition, embracing Exercises in the formation of sentences. General Principles of Composition, Characteristics of Style, etc.Students are required to write exercises, for the most part on subjects connected with the course in Literature.

As an illustration of the principles laid down in the course on Composition, and as an introduction to the study of literature, the following works will be read critically:-

Dryden: Mac Flecknoe, St. Cecilia's Day, Alexander's Feast, *Stanzas on Oliver Cromwell, *Astræa Redux, *Annus Mirabilis, *Absalom and Achitophel. Addison: Select Essays. Pope: Rape of the Lock. Johnson: London, Vanity of Human Wishes, Life of Pope, *Lives of Dryden, Addison and Gray. Gray: Elegy. Goldsmith: Traveller, Deserted Village, *Select Essays. Macaulay: Samuel Johnson.

Books recommonded: Nichol's Composition Primer (Macmillan); Hudson's Selections from Addison and Goldsmith, Ginn \& Heath, Boston); Clarendon Press Edition of Dryden; Hale's Longer English Poems (Macmillan)-which contains all the poetry read in the class.

## Second Year Class.

Mondays, Wednesdays and Fridays, 12-1 P. M.
Critical readings of select works of Shakespeare and Milton, with lectures thereon:-

Shakespeare: King John, Romeo and Juliet, *Midsummer Night's Dream, * Henry V., Macbeth, Coriolanus, * Julius Cæsar, * The Tempest. Milton : Comus, Paradise Lost, Bks. I.-IV.

Students will be required to write exercises from time to time, for the most part on subjects connected with the course in Literature.

Books recommended: Rolfe's Edition of the separate plays of Shakespeare. Dowden's Shakespeare Primer, Clarendon Press Edition of Milton.

## Third and Fourth Year Class.

## Twice a week.

Lectures on some of the leading poets and prose writers of the nineteenth century, with reading of selected works.

This class will be held in alternate sessions, beginning with the session of 1889-90. Undergraduates will not be permitted to take this class as a part of their ordinary course, unless their ability to profit by it has been made clear to the Professor by their previous work.

## Advanced Class.

Development of English Language and Literature to the year 1400, with special study of select works (§ Ix, 6).

[^3]
## IV.-HISTORY AND POLITICAL ECONOMY.

(George Munro Professorship.)
Professor.................................Rby. President Forrest.

Third Year History Class.
Mondays and Wednesdays, 11 A.M.-12 M., and Fridays,10-11 A.M.
Suhjects of study :

## Mediæval History and Modern History to 1555.

The class work will be conducted by means of lectures and examinations on prescribed reading.

Text Book: Gibbon's Deeline and Fall of the Roman Empire (Student's Edition.)
Books recommended: Hallam's Middle Ages ; Bryce's Holy Roman Empire; Irving's Mahomet and his Successors ; Guizot's History of Civilization; Michaud's History of the Crusades ; Robertson's Charles V. ; Stubb's Constitutional History of England.

Candidates for First Class will be examined on Hallam's Middle Ages, Bryce's Holy Roman Empire, and Introductory Sections of Robertson's Charles V.

## Fourth Year History Class.

$$
\text { Tuesdays and Thursdays, } 11 \text { A.M.-12 M. }
$$

Subjects of study :

## Modern History from 1555.

The class work will be conducted by means of lectures and examinations on prescribed reading. In the lectures books of reference will be named and select portions specified for reading.

Books recommended: Green's England, vol. iv; Guizot's France (Masson's Abridgment); Menzel's Germany; Motley's Dutch Republic; Bancroft's United States ; Parkman's France and England in North America.

Candidates for First Class will be examined on Green and Guizot and a few chapters to be specified in the others.

## Advanced History Class.

## Once a week.

Subjects of study :
English History from 1603 to 1688.
The work of this class will be conducted by means of lectures and examinations on reading prescribed from Clarendon, Gardiner, Green, Hallam, Ranke, and other authorities.

This class is intended especially for undergraduates taking the Special Course in English and English History.

## Political Economy Class.

Tuesdays and Thursdays, 10-11 A.M.
The work of this class will be conducted by means of lectures and examinations on prescribed reading.

A knowledge of the history and bibliography of the subject as presented in Cassa's "Guide to the study of Political Economy " will be required of students seeking First Class at the Sessional Examinations.

Text Book: Mill's Principles of Political Economy.

## Advanced Political Economy Class.

Twice a week.
The work of this class will consist of lectures, entering into the principles of Political Economy more fully than can be overtaken in the ordinary class, with examinations, on reading prescribed in the works of leading writers on the subject.
> V.-METAPHYSICS AND ETHICS.
> (George Munro Professorship.)
> Professor. James Seth, M.A.

## Metaphysics Class (Third and Fourth Years.)

## Three lectures per week.

After an introductory account of the nature and scope of Philosophy in its various departments, the history of Modern Metaphysics will be traced in its two main movements-(1) Cartesianism, (2) Sensationalism, leading up to the Critical Philosophy of Kant. The significance of Berkeley in the latter movement will receive special attention, and his philosophy, as contained in the class Text-Book, will be made the subject of detailed study, oral examination and discussion.

The work of the class will be conducted mainly by lectures, but will also embrace short essays and special readings in connection with the course.

The following additional reading will be expected from candidates for First Class distinction at the Sessional Examinations:-Spinoza's Ethics, Part I ; Hume's Treatise on Human Nature, Part III., sees. 1-8, 14; Watson's Selections from Kant, pp. 1-134.

Text-Book: Fraser's Selections from Berkeley (Clarendon Press Series.)
Recommended : Schwegler's History of Philosophy (Stirling's Translation.)

> Ethics Class (Fourth Year.)
> Mondays, Wednesdays and Fridays, $11 \mathrm{~A} . \mathrm{M} .-12 \mathrm{M}$.

After an introductory account of the province and method of Ethics, and its relation to other branches of Philosophy, the history of ethical thought will be traced, and the various theories critically examined. The course will thus fall into two divisions,--the one concerned with Ancient (chiefly Greek), the other with Modern (chiefly British and

German) ethical theories. Under the latter division will be explained and criticised the different forms of Intuitionism ; of HedonismEgoistic, Altruistic and Evolutional ; and of TranscendentalismKantian and Neo-Kantian.

The work of the class will be conducted mainly by lectures, but will also embrace oral examination and discussion. Short essays, as well as special readings in connection with the course, will be prescribed from time to time.

The following additional reading will be expected from candidates for First Class distinction at the Sessional Examinations :-Aristotle's Ethics. Bks. I, II, III, ch. 1-5, X. ; Sidgwick's Methods of Ethics; Kant's Fundamental Principles of the Metaphysic of Morals ; Green's Prolegomena to Ethics, Bks. II and III, ch. 1.

Text-Book: Sidgwick's Outlines of the History of Ethics (Macmillan \& Co.)
Recommended: Zeller's Outlines of the History of Greek Philosophy; Mackintosh's Dissertation on Ethical Philosophy.

## Advanced Class (Fourth Year.)

Three lectures per weeh.
In this class, which is intended mainly, though not exclusively, for undergraduates taking the Special Course in Philosophy, the books prescribed for that course in Metaphysics and Ethics will be made the subject of candidates for Honours critical study.

> VI.-LOGIC AND PSYCHOLOGY.
Professor.................................................... Lyall, LL.D.

## Second Year Class.

Mondays, Tuesdays, Wednestays and Thursdays, 3-4 P.M.
This course will consist of lectures on Mind and its phenomena,the laws and faculties of Cognition, comprising a review of the doctrines of Locke, Reid, Stewart, Brown, Hamilton, and the modern Sensationalist School, with the philosophy of the Emotions and Active Powers. Under Logic will be considered - the nature of Concepts, Judgments and Reasonings ; the opposition and conversion of Propositions ; the different orders of Syllogism; the Fallacies ; the doctrine of Method; the sources of Error and the means of their correction.

Books recommended-Sir Wm. Hamilton's Lectures on Metaphysics and Logic; Prof. Lyall's "Intellect, the Emotions and the Moral Nature."

## Advanced Class.

Fridays, 2-3 P. M.

This class is intended especially for undergraduates taking the Special Course in Mental and Moral Philosophy, the work extending over two sessions, and alternating between the two divisions of the general subject.

The lectures will enter into a more critical review of the psychological phase of Philosophy, the theory of the Ratiocinative process, with especial reference to the views of Mill and Hamilton; together with the laws and methods of Inductive Logic.

## VII.-MATHEMATICS.

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Professor ......................................C. Macdonald, M. A.
Tutor......................A. M. Morrison, B. A.
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First Year Class.
Daily, 11 A. M.-12 M.
Subjects of study:
Algebra.-Involution, Evolution, Theory of Indices, Equations of the First and of the Second Degree, Elements of Determinants, Proportion, Inequalities, Indeterminate Equations, Variation, Progressions; Propositions in the Theory of Equations, with Horner's method of approximating the roots of an Equation of a Degree higher than the Second.

Geometry.-First and Second Books of Euclid revised, Third and Fourth Books, Definitions of Fifth, and Sixth Book, with Geometrical Exercises and Practical applications.

The class meets daily with the Professor. The Tutorial class meets once a week, for the purpose of revision of the Professor's Lectures, and illustration of them in working further examples. The Tutor will also be in the Library two or three times a week, from 3 to 5 o'clock, P. M., when he may be consulted by students with reference to their studies.

Books recommended: Colenso's or Todhunter's or Deighton's, (George Bell \& Sons) Elements of Euclid ; Colenso's or Todhunter's Algebra; Hall \& Knight's Higher Algebra. (The latter book is recommended to those who wish to pursue advanced work. Todhunter's small School Algebra is scarcely sufficient for the course).

Second Year Class.

$$
\text { Daily, } 10-11 \mathrm{~A} . \mathrm{M} .
$$

There are two Divisions in this class, the Lower and the Higher.
(1.) In the Lower Division, the subjects of study are-

Geometry.-Sixth Book of Euclid revised ; Drew's Conic Sections, the Parabola; Easy Geometrical Exercises, with practical applications; 21 Propositions of the Eleventh Book of Euclid.

Trigonometry.--Analytical Plane, as far as, but exclusive of, DeMoivre's Theorem. The use of Logarithms, and of the chief Mathematical Tables. Solution of Plane Triangles; Mensuration of Heights and Distances; Elementary Problems in Navigation.

Algebra.--Permutations and Combinations; use of the Binomial Theorem ; Properties of Logarithms; Compound Interest; Notation; Elements of the Doctrine of Chances.
(2). In the Higher Division, the subjects are-

Geometry.--Parabola, Ellipse, and Modern Extensions of Euclid.
Trigonometry.-As in the Lower Division, with Extensions; DeMoivre's Theorem, with Higher Angular Analysis; Spherical Trigonometry, as far as the solution of Right-angled Triangles, with applications to easy Astronomical Problems.

Algebra.--Investigations connected with the subjects studied in the Lower Division, with illustrations and examples of a more difficult
kind. For First or Second Class at the Examinations, acquaintance with the subjects treated in this Division is necessary.

Announcement will be made at the beginning of the Session, of the number of meetings per week of the Lower Division.

The Higher Division meets, throughout the Session, two days a week.

The Tutor will be in the Library two or three times a week from 3 to 5 P. M., when he may be consulted by students with reference to their studies.

Books recommended: Algebras-Colenso's (2nd part), Todhunter's, Hall and Knight's (best). Todhunter's Plane Trigonometry ; Drew's Conic Sections; Chambers's Logarithmic, \&c., Tables. For Higher Division-Todhunter's Spherical Trigonometry : Casey's Sequel to First Six Bools of Euclid, (Longmans, Green \& Co., London.)

## Advanced Class.

## There are two Divisions in this Class :

The First Division meets three times a week.* Subjects: Analytical Trigonometry, commencing with the applications of DeMoivre's Theorem; Analytical Geometry; Spherical Trigonometry ; Theory of Equations; Differential Calculus.

Books recommended: Todhunter's Plane Trigonometry ; C. Smith's and Todhunter's Conic Sections; Todhunter's Theory of Equations; Williamson's Differential Calculus: Williamson's Integral Calculus ; Todhunter's Spherical Trigonometry. Any Standard Works on the subjects treated may, however, be used.

The Second Division meets twice a week.* Subjects: Spherical Trigonometry; Theory of Equations; Differential Calculus; Integral Calculus, with Differential Equations; Application of these to Physics, Physical Astronomy, \&c.

Books recommended-The same as for the First Division. Also, Tait \& Steele's Dynamies of a Particle; Todhunter's Analytical Statics; Boole's Differential Equations.

> VIII.-PHYSICS.
(George Munro Professorship.)
Professor
J. G. MacGregor, D. Sc.

## Junior Physics Class.

Tuesdays, Thursdays and Fridays, 11 A. M.-12 M.

## Subjects of the lectures:

The elements of Dynamics ; the properties of solid and fluid bodies ; Heat ; Electricity and Magnetism; Light and Radiant Heat; and Sound. These subjects will be treated in an elementary manner, the Mathematical knowledge assumed being no greater than may be acquired in the First Year Class.

[^4]*An extra hour for some part of the Session may be required.

## Senior Physics Class.

Monduys and Wednesdays, $10-11$ A. M.
The subjects studied in this class will be the same as those of the Junior Class, with the omission of Dynamics ; but they will be treated in a less elementary manner, a knowledge of the Mathematics of the Second Year Class being assumed. As the course is too extensive to be completed in one session, different departments of it will be taken up in successive sessions. In 1889-90, attention will be directed more especially to Heat and Electricity.

Candidates for a First Class distinction will be expected to acquire by private reading a knowledge of the Elements of Sound and of the Wave Theory of Light, as contained in S. Taylor's Sound and Music (Macmillan \& Co.) Chaps. I-VII, and Lloyd's Wave Theory of Light (Longmans), Chaps. I-III and VI - VIII.

Books recommended: Maxwell's Theory of Heat (Longmans), and Cumming's Theory of Electricity (Macmillan \& Co).

## Dynamics Class.

Tuesdays and Thursdays, 10-11 A.M.
The lectures will be on the following subjects:
Kinematics : (a) motion of a point, (b) motion of a rigid system of points.

Dynamics: (a) of a particle, including Kinetics and Statics, (b) of systems of Particles, (c) of a rigid body, including Kinetics and Statics.

Candidates for a First Class distinction will be expected to read privately the following portions of the Text Book, - $\$ 8257$-284, 355371, 384-396, 476-484

Text Book: MacGregor's Kinematics and Dynamics (Macmillan \& Co.)

Advanced Mathematical Physics Class.

$$
\text { Mondays and Wednesdays, } 11 \text { A.M.-12 M. }
$$

The subjects of the lectures will be as follows :
Kinematies ; Dynamics of a Particle and of a Rigid Body; Hydrodynamics; Thermodynamics.-Students will be assumed to haver sufficient knowledge of the Differential and Integral Calculus and to be familiar with the Text Book of the Dynamics Class.

This class is intended especially for undergraduates taking the Special Course in Mathematics and Physics, but other students having sufficient knowledge of Mathematics and Physics will be admitted.

Books recommerded: Tait and Steele's Dynamies of a Particle (Macmillan \& Co.) Aldis's Rigid Dynamics (Deighton, Bell \& Co.), Besant's Hydromechanics (Deighton, Bell \& Co.), Tait's Sketch of Thermodynamics (Douglas, Edinburgh.)

## Practical Physics Class.

The work of this class will consist of the determination of physical constants, such as density, specific heat, electromotive force, electrical resistance, \&c, and of simple physical laws.

The class is intended especially for undergraduates taking the Special Course in Experimental Physics and Chemistry; but other students having sufficient knowledge of Physics will be admitted.

Book recommended: Glazebrook and Shaw's Practical Physics (Longmans, Green \& Co.)

> IX.-CHEMISTRY.
(McLeod Professorship.)
Profesbor. ........................ ..George Lawson, Ph. D., Ll. D.

## Inorganic Chemistry Class.

Tuesdays, Wednesdays and Fridays, 9-10 A. M.
Subjects of Lectures:
General Principles. Chemical Affinity. Laws of Combination, by weight. Equivalents. Laws of Combination by volume. The Elements. Compounds. Atomicity. Nomenclature; Notation; Formulæ; Equations. The Non-Metallic Elements considered in detail ; their modes of occurrence in nature; preparation in the free state; their compounds; natural phenomena and artificial processes in which they take part; useful manufactures to which they are related. The Metals considered in regard to their physical and chemical characters and modes of occurrence in nature; Classification of the Metals. Alloys, Amalgams; Constitution of Salts: Bases, Acids, Radicals. Discussion of the more important Metallic Elements in detail; their Salts and other compounds; Metallurgical processes ; Chemical Manufactures.

Lectures in the Class for Inorganic Chemistry, (which is conducted in conjunction with the Course for Medical Chemistry), will commence in October.

Text Book: Greene's Edition of Wurtz's Elements of Modern Chemistry-the whole of the Inorganic part (Lippineott, Philadelphia.)

## Organic Chemistry Class.

> Mondays and Wednesdays, 10-11 A. M.

## Subjects of Lectures:

Principles of Classification. Elemetary Analysis. Methane and its Homologues, and their Substitution Compounds. The Monatomic Alcohols, and related compounds and Derivatives; Aldehydes, Ethers, \&c. The Fatty Acids. Compound Ethers. Polyatomic Alcohols, Ethers and Acids. Cyanogen and its compounds. Amines. Amides. The Aromatic Series. Benzol and its derivatives. Aniline. Terpenes. Alkaloids.

Students are exercised in the Laboratory in the preparation of organic compounds, and in experiments to determine their elementary composition, chemical constitution and properties.

Text Book: Greene's Edition of Wurtz's Elements of Chemistry-the Organie part. Reference works in the College Library will be recommended during the course.

## Chemical Laboratory.

The Chemical Laboratory is open daily (except Saturdays) from 9 a. m. to 1 p. $m$ Students taking their first Labolatory course are required to attend at an hour when the Professor is not engaged in lecturing, viz., between $11 \mathrm{a} . \mathrm{m}$. and 1 p m .

Practical Chemistry.-Systematic Separation and Detection of the several Metallic Bases and of Aeids. Preparation of Reagents. The work is done entirely by the students. Where additional time can be given, students will also be exercised in the preparation of, and manipulation with, the more important elementary and compound gases.

Laboratory Books: One of the following: Macadan's Practical Chemistry, Fresenius's Qualitative Analysis, Goodwin's Text Book.

Quantitative Analysis. - Instruction is provided in Quantitative Analysis, for the benefit of candidates for Honours in Experimental Physics and Chemistry, and also for Students who, having taken Practical Chemistry in their Third Year, are desirous of taking it again in their Fourth Year. Other persons, having a sufficient knowledge of Chemistry, will also be admitted. Instruction is offered not only in General Quantitative Analysis, but also in special work, such as the analysis of Metallic Ores, Coal, and other Mineral Substances, Fertilizers, Soils, Mineral Waters ; Sanitary Examinations of Water, Air and Food, Detection and Quantitative Estimation of Poisons.

Laboratory students are allowed the use of the ordinary Laboratory apparatus and furnishings, but are required to provide themselves with test tubes, platinum, gold and silver salts, and other expensive materials which they may require, and to replace apparatus which they may destroy. Those who wish to work in special departments, or to engage in original research, will have to furnish themselves with the necessary apparatus.

Text Book: Fresenius's Quantitative Analysis, Vol. I. Special works in the College Library, will be recommended when necessary. A small Reference Library of books needed in actual work is kept in the Balance Room.

> X.--BOTANY.

Professor...............................George Lawson, Ph. D., Ll. D.

$$
\text { Tuesdays and Thursdays, } 10-11 \mathrm{~A} . \mathrm{M} .
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The course in Botany embraces the subjects of Structural and Physiological Botany, special attention being given to Minute Structure and Development of Tissues, the phenomena of Growth, Reproduction, Life-History, and Plant Movements. Also Classification, as illustrated by the leading natural orders of North American plants. Experiments on living plants, in regard to transpiration, growth and movements, and the examination of tissues, cell development, \&c., will be conducted in the Laboratory Balance Room.

Text Book: Goodale's Physiological Botany (vol. II. of Gray's Botanical Text Book.) Field Booles for Summer Worlc: Gray's Manual of Botany of the Northern States; Gray's How Plants Grow, with Lawson's Fern Flora of Canada, as Appendix, (Mackinlay).
§ II.-THE ACADEMIC YEAR.-The academic year consists of one session. The session of $1889-90$ will begin on Wednesday, 11th September, 1889, and end on Thursday, 24th April, 1890.
§III.-ADMISSION OF STUDENTS.-(1.) Persons of either sex may become students of the College by (a) furnishing satisfactory references or certificates of good moral character (on first entering the College), (b) entering their names in the Rogister (annually), and (c) paying the annual Registration fee (§ xxiii).
(2.) Registered students may, on presentation of their Registration Tickets and on payment of the proper fees (§ xxiii), enter any of the ordinary classes of the College. The Tutorial classes are open to members of the ordinary classes in connection with which they are held ; the Advanced classes, to students who have sufficient knowledge of the subjects taught in them.
(3.) Students who are candidates for degrees are known as Tndergraduates, others as General Students.
§ IV.-DEGREES.-(1.) Three baccalaureate degrees are conferred in the Faculty of Arts, those, viz., of Bachelor of Arts (B. A.), Bachelor of Letters (B. L.) and Bachelor of Science (B. Sc.)
(2.) Persons who wish to obtain University Degrees must become Undergraduates. Persons of either sex may become Undergraduates by (a) passing either one of the Matriculation Examinations or a recognized equivalent ( $\$$ and (b) matriculating, i. e., entering their names on the Matricuia or Register as Undergraduates.
(3.) Two Matriculation Examinations are held, of lower and higher grade respectively. The First Year Matriculation Examination admits to the First Year of the various courses. The Second Year Matriculation Examination admits to the Second Year of the various courses, and thus enables those who pass it to obtain their degrees at the end of three academic years.
(4.) Persons may be admitted as Undergraduates of the First Year, without examination, on presentation of certificates from the Principals of High Schools or Academies, approved for this purpose by the Faculty, stating that they have satisfactorily completed the work prescribed for the First Year Matriculation Examination and passed satisfactory examinations therein.
(5.) Persons who may have appeared as candidates for Junior Murro Exhibitions and Bursaries, may be admitted as Undergraduates of the First Year, without further examination, provided their examinations are approved by the Faculty. If their examinations are approved in some subjects but not in others, they may be admitted as Undergraduates on passing in the latter at the Final Matriculation Examination.
(6.) Undergraduates of other Universities may, on producing satisfactory certificates, he admitted ad eundem statum in this University, if on examination they are found qualified to enter the classes proper to their years. But if their previous courses of study have not corresponded to the courses on which they enter in this University, they may be required by the Faculty to take additional classes.
(7.) Undergraduates must pursue, at the College, specified courses of study, which vary with the degrees for which they are candidates, but in the case of all degrees extend over four years. They must also pass the prescribed examinations according to the regulations of $\S$ xi.

## § V.-FIRST YEAR MATRICULATION EXAMINATION.

 -(1.) The following are the subjects of this Examination:1 and 2. Two of the following: Latin, Greek, French, German. (Candidates for B.A. must pass in Latin, and if they are to take Greek as one of the subjects of the First Year, must also pass in Greek).

Latin.-Grammar. Composition-Translation of easy sentences, as in Smith's Principia Latina, Part iv, Exs. 1-35. One Latin book. The following books are recommended:

For 1889* ; Ccesar, Gallic War, Books II. and III. ; or Virgil, Aeneid, Book I.
Greek.-Grammar. One Greek book. The following books are recommended:

For 1889* ; Xenophon, Anabasis, Book IV., or Symposium (Wiman's, pub. by J. Allyn, Boston.)

French.-Voltaire: Charles XII., Books I. and II. ; or Scribe, Bertrand et Raton (Comédie) --Questions in Grammar limited to the Accidence, and based upon the passages selected.-Easy English sentences for translation into French.

German.-Adler's German Reader (Appleton \& Co.), Zweiter Abschnitt, 1-4 and 14-17 (inclusive); or Schiller's Der Neffe als Onkel, Act I. Grammar: Declensions of the Articles, Nouns, and Adjectives.
N. B.-Instead of the books recommended above in Latin, Greek, French, and German, candidates may offer equivalents which are not included in the Course of Study. Such equivalents must have been previously approved by the President.

[^5]3. Arithmetic and Algebra.- Arithmetic. Algebra: Simple Rules, and Simple Equations of one unknown quantity, not involving surds.
4. Geometry.-Fuclid's Elements, Books I. and II.
5. English.-Language: Grammar, Analysis, Writing from Dictation, Punctuation, Synthesis, Paraphrasing.
6. History and Geography.-Outlines of English and Canadian History, and General Geography.

The above examination may be conducted partly viva voce.
(2.) Candidates taking French or German, and those who wish to offer equivalents, are required to give notice to the President, of their intention to appear at this Examination, at least one week before the day on which it is held ; and in giving such notice they must state which of subjects 1 and 2 they take and what equivalents they offer instead of books specified above.
(3.) This examination will be held at the College on September 10th-16th, 1889. For the benefit of candidates unable to present themselves on these days, an opportunity will be granted for appearing for examination on October 9th-11th. But no student will be admitted as an undergraduate at a later date without the special permission of the Faculty.

## § VI.-SECOND YEAR MATRICULATION EXAMINATION.

 -(1.) The following are the subjects of this examination :1 and 2. Two of the following: Latin, Greek, French, German, Botany. (Candidates for B. A. must pass in Latin; if they are to take Greek as one of the subjects of the Second Year, they must also pass in Greek ; if not, they may select Greek, or French, or German.Candidates for B. L. must pass in two languages, of which one must be French or German.-Candidates for B. Sc. must pass in one modern language and in Botany).

Latin.-The ordinary* subjects of the First Year Class, as specified in § I (I), together with one additional book.

Greek.-The ordinary* subjects of the First Year Class, as specified in § I (I), together with one additional book.

French. - The subjects of the First French Class, as specified in § I (ii).

German.-The subjeets of the First German Class, as specified in § I (II).

[^6]Botany.--The subjects of the lectures of the Botany Class, as specified in § I (x).
N. B.-Instead of the books prescribed above in Latin, Greek, French, and German, candidates may offer equivalents which are not included in the Course of Study. Such equivalents must have been previously approved by the President.
3. Mathematics. - The subjects of the First Year Class, as specified in § I (viI).
4. English.--In addition to the subjects of the First Year Matriculation Examination (in which special stress will be laid on Composition), candidates will be required to pess an examination on the literary subjects specified for the ordinary* work of the First Year Class (§ I, III)-or the equivalents thereof.
5. Inerganic Chemistry.-The subjects of the First Year Class (§ I, IX.)-Candidates may omit this subject; but in that event they must either pass the examination therein on entering the Third Year, or take it instead of one of the elective subjects in the Third Year.

The above examination may be conducted partly viva voce.
(2) Candidates who have previously passed in any one or more of the above subjects, or in any portion thereof, either at the Matriculation Examination or at the Sessional Examinations of the First Year, shall be exempt from further examination therein.
(3.) Candidates must give at least one fortnight's notice to the President, of their intention to appear at this examination; and in giving such notice they must state in what Latin, Greek, French, German, and English books they intend to offer themselves for examination, whether or not they wish to be examined in Chemistry, and in what subjects they claim exemption from examination.
(4.) This examination will be held at the College on September 10th-16th, 1889. For the convenience of candidates unable to appear on these days, an opportunity will be granted of appearing for examination on October 9th- 12 th. But no student will be allowed to enter as an undergraduate at a later date, without the special permission of the Faculty.
§ VII. - ORDINARY COURSES OF STUDY FOR DEGREES OF B. A. AND B. L.--The following is a list of the classes which undergraduates are required to attend in the four years of the ordinary courses for B. A. and B. L. The details of the subjects studied in these classes, will be found under Courses of Instruction (\$§ I and xxiv).

## First Year.

1. For B. A.-Latin. For B. L.-German.
2. For B. A.-Greek, or French, or German. For B. L. -French.
3. Mathematics.
4. Inorganic Chemistry.
5. English.

Undergraduates taking French or German, enter the classes for which the Professor considers them fitted.

## Second Year.

1. For B. A.-Latin. For B. L.-German.
2. For B.A.-The language chosen as subject 2 in the 1st year. For B. L.-French.
3. For B. A.-Mathematics. For B. L.-Mathematics or Junior Physics.
4. English Literature.
5. Logic and Psychology.

## Third Year.

1. For B. A.-Latin or Greek. The language selected must have been taken during the first two years. For B. L.German or French.
2. For B. A. - Junior Physics. For B. L. - Junior Physics or any one of subjects $4-5$. (Junior Physics must be taken either in the Second or Third Year).
3. History.

4-5. Any two of the following*:
a. Greek.
b. Hebrew.
c. French.
d. German.
e. English, $\dagger$
f. Constitutional History
(Law Faculty.)
g. Political Economy.
h. Metaphysics.
i. Dynamics.
$j$. Organic Chemistry, or Medical Chemistry.
7. Practical Chemistry.
l. Botany.

Undergraduates are required, on or before the date specified in the University Almanac, p. 5, to submit to the President for approval, the names of the two subjects, $4-5$, which they may wish to select.

[^7]Undergraduates selecting French or German for the first time, enter the classes for which the Professor considers them fitted. Those selecting Greek for the first time, enter the First Year Class.

A certificate of attendance on a class of New Testament Greek in any recognized College, will exempt from subject 1 or from one of the two subjects 4-5, an undergraduate who has taken Greek in the first two years.

The University provides no instruction in Hebrew, but a certificate of attendance on a Hebrew Class in any recognized College will exempt an undergraduate from one of the two subjects, 4-5.

## Fourth Year.

1. For B. A.-Latin or Greek. The language chosen must have been taken during the first three years. For B. L. -The language chosen as subject 1 in the 3rd year, unless the 2nd class in that language have been entered in the 1st year, in which case one of the electives $a-p$ may be taken instead.

## 2. Ethics.

## 3-5. Any three of the following*:-

a. Greek.
b. Hebrew.
c. French.
d. German.
e. English. $\dagger$
$f$. History.
g. Political Economy. $\ddagger$
h. Metaphysics.
i. Constitutional Law (Law Faculty.)

## j. Contracts

(Law Faculty.)
7. Senior Physics.
l. Practical Physics.
$m$. Dynamics.
n. Organic Chemistry, or Medical Chemistry.
o. Practical Chemistry.
p. Botany.

Undergraduates are required, on or before the date specified in the University Almanac, p. 5, to submit to the President for approval, the names of the three subjects (3-5) which they may wish to select.

Undergraduates taking the First Year Greek class in the Third Year must take the Second Year class in the Fourth. Those taking the First French or First German class in the Third Year must take the Second Class of the same subject in the Fourth. Neither the First Year Greek class nor the First German or French Class can be taken in the Fourth Year without special permission.

A certificate of attendance on a New Testament Greek class in any recognized College, will exempt from subject 1 , or from one of the three subjects $3-5$, an undergraduate who has taken Greek during the first three years.

A certificate of attendance on a class in Hebrew in any recognized College will exempt from one of the three subjects $3-5$. If the Hebrew class be one of 5 hours a week, attendance on it will exempt from two of the said subjects.

No class in which the subjects studied are the same from year to year, can be taken twice as part of the course.

[^8]
## § VIII.-ORDINARY COURSE OF STUDY FOR DEGREE

 OF B Sc.-The following is a list of the classes which undergraduates must attend during the four years of the B. Sc. Course. The details of the subjects studied in these classes will be found under Courses of Instruction (§ I )
## First Year.

1. French or German.
2. Botany.
3. Mathematics.
4. Inorganic Chemistry.
5. English.

Practical work in Botany will be prescribed for the summer following the First Year.

## Second Year.

1. The language chosen as subject 1 in the First Year.
2. Practical Chemistry.
3. Mathematics.
4. English Literature.
5. Logic and Psychology.

## Third Year.

1. The modern language not chosen as subject 1 in the first two years.
2. Physics.
3. Dynamics.

4-5. Either Advanced Mathematics or Organic and Practical Chemistry.

Fourth Year.

1. The language taken as subject 1 in the Third Year.
2. Physics.

3-4. Either Advanced Mathematics or Practical Chemistry and Practical Physics.
5. One of the following :-
a. French.
b. German.
c. History.
d. Political Economy.
e. Organic Chemistry or Medical Chemistry.

Undergraduates selecting French or German in the First or Third Years enter the classes for which the Professor considers them qualified.

No class in which the subjects studied are the same from year to year, can be taken twice during the Course.
§IX.-SPECIAL COURSES FOR DEGREES.--(1.) An undergraduate shall be allowed, during his Third and Fourth Years to restrict his attention to a more limited range of subjects than that of the ordinary course, by entering upon one of the Special Courses, provided he has either attained both a First Class standing at the previous Sessional Examination in the subject corresponding to that of the Special Course selected, and a satisfactory standing in the other subjects, or received the special permission of the Faculty.
(2.) Special Courses are provided in the following departments, viz., (1) Classics, (2) Latin and English, (3) Greek and English, (4) English and English History, (5) Mental and Moral Philosophy (including Political Economy), (6) Mathematics and Mathematical Physics, (7) Experimental Physics and Chemistry. Undergraduates in Arts may take special courses in any one of the above departments ; undergraduates in Letters in any one of departments $4,5,6$, and 7 ; undergraduates in Science in either of the departments 6 and 7 .
(3.) An undergraduate taking a special course in any of the above departments shall be required to attend the Advanced Classes provided in the subjects of such departments (§I), to make progress satisfactory to the Professors who conduct such classes, and to pass the examinations in the subjects of such department ; and he shall be allowed to omit, from the subjects of the ordinary course, certain subjects specified below.
(4.) The examinations in the subjects of the Special Course shall be held at the end of the Fourth Year.
(5.) Undergraduates taking the Special Courses in Classics may, in each of the Third and Fourth Years, omit any two of the subjects of those years, except Latin and Greek.

They shall be examined in the following subjects:-

## Latin.

I. Candidates will be required to have a critical knowledge of the following works:

Plautus: Miles Gloriosus.
Terence: Adelphi.
Virgil: Georgics, Books I., Iv.
Horace: Epistles, Books I., II.; Ars Poetica.
Juvenal : Satires, viI., viII., XIV.
Cicero: De Oratore.
Livy: Books xxi., xxir.
Tacitus: Germania ; Annals, Book Ir.
II. Candidates will be required to shew a general knowledge of one prose and one verse subject to be chosen by them from the following list:

Plantus: Trinummus, Anlularia.
Terence: Andria, Heautontimorumenos.
Juvenal: The Satires not read in class.
Cicero: Select Letters, (Muirhead's edit., Rivingtons, London).
Livy : Books II., III., IV.
Tacitus: Histories, Books I., II.
III. Composition.-Prose.
IV. Literature. --Crutwell's History of Latin Literature, selected chapters.

## Greek.

I. Candidates will be required to have a critical knowledge of the following works:

Aeschylus : Eumenides.
Sophocles: Oedipus Rex.
Aristophanes: The Knights.
Homer: Odyssey, Books v., vi., viI., viII.
Thucydides: Book II.
Plato: Phaedo.
Demosthenes: De Corona.
Aristotle: Poetics.
1I. Candidates will be required to shew a general knowledge of one prose and one verse subject, to be chosen by them from the following list:

Aeschylus: Agamemnon, Choephorae.
Sophocles: Oedipus Coloneus, Antigone.
Euripides: Hecuba, Bacchae, Hippolytus.
Herodotus: Any two books, excluding the Second.
Thucydides : First and Seventh Books.
Aeschines and f Contra Ctesiphontem.
Demosthenes: $\{$ De Falsa Legatione.
III. Composition.-Prose.
IV. Philology. - Peile's Introduction to Greek and Latin Etymology ; Comparative Philology by Papillon.
V. Literature. - Mahaffy's Bistory of Greek Literature, the portions bearing on the authors and subjects read in the undergraduate course ; Donaldson's Theatre of the Greeks, selected portions.
(6,) Undergraduates taking the Special Course in Latin and English may, in each of the Third and Fourth Years of their course, omit any two of the subjects of those years, except Latin and English, the Third and Fourth Years English Class being regarded, however, in the case of undergraduates taking this Special Course, not as an ordinary subject but as a part of the Special Course. They shall be examined in the following suljeects, viz.:

LATIN.
The Latin subjects prescribed for the Special Course in Classics.

## ENGLISH.

(1.) The historical development of the language and literature to the year 1400, including a minute acquaintance with Sweet's AngloSaxon Reader (exclusive of poetical selections), Sweet's First and Second Middle English Primers, Chaucer's Prologue, Knight's Tale, and Nonne Prestes Tale (Clar. Press Ed.) and Lounsbury's History of the English Language.
(2.) Detailed History of the Elizabethan and Early Stuart Literature, including a general acquaintance with the more important works of the period, and an intimate knowledge of the following :-

Spenser: Faerie Queen, Bk. II.
Marlowe: Doctor Faustus, Edward II.
Greene: Friar Bacon and Friar Bungay.
Sidney: Apologie for Poetrie.
Hooker: Ecclesiastical Polity, Book I.
Bacon: Advancement of Learning, Select Essays.
Shakespeare : Henry VI., Pts. II. \& III, Romeo and Juliet, Lear, Henry VIII., Two Noble Kinsmen.
(3.) A general acquaintance with some of the leading writers of the nineteenth century, together with an exact knowledge of selected works.

Books recommended: Saintsbury's History of Elizabethan Literature (Macmillan), Clarendon Press and Arber Editions of Elizabethan works.
(7.) Undergraduates taking the Special Course in Greek and English may, in each of the Third and Fourth Years of their course, omit any two of the subjects of those years, except Greek and English, the Third and Fourth years English Class being regarded, however, in the case of undergraduates taking this course, not as an ordinary subject, but as a part of the Special Course. They shall be examined in the following subjects, viz.:

## Greek.

The Greek subjects prescribed for the Special Course in Classics.

## ENGLISH.

The English subjects prescribed for the Special Course in Latin and English.
(8.) Undergraduates taking the Special Course in English and English History may, in each of the Third and Fourth Years of their course, omit any two of the subjects of those years, except English and History, the Third and Fourth Years English Class being regarded, however, in the case of undergraduates taking this course, not as an ordinary subject, but as a part of the Special Course. They shall be examined in the following subjects, viz. :-

## ENGLISH.

The English subjects prescribed for the Special Course in Latin and English.

## ENGLISH HISTORY.

A minute investigation of English History from A. D. 1603-1689.
Books reconmended: Green's History of the English People, Vol. 3; Lingard's History of England, Vols. 7-10; Hallam's Constitutional History of England, Chap. VI. - XIV.; Ranke's History of England; S. R. Gardiner's Works on this Period; Clarendon's History of the Great Rebellion; Masson's Life of Milton; Carlyle's Life of Cromwell; Forster's Life of Elliott; Bayne's Chief Actors in the Puritan Revolution.
(9.) Undergraduates taking the Special Course in Mental and Moral Philosophy may in the Third Year of their Course omit any one, and in the Fourth Year any three, of the subjects of those years, except Metaphysics, Ethics and Political Economy, all of which must be taken in the Third Year. They shall be examined in the following subjects :-

## MENTAL PHILOSOPHY.

Plato's Theaetetus.
Locke's Essay on Human Uuderstanding: Books II. and Iv. Fraser's Selections from Berkeley.
Hume's Treatise on Human Nature, vol. I. (with Green's Introduction).

Kant's Critique of Pure Reason.
Reid's Essays, vi.
Alison's Essays on the Principles of Taste.
Cousin's Philosophy of the Beautiful.
Mill's Logic, Book III, chaps. 8 and 9.
Hamilton's Lectures on Metaphysics and Logic.

MORAL PHILOSOPHY.
Plato's Republic, (omitting Books viII. and IX.)
Aristotle's Nicomachean Ethics, (omitting Books vi. and vir.)
Kant's Theory of Ethics, (Abbott.)
Green's Prolegomena to Ethics.
Spencer's Data of Ethics.
Sidgwick's Methods of Ethics.
A general acquaintance with the History of Philosophy will be expected.

POLITICAL ECONOMY.
Smith's Wealth of Nations.
Ricardo's Principles of Political Economy.
Malthus' Principles of Population.
Carey's Social Science.
Roscher's Political Economy.
Fawcett's Protection and Free Trade.
Roger's Work and Wages.
Candidates are not required to pass an examination on the details of these works, but to have a general acquaintance with their leading characteristics, and to examine more minutely their teachings on the principles and doctrines of Political Economy that are discussed in the class.
(10.) Undergraduates in Arts taking the Special Course in Mathematies and Mathematical Physics may omit in the Third Year any two, and in the Fourth Year any three, of the subjects of those years, except Physics and Dynamics. Undergraduates in Science may, in the Fourth Year, omit any one subject, except Physics. The Dynamics class must be taken in the Third Year. They shall be examined in the following subjects, viz : -

## MATHEMATICS.

Trigonometry.-Angular Analysis: Solution of Spherical Triangles ; Napier's Analogies; with application to Astronomical Problems.

Analytical Geometry.-The Conic Sections, and the Equation of the Second Degree between two variables; as far as set forth in any standard treatise on the subject.

Calculus.-Differential and Integral, as set forth in any standard treatises on these subjects. Differential Equations (selected course), with practical applications to Physical Problems.

## MATHEMATICAL PHYSICS.

Selected portions of Kinematics, Dynamics of a Particle, Rigid Dynamies, Hydrodynamies and Thermodynamics, illustrating the application of the Higher Mathematics to the study of physical problems.
(11.) Undergraduates in Arts taking the Special Course in Experimental Physics and Chemistry may, in the Third Year, omit any one, and in the Fourth Year, any two, of the subjects of those years, except Physics, Practical Physics, Dynamies, and Organic and Practical Chemistry. Undergraduates in Science may, in the Fourth Year, omit any one subject, except Physics. The Dynamics Class must be taken in the Third Year. They shall be examined in the following subjects :-

## EXPERIMENTAL PHYSICS.

Candidates shall be required to show a general knowledge of Abstract Dynamics, the Properties of Solids and Fluids, Heat, Electricity and Magnetism, Light and Radiant Heat, and Sound, so far as these subjects can be treated by elementary mathematical methods. The extent of knowledge required is such as may be obtained by a study of the following books:-MacGregor's Kinematics and Dynamics, (Macmillan \& Co.) ; Tait's Properties of Matter, (A. \& C. Black) ; S. Taylor's Sound and Music, (Macmillan \& Co.) ; Aldis's Geometrical Optics, (1)eighton, Bell \& Co.) ; Lloyd's Wave Theory of Light, (Longmans) ; Maxwell's Theory of Heat, (Longmans); Stewart's Treatise on Heat, (Clarendon Press) ; Cumming's Theory of Electricity, (Macmillan \& Co.), and S. P. Thompson's Elementary Lessons in Electricity and Magnetism, (Macmillan \& Co.)

They shall be required to show an intimate knowledge of the following original memoirs: Joule's papers on the determination of the Mechanical Equivalent of Heat, contained in his Scientific Papers
(Taylor \& Francis) vol. 1, pp. 123, 172, 298, 542, 632.- Faraday's Experimental Researches in Electricity (Quaritch), vol. 1, Series III., iv., VI., VII., ViII.

They shall be required also to show ability to determine practically important physical constants, such as Density, Specific Heat, Electrical Resistance, \&c., and simple physical laws.

## CHEMISTRY.

Organic Chemistry.-Principles of Elementary Analysis, Practical Estimation of Carbon, Hydrogen, Oxygen and Nitrogen. Principles of Classification. Hydrocarbons, Chlorides, \&c. Monatomic and Polyatomic Alcohols, Aldehydes, Volatile Fatty Acids. Compound Ethers, Ethers of Glycerine, Saponification, Organic Acids. Carbohydrates. Fermentation. Transformations of the Alcohols, and Laboratory Determinations. Aromatic Group. Compound Ammonias. Alkaloids.

Books recommended: Wurtz's Chemistry, Organic part. Roscoe \& Schorlemmer's Chemistry.

For reference: Watt's Dictionary of Chemistry, and other reference works in the Balance Room Library.

Practical Chemistry. - Candidates will be required to show familiarity with modes of Manipulation, Preparation of Gases, Preparation of Laboratory Re-agents, Systematic Method of Testing for bases and for acids; also proficiency in one of the following :--(1) Quantitative Estimation of Metallic Ores, (2) do. of Inorganic Poisons, (3) Soil Analysis, (4) Sanitary Analysis. Special work will be prescribed according to the department selected by the candidate, and suitable books suggested.

Books recommended for general work: Macadam's Practical Chemistry. Fresenius's Qualitative Analysis, Thorpe or Appleton. Woehler's Mineral Analysis.
§ X.-ATTENDANCE.--(1.) Undergraduates are required to attend with regularity the classes of their respective years. Professors shall mark the presence or absence of students immediately before commencing the work of the class, and shall note as absent those who enter thereafter, unless satisfactory reasons be assigned. - The amount of absence as recorded in the class registers, which shall disqualify for the keeping of a Session, shall be determined by the Faculty.
(2.) Attendance on Tutorial Classes is, for the more advanced undergraduates, voluntary ; but the Professors in connection with whose classes they are held, have the right of requiring the attendance of undergraduates whom they may consider to need the Tutor's help.
(3.) Undergraduates of any year, who may have previously attended one or more of the classes of that year, and passed in the suhjects of them, shall be exempted by the Faculty from attending those classes a second time.
§ XI.-SESSIONAL EXAMINATIONS.-(1.) The examinations which candidates for Degrees are required to pass, after Matriculation, are called Sessional Examinations. They are
held at the end of the Session* in each of the four years of the Courses, in the subjects of the classes of that year, as specified in §§ viI. and viII. Candidates who wish merely to pass are examined in the ordinary work of the various classes only; candidates who wish to pass with distinction are in some classes examined in additional work also. The distinctions awarded are of two grades, First and Second Class. All students are admitted to these examinations, and certificates are issued showing the standing they attain.
(2.) Undergraduates who are exempted by $\S x$. (3), from attendance on one or more classes, shall be exempted also from passing the Sessional Examinations in the subjects of them.
(3.) Undergraduates of the Third and Fourth Years who are exempted from attendance on one or more classes on presentation of certificates from recognized Colleges, shall be exempted from examination in the subjects of those classes on presentation of certificates of having passed examinations therein, in the said Colleges.
(4.) An undergraduate shall not be allowed as such, except by permission of the Faculty, to enter the classes of any year, unless he has passed all the required examinations of the previous year.
(5.) If an undergraduate absent himself from any University Examination, except for such cause as may be considered sufficient by the Faculty, he shall lose his Session.
(6.) If an undergraduate fail to pass in one or two subjects at any Sessional Examination, he shall be allowed a Supplementary Examination in such subject or subjects at the beginning of any subsequent Session, on the day fixed for that purpose in the University Almanac. For fee see §xxill.
(7.) If an undergraduate fail to pass in more than two subjects at the Sessional Examinations of the First Year, be shall be allowed to appear as a candidate at the Second Year Matriculation Examination of any subsequent Session.
(8.) If an undergraduate absent himself from any Sessional Examination for reasens considered sufficient by the Faculty, he shall be allowed to appear for examination on the day fixed in the Almanac for the corresponding Supplementary Examination. For fee see §xxiri.

[^9](9.) If an undergraduate absent himself from a Supplementary Examination for reasons deemed sufficient by the Faculty, he shall be allowed to appear as a candidate at a Special Examination, on a day to be appointed for that purpose by the Faculty. For fee see $\S$ xxiri.
(10.) A second Supplementary Examination in the same Session, in any subject of the Sessional Examinations shall in no case be granted.
(11.) Undergraduates wishing to appear as candidates at any Examination other than Sessional Examinations, shall be required to give notice of their intention, to the Secretary of the Faculty, at least one week before the date of such examination.
(12.) Students are forbidden to take any book or manuscript into the Examination Hall, except ly direction of the Examiner, or to give or receive assistance, or to hold any communication with one another at the Examinations. If a student violate this rule he shall either lose his session or suffer such penalty as the Faculty may see fit to impose.
§ XII.-DEGREES WITH GENERAL DISTINCTION, Degrees with General Distinction will be conferred on undergraduates for special excellence shewn at the Sessional Examinations of the Third and Fourth Years of any of the ordinary courses for degrees, the Mathematics of the Second Year being for the purposes of this rule regarded as a Third Year Class.

In awarding such Distinction the Faculty, while requiring that candidates shall attain a good standing in all their classes, will lay special stress on the attainment of a high standing in a few related subjects.

The Distinction awarded may be of the First or Second Rank.
§ XIII.-DEGREES WITH HONOURS. - Degrees with Honours in any of the departments of study in which Special Courses are provided, will be conferred on undergraduates for special excellence shewn at the Examinations in the subjects of such courses.

The Honours awarded may be of the First or Second Rank.
A candidate for Honours may defer his examinations in the subjects of his Special Course until a year after he has passed the Sessional Examinations in the ordinary subjects of the Fourth Year; in which case, however, such candidate shall not be entitled to his Degree until he has passed the Examinations of such Special Course.
§XIV.-SHORT COURSES OF STUDY FOR GENERAL STUDENTS.-(1.) For the benefit of students who may wish to spend but a short period of time at the University, the Time Table has been so arranged that the following combinations of classes may be made. The details of the subjects studied in these classes will be found under Courses of Instruction, ( $\$ \$$ I. and xxiv.)
(2.) To students who attend the classes of the following courses with regularity and pass the Sessional Examinations (§ xı.) in the subjects thereof, certificates will be issued stating the nature of the course pursued and the degree of success attained.
(3.) Two Years Course of Liberal Studies.-First Year. -Two of the three, -Latin, French and German ; English; Mathematics or History and Political Economy ; Inorganic Chemistry or Botany. Second Year:-Two of the threeLatin, French, German; English Literature; Political Economy or Logic ; Physics or Inorganic Chemistry. (The alternative subjects so far as the Time Table may permit.)
(4.) Two Years Course preparatory to study of Medicine or to Chemical Work. - First Year: - French or German, English, Mathematics, Botany, Inorganic Chemistry. Second Year.-French or German, English Literature, Physics, Organic Chemistry, Practical Chemistry.
(5.) Three Years Course preparatory to the study of Engineering.-First Year:-French, German, English, Mathematies, Inorganic Chemistry. Second Year:-German, English Literature, Mathematics, Physics, Practical Chemistry. Third Year.-German, Advanced Mathematics, Physics, Dynamics, Practical Chemistry.
(6.) Two Years Course preparatory to Journalistic Work.--First Year.-French, English Literature (1st and 2nd year classes), History (3rd and 4th year classes), Logic and Psychology or Political Economy. Second Year:-French, Advanced English Literature, Ethics, Political Economy or Metaphysics, Constitutional History, Constitutional Law.
(7.) Two Years Course preparatory to Commercial work. -First Year.-French, German, English, Mathematics, Chemistry. Second Year:-French, German, English Literature, Political Economy, Physics, Law of Contracts.

## § XV.-MEDALS AND PRIZES.

(The Senate reserves to itself the right of withholding Medals and Prizes in cases in which sufficient merit is not shewn.)

The Governor-General's Gold Medal, which is offered by His Excellency the Governor-General of the Dominion of Canada, will be awarded to the undergraduate standing highest among those taking Honours in the department of Classics, the winners of other medals being excluded. In the event of its not being awarded in this department, it may be awarded in the department of Latin and English, or in that of Greek and English, or in some other department.

The Governor-General's Silver Melal, which is offered by His Excellency the Governor-General of the Dominion of Canada, will be awarded to the undergraduate standing highest among those taking Honours in Mental and Moral Philosophy, the winners of other medals being excluded. In the event of its not being awarded in this department, it may be awarded in some other department.

The Sir William Young Gold Medal, iounded by bequest of the late Hon. Sir William Young, will be awarded to the undergraduate standing highest among those taking Honours in the department of Mathematics and Mathematical Physics, the winners of other medals being excluded.

The DeMill Gold Medal,* which is provided by the Alumni Association, in memory of the late James DeMill, M.A., Professor of Rhetoric and History, will be awarded to the undergraduate standing highest among those taking Honours in the department of English and English History, the winners of other medals being excluded.

The MacKenzie Gold Medal, * which is provided by the Alumni Association in memory of the late John James MacKenzie, M. A., Ph. D., Professor of Physics, will be awarded to the undergraduate standing highest among those taking Honours in the department of Experimental Physics and Chemistry, the winners of other medals being excluded.

North British Society Bursary.-A Bursary of the annual value of $\$ 60$, has been founded in connection with Dalhousie College by the North British Society of Halifax, to be competed for at the Sessional Examination of the Second

[^10]Year's Course in Arts, and held by the successful competitor for two years, namely, during the Third and Fourth Years of the Undergraduate Course in Arts. Candidates must be undergraduates who have completed two years of the Curriculum, and must be eligible at the proper age, to be members of the North British Society. The next competition will take place in April, 1890.

The Waverley Prize.-This Prize, the interest of an endowment of $\$ 1000$, will be awarded annually to the student of the Second Year Mathematical Class, who stands highest at the Sessional Examinations in the Mathematics of the year, the winner of the North British Society Bursary being excluded.

The Avery Prize.-This prize, the interest of $\$ 500$, bequeathed for this purpose by the late J. F. Avery, M.D., will be awarded on graduation to that member of the graduating class, who, during the Third and Fourth Years of his Course, has distinguished himself most among those taking the ordinary B. A. Course. This prize will not be awarded until 1891.

The Early English Text Society's Prize, which is offered annually by that Society, and consists of several volumes of the Society's publications, will be awarded to the Student standing highest in the subject of Early English Language and Literature at the examinations of the Special Course in English and English History.

The New Shakspere Society's Prize, which is offered annually by that Society, and consists of several volumes of the Society's publications, will be awarded to the student who stands highest in the subject of the plays of Shakespeare at the Sessional Examinations of the Second Year in English Literature.
§ XVI.-MUNR0 EXHIBITIONS AND BURSARIES.(1.) The following Exhibitions and Bursaries are offered by Geo. Munro, Esq., of New York, to be competed for at the beginning of the Session of 1889-90, viz. :-

Five Junior Exhibitions of $\$ 150$ a year, tenable for two years. Ten Junior Bursaries of $\$ 100$ a year. tenable for two years. Five Senior Exhibitions of $\$ 200$ a year, tenable for two years. Ten Senior Bursaries of $\$ 150$ a year, tenable for two years.

The following will be competed for at the beginning of the Session of 1890-91 :-

[^11](2.) The Junior Exhibitions and Bursaries are offered for competition to candidates for matriculation in Arts or Science, provided they have previously neither matriculated* at any University conferring degrees in these departments, nor appeared as candidates for these Exhibitions and Bursaries more than once.
(3.) The Senior Exhibitions and Bursaries are offered for competition to undergraduates entering the Third Year of the B. A. and B. Sc. Courses. Candidates must have completed the Second Year of their Course, either at this or at some other University ; but they must not have entered upon the Third Year. They must also have matriculated* within three years or within two years of the date of the competition, according as they may have entered ujon their course as undergraduates of the First or of the Second Year, respectively.
(4.) The Junior Exhibitions and Bursaries $\ddagger$ shall be held during two years, provided the holder ( $a$ ) attend in consecutive years, to the satisfaction of the Faculty, the classes proper to first and second years of the B. A. or B. Sc. Course, Greek being taken as one of the subjects of each of those years if the holder select the B. A. Course ; (b) $\dagger$ pass in all the subjects of the Sessional or Supplementary Examinations of the First Year, and attain a Second Class standing in at least one of them, and (c) pass either the Sessional Examinations or the Supplementary Examinations of the Second Year.
(5.) If a candidate, to whom a Junior Exhibition or Bursary has been awarded, is able to pass the Second Year Matriculation Examination, he may enter the Second Year ; in which case, however, he shall hold his Exhibition or Bursary during that year only.
(6.) The Senior Exhithitions and Bursaries $\ddagger$ shall be held during the third and fourth years of the B. A. or B. Sc. Course, provided the holder (a) attend in consecutive years, to the satisfaction of the Faculty, the classes proper to the third and fourth years of his Course, (b) pass in all the subjects at the Sessional or Supplementary Examinations of the third year, and either obtain a Second Class standing in one of them or obtain the favourable report of a Professor on work done in one of the Special Courses, and (c) pass either the Sessional Examinations or the Supplementary Examinations of the Fourth Year.

[^12](7.) The annual amounts of the above Exhibitions and Bursaries will be paid in three instalments, the first on the first Monday after the Autumn Convocation, the second on the first Monday after the Christmas vacation, and the third on the day of the Spring Convocation, the payment of each instalment being dependent upon the fulfilment of the conditions of tenure at the date at which it becomes due.
(8.) Candidates are required to make application for these Exhibitions and Bursaries by letter addressed to the President, and sent so as to reach him on or before September 1st, 1889. In making such application they must send (a) a statement signed by themselves to the effect that they are not precluded by any of the conditions of $\S$ xvi (2) or (3), from competing for these Bursaries, and (b), if they have not already been sturlents at this College, a certificate of good moral character signed by a clergyman or other person occupying a public official position.
(9.) A certain standard of answering at the Examinations, fixed by the Faculty, will be required for obtaining any of the above Exhibitions and Bursaries. A higher standard will be required for Exhibitions than for Bursaries.
(10.) The Faculty shall in all cases decide as to the fulfilment of the above rules and conditions.
(11.) The Examinations for the Exhibitions and Bursaries will be held at the College on September 10th-14th, 1889.
(12.) The subjects of examination for the Junior Exhibitions and Bursaries of 1889-90, shall be as follows :-

1. Latin.- + Ceesar, Gallic War, Books II and III, and Virgil, Eneid, Book I.-Grammar: Accidence, Prosody, Scansion of Hexameter Verse. *Text Book: Smith's Latin Grammar. - Composition: Easy sentences to be translated into Latin Prose. *Text Books: Smith's Principia Latina, Part iv., Exs. 1-35, or Arnold's Latin Prose Composition, Exs. 1-9, 21-49.
2. Greek. + -Xenophon, Anabasis, Book IV., and Symposium, (Wiman's, pub. by J. Allyn, Boston). Grammar: Accidence (omitting Accentuation), chief rules of Syntax. *T'ext Book: Smith's Greek Grammar.-Composition: Translation of simple sentences such as are found in the English-Greek Exercises in Smith's Initia Greca, Part I.
3. Mathematics.-Arithmetic: the ordinary rules of Arithmetic, Vulgar and Decimal Fractions, Proportion and Interest.-Algebra: as far as simple Equations and Surds, with theory of Indices. Geometry : First, Second and Third Books of Euclid or the subjects thereof.

[^13]4. English.-Language: Grammar, Analysis, Writing from Dictation, Punctuation, Synthesis, Paraphrasing.-History and Geography: Outlines of English and Canadian History, and General Geography.

The relative values of these subjects shall be as follows: Classics, 250 ; Mathematics, 200 ; English, 200.
(13.) The subjects of Examination for the Senior Exhibitions and Bursaries of 1889-90 and 1890-91 shall be any two of the following groups :-
A.-CLassics.

Latin: Horace, Epodes; Pliny, Selected Letters (Prichard and Bernard's edition, Clarendon Press, London).-Composition: An easy piece of English to be turned into Latin Prose. (For models, see Champeneys and Rundall's Easy Pieces for Latin Prose, 2nd series, Rivingtons, London.)

Greek.-Herodotus, Book iI.-Composition : Translation of simple passages. (For models, see Sidgwick's First Greek Writer.)
B.-mathematics.

Algebra: As set forth in Colenso's, or Todhunter's or Wood's Algebra, exclusive of Continued Fractions and Diophantine Analysis.

Trigonometry: Analytical Plane; as far as, and including, DeMoivre's Theorem, with its application to the measurement of Circular Ares, and the solution of the equation $x_{n}= \pm 1$.-Spherical; as far as, and including, Napier's Rules for the solution of Rightangled Ti iangles.

Geometry : The First, Second, Third, Fourth and Sixth Books of Euclid, with the definitions of the Fifth; the first 21 propositions of the Eleventh Book. Conic Sections :-The Parabola and the Ellipse, as set forth in Drew's Conic Sections. (The equivalents of these will be accepted, if the candidate has used other Text Books; which, however, he must, at the examination, specify.)

The examinations will not be confined to the text of the books mentioned, or of any others, but will include Exercises and Problems on the principles laid down in common by all standard treatises on the above subjects.
C.-English.

Lounsbury's History of the English Language (published by Henry Holt \& Co., N. Y.), to end of Part I ; S'penser's Faerie Queen, Book I, (Clarendon Press Edition); Shakespeare's King John, As You Like It, (Rolfe's edition, Harper Bros.) ; Nichol's Byron (Eng. Men of Letters Series); Byron's Childe Harold (Clarendon Press).

Candidates shall be required to present themselves for examination in two of the above groups- $-\mathrm{A}, \mathrm{B}, \mathrm{C}$. They may select any two of these groups ; but they will not be allowed to present themselves for examination in all three.

The relative values of the three groups will be the same.
Candidates must give notice to the President, of the groups in which they intend to present themselves for Examination.
§ XVII.-RESIDENCE.-All students are required to report their places of residence to the President on or before the day appointed in the University Almanac.

Persons who wish to take students as boarders must furnish the President with satisfactory references. A Register is kept by the President, containing the names of those persons who have satisfied this condition ; and, for the convenience of students, a list of the names and addresses of such persons will beposted on the notice-board in the College hall at the beginning of the Session.
§ XVIII.-CHURCH ATTENDANCE.-All students under twenty-one years of age, not residing with parents or guardians, are required to report to the President on or before the day appointed in the University Almanac, the churches they intend to make their places of worship during the Session. Intimation will be made to the various clergymen of the city, of the names and addresses of the students who have chosen their respective churches as places of worship.
§ XIX.-DISCIPLINE.-Any case of improper conduct on the part of a student, if brought to the notice of the Faculty, is to be investigated by the Faculty and reported to the Senate.

The Senate has authority to impose fines for damage done to property ; to inflict at discretion the penalties of admonition, suspension for a term, and expulsion, for neglect of duty, or for disorderly or improper conduct ; and to use all other means deemed necessary for maintaining discipline.

The Professors have full power to maintain order in their respective classes, and may if necessary expel from the room during the class hour, any student persisting in disorderly conduct.
§ XX.--DEGREE OF MASTER OF ARTS.-A Bachelor of Arts, of at least three years standing, maintaining meanwhile a good reputation, shall be entitled to the Degree of Master of Arts, on producing a satisfactory thesis on some literary, philosophical or scientific subject. The subjest must have been previously approved by the Faculty. The thesis must be handed in on or before 1st March:

A Bachelor of Arts of at least one year's standing shall be entitled to the Degree of Master of Arts, on passing an examination in a Course of Study to be approved by the Faculty, and of about the extent represented by the academic work of a single year.

For fee see §xxiii.
§ XXI.-ADMISSION AD EUNDEM GRADUM.-Graduates of Universities approved by the Senate, who have received their degrees in course, shall he admitted ad eundem gradum in this University, on producing satisfactory prof of character and academic standing. For fee see § xxiii.
§ XXII.-ACADEMIC COSTUME.-(1.) Bachelors and Masters of Arts aud Bachelors of Science or Letters of this University, shall be entitled to wear gowns, of black stuff, and hoods. The distinctive part of the costume is the hood. The following are the kinds of hood appointed for the various degrees :-
B. A.-Black stuff lined with white silk and bordered with white fur.
M. A.-Black stuff lined with crimson silk.
B. Sc.-Black stuff, with a lining of white silk, bordered with crimson silk.
B. L.-Black stuff, with a lining of white silk, bordered with light blue silk.
(2.) Successful candidates for these degrees shall be required to appear at Convocation in the proper academic costume, to have the degrees conferred upon them. Degrees will be conferred in the absence of the eandidate only by special permission of the Senate.
§ XXIII.-FEES.-(1) Fees are payable by students for Registration, for the use of the Gymnasium, for classes attended, and for certain examinations. They are payable in advance.

No student shall be allowed to enter a class until he has paid the proper fees.

The following is a statement of the fees payable by students generally, and of the special privileges granted to undergraduates :-
Registration Fee, payable annually by all students ....... .... \$200
Gymnasium Fee, payable annually by all male students attending more than one class, except registered students of the Falifax Medical College.

150
Fee for each class attended, per Session $\uparrow$ (except the Practical
Chemistry and Physics Classes) ............................ 600
Fee for each of the Practical Chemistry and Physics Classes for
every three months of practical work in Laboratory ... 600
Supplementay Examination Fee, payable on giving the notice
required by \& xI. (11)
Special Examination Fee .............................................. 20. . 20
Fee for Special Certificate of Standing ......................... 500

[^14]Undergraduates shall in general pay one fee of six dollars to each Professor whose classes they may attend as parts of the ordinary course; but in the case of the Professors of Classics and Mathematics fees shall be paid in both the first and the second years of the course, in the case of the Professor of Modern Languages fees shall be paid twice by undergraduates taking either one language during more than two years or two languages for two years, in the case of the Professors of Chemistry and Physics, fees of $\$ 6.00$ per session shall be paid for Practical Classes by undergraduates taking those classes, and in the case of the Professor of English Literature a fee of $\$ 6.00$ shall be paid by undergraduates taking the third and fourth years English Class. - No fees are required for the Tutorial classes in Classics and Mathematics.-An nndergraduate taking a Special Course shall pay a fee of $\$ 6.00$ to each Professor whose advanced classes he may attend, except in the case of undergraduates taking the Special Course in Philosophy who shall pay fees to the Professors of Philosophy only.

## (2.) The graduation fees are as follows:

Fee for the B. A. or B. L. or B. Sc. Diploma, which is payable by candidates before the Sessional Examinations of the Fourth Year, and will be returned in case of failure. .
Fee for M.jA. Diploma, which must accompany the Thesis, and will be returned if the Thesis is not sustained.
Fee for B. A. or M. A., (ad eundem gradum) ................. . 1000

## faculty of ditu.

The President, (ex officio.)<br>Professors: Weldon, Russell,<br>Lecturers : Townshend, J., Shannon, Graham, Payzant, Harrington, Dean of the Faculty: Professor Weldon. Secretary of the Faculty: Professor Russell.

## § XXIV.-COURSES OF LECTURES.

The following courses of lectures to be given in the Session of 1889-90, will begir on the 4th September, 1889, and end on the 14th February, 1890.

## CONSTITUTIONAL AND INTERNATIONAL LAW.

(George Munro Professorship.)
Professor
R. C. Weldon, M. A., Ph. D.

## Constitutional Law.

Two Lectures per week.
Subjects of lectures:
Law of Parliament. Select cases in Constitutional Law. British North America Act.

Text Book: Cartwright's Cases.

## Constitutional History.

Two lectures per week.
Subjects of lectures:
Anglo-Saxon Royalty. The Judicial System of the Anglo Saxons. The Witenagemote. Feudalism in England. Origin and Growth of the two Houses of Parliament. Origin and Development of Trial by

Jury. Origin and Development of the Courts of Law. The Royal Prerogative. History of the Law of Treason. The Liberty of the Person. The Liberty of the Press. History of Party Government. Origin and Development of the Cabinet System. History of the Reform Bills. The Written Code of the Constitution. Magna Carta. Petition of Right. Bill of Rights. Habeas Corpus.

Text Book: Taswell-Langmead's Constitutional History of England.

## Conflict of Laws.

One lecture per week.
Subjects of lectures:
leading rules as to (1) personal capacity, (2) rights of property. (3) rights of obligation, (4) rights of succession, (5) family rights, (6) forms of legal acts. The use of courts by strangers. The effects of foreign judgments. Select cases upon the Conflict of Laws.

Tlext Book: Dicey's Domicil.

## International Law.

> One lecture per week.

Subjects of lectures:
Sources, Subjects, Objects and Sanctions of International Law. Sovereigns, Consuls, Ambassadors, Rights and Duties of Neutrals. Reprisals, Contraband, Blockade, Rights of Search, Privateering, Capture and Recapture, Construction of Ireaties, Extradition.

Text Bouks: Woolsey's International Law.

## CRIMES.

Lecturer........................................... Mr. Shannon, Q. C., D. C. L.
One lecture per week.
Subjects of lectures :
Sources of Criminal Law. Felonies and Misdemeanours. Offences against property, against persons, against the Queen and Her Government, against Public Justice, against Public Peace, against Public Trade, against Public Morals. Conspiracy. Accessories. Offences after previous convictions.

Text Book: Stephen's Digest of Criminal Law.

## REAL PROPERTY.

Lecturer............................................. Mr. Shannon, Q. C., D. C. L.
One lecture per week.
Subjects of lectures:
Estates in Fee Simple; Estates for Life; Estates in Remainder, and Reversion ; Joint-Tenancy and Tenancy in Common; Estates for Years; Landlord and Tenant; Easements; Devises; Descent of Real and Personal Property.

Text Books: Williams' Real Property, and Tudor's Leading Cases.

## CONTRACTS.

$\qquad$
Two lectures per week.
Subjects of lectures.
Definition of terms; agreement, consideration, proposal, acceptance, promise, \&c. Persons who may contract, principal and agent. Disabilities arising from infancy, coverture, lunacy, intoxication, \&c. Express and implied contracts. Verbal and written contracts. Specialties. Statutory requirements as to validity or authentication of contracts ; Statute of Frauds. Causes vitiating agreements ; mistake, fraud, duress, \&c. Discharge of contracts, rescission, performance, payment, release, merger, \&c. Leading cases.

Text Book: Finch's Cases, and Anson on Contracts.

## EQUITY JURISPRUDENCE.

Lecturers....................... Mon. Mr. Justice Townshend and Professor Russell.
One lecture per week, extending over two years.
Subjects of lectures:
Trusts, Mortgages, Fraud, Mistake, Specific Performance of Contracts, Administration of Assets, Election, Account, Discovery, Injunction.

Text Book: Smith, H. A.

## MARINE INSURANCE.

$\qquad$
One lecture per week.
Subjects of lectures:
Parties to and Agents for Marine Insurance ; The Policy ; Duration; Misrepresentation; Concealment; Warranties; General and Particular Average; Total Loss; Abandonment.

Text Book: Arnould.

## TORTS.

Lecturer . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Mr. Payzant, A. M.
One lecture per week.
Subjects of lectures:
Definitions. Torts considered with reference to Crimes and Contract. Deceit. Slander and Libel. Malicious Proseention. Conspiracy. Assault and Battery. False Imprisonment. Enticement and Seduction. Trespass to Property. Conversion. Violation of Water Rights and Rights of Support. Nuisance. Negligence.

Text Book: Bigelow.

PARTNERSHIP AND COMPANIES.
Lecturer $\qquad$ Mr. Harrington, Q. C.

> One lecture per week.
[1889-90.]
Subjects of lectures:
Constitution. Liability of partners inter se and to third persons. Change of firm. Retirement of partners. Dissolution. Mining ventures. Joint-stock Companies. Canada Joint-stock Companies Act.

## EVIDENCE.

Lecturer $\qquad$ Mr. Harrington, Q. C.

One lecture per week.
[1890-91.]
Subjects of lectures:
Nature of Proof, Production and Effect of Evidence, Relevancy, Instruments of Evidence.

Text Books: Greenleaf on Evidence ; Judicature Act and Rules.

NEGOTIABLE INSTRUMENTS.
Lecturer. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Propkssor Russell.
[1889-90.]
One lecture per week.
Subjects of lectures:
Formal Requisities. Consideration. Indorsement and Transfer. Real and personal defenses. Over-due paper Notice of Dishonor. Protest. Bill or note.

Text Book: Chalmers on Bills.

## SALES OF PERSONAL PROPERTY.

Lecturer.
Professor Russell.
Two lectures per week.
[1890-91.]
Subjects of lectures :
Capacity to buy and sell. Executed and executory contracts of sale. Statute of Frauds. Lord Tenterden's act. Rules as to passing of property. Reservation of jus disponendi. Stoppage in transitu. Condition, warranty, express and implied. Remedies of seller and buyer.

Text Book: Benjamin on Sa'es.
§ XXV.-THE ACADEMIC YEAR.-The academic year consists of one Session. The Session of 1889-90 will begin on the 3rd of September, 1889, and end on the 24th of A pril, 1890.
§ XXVI-ADMISSION OF STUDENTS.-(1.) Students may enter the University by ( 1 ) furnishing satisfactory references or certificates of good moral character, $(b)$ entering their names in the Register, and (c) paying the prescribed fees.
(2.) Registered students may, on payment of the proper fees, (see page 62), enter any of the classes of the University.
(3.) Students who wish to obtain University Degrees must become undergraduates. They may hecome undergraduates by (b) passing either one of the Matriculation Examinations or a recognized equivalent, and (b) matriculating, i. e., entering their names on the Matricula or Register as Undergraduates.
(4.) Students who are not undergraduates are known as General Students.
§ XXVII.-DEGREE OF BACHELOR OF LAWS.-(1.)
Candidates for the Degree of LL. B. are required to pass the Matriculation Examination, or a recognized equivalent, and to pass the Sessional Examinations in the subjects of the three years course of study.
(2.) Undergraduates of other Law Schools may, on producing satisfactory certificates of standing, be admitted to similar standing in this Law School if, on examination, they are found qualified to enter the classes proper to their years. But if their previous courses of strudy have not corresponded to the course on which they enter in the University, they may be required to take extra classes.
(3.) Graduates in Arts who have taken the classes of Constitutional History, Constitutional Law and Contracts, as parts of their Arts Course, shall be allowed to graduate in two years from the date of their entering upon the Law Course, provided they take in those years all the other classes specified.
§ XXVIII.-MATRICULATION EXAMINATION. - (1.) Candidates for entrance into the First Year of the Course shall be examined in the following subjects, except in cases in which certain Examinations mentioned below shall have been already passed:

Classics.-Xenophon-Anabasis, Books one and two. CiceroThe 1st and 4th Orations against Catiline. Virgil-Eneid, Books one and two. Translation from English into Latin. Latin Grammar.

Mathematics.-Arithmetic ; Geomtry--Books one, two and three of Euclid.

English.-A paper on English Grammar, Composition.
History and Geography.-English History ; Geography, North America and Europe.

Elements of Book-keeping.
Students may substitute French for Greek.
(3.) Persons desirous of appearing as candidates at this examination must give notice to the Dean of the Faculty on or before August 26th, 1889 ; and they shall be required to pay a fee of $\$ 5.00$ on the morning of the day of Examination. -The Examination will be held next Session on Tuesday, September 3rd, at 10 o'clock, A. м.
(3.) Graduates and Undergraduates in Arts of any recognized College or University, and articled clerks or law students who have passed the preliminary law examinations in any of the Provinces of the Dominion of Canada, or in Newfoundland, shall be admitted to the standing of Undergraduates of the First Year in the Faculty of law, without passing any examination.

## § XXIX.-COURSE OF STUDY FOR DEGREE OF LL.B.

## First Year.

1. Real Property.
2. Crimes.
3. Contracts.
4. Torts. 5. Constitutional History.

## Second Year.

1. Equity.
2. Partnership \& Companies. 5. Conflict of Laws.

Third Year.

1. International Law.
2. Insurance.
3. Evidence.
4. Equity.
5. Sales of Personal Property.

Undergraduates are required to attend with regularity the classes of their respective years. The extent of absence from prescribed classes which shall disqualify for the keeping of a Session shall be determined by the Faculty.

The Faculty urgently recommend that students devote their whole time during Sessions to the work of the School, experience having proved that, students who undertake office work in addition to the work of their classes, receive comparatively little advantage from the lectures. The Course having been very considerably enlarged, the Faculty apprehend that students who are doing regular office work during Session, will find it quite impossible to pass with credit the required examinations.
§ XXX.-SESSIONAL EXAMINATIONS. - (1.) The Sessional Examinations will begin next Session on February 17th, 1890.
(2.) Students are forbidden to bring any book or manuscript into the Examination Hall, except by direction of the Examiner, or to give or receive assistance, or to hold any communication with one another at the Examinations. If a student violate this rule, he shall be excluded from the Sessional Examinations of the Session, and such other penalty shall be imposed as the Faculty may determine.
(3.) If an Ungraduate fail to pass in one or two subjects of the Sessional Examinations, he shall be allowed a supplementary Examination in such subject or subjects at the beginning of any subsequent Session.
(4.) If an Undergraduate fail to pass on more than two subjects at any Sessional Examination, he shall lose his Session.
(5.) Undergraduates who wish to present themselves at a Supplementary Examination, must give notice to the Dean of the Faculty on or before August 26th, 1889.
(6.) The Supplementary Examination for the present year will begin September 3rd, at 10 ('clock, A. M. Fee, $\$ 5.00$, payable on the morning of the Examination.
§ XXXI.-MOOT COURTS.-Mont courts will he held every fortnight, and will be presided over by some member of the Faculty, or a Barrister selected by the Faculty. Every candidate for a degree shall be required to take part in argnments at the Moot Court. The senior counsel on either side shall be required to file briefs with the Dean before noon of the day preceding that on which the case is argued. A record will be kept of the values assigned to the arguments made, and these values will be considered by the Faculty in recommending a candidate for his degree.
§ XXXII-MOCK PARLIAMENT.-The students have organized a Mock Parliament for the discussion of legal and constitutional questions. This Parliament is largely attended, and is found to be of great utility.
§ XXXIII.-ACADEMIC COSTUME.-Bachelors of Laws are entitled to wear gowns and hoods. The gowns are similar to those wirn by Baristers-at-Law. The hoods are of black silk stuff, with a lining of white silk bordered with gold coloured silk.
§ XXXIV.-THE LIBRARY.-The Library has a good set of English and Canalian Reports, and will be forind to contain almost all the bouks which an undergraduate will have occasion to consult.

The Library has been enriched during the year by the gift. of the Law Library of the late Sir William Young.

In addition to the above the following books have been presented:-

By Hon. N. C. Moak, Aıbany, N. Y. :
Gould's Law Catalogue, 1 Volume.
By President Forrest:
Laws of P. E. Island Annual Acts (1835-451) bound in 1 Vol. Acts of P. E. Island for $1879,1880,1883,1884,1885,5$ Vols.
By A. A. McLean, Esq., Charlottetown, P. E. I. :
Acts of the 3rd Congress of the U. S. A., 1 Vol.
By Prof. Weldan :
Hansard House of Commóns of Canada, 1887, 2 Vols " Senate of Canada, 1887, 1 Vol.
:/ House of Commons of Canada, 1888, 2 Vols. " Senate of Canada, 1888, 1 Vol.
Revised Statutes of Canada, 1886, 2 Vols.
Acts of the Provinces, 1882, 1 Vol.
Statutes of Canada, 1887, 1888, 2 Vols.
By Dr. Francis Wharton, Washington, D. C. :
International Law Digest, 3 Vols.
By Sir John Thompson, K. C. M. G. :
Cartwright's Cases, Vol. III.
By D. A. MacKinnon, LL. B. :
3 Vols. of Annual Acts of P. E. I.
Acts of 1888 of P. E. I.
By H. W. C. Boak, LL. B :
Laws of British Columbia-Collection of 1871-1 Vol.
By Robert Sedgewick, Esq., Q. C. :
Report on Provincial Legislation, 1867-84.
§ XXXV.-FEES.-The following are the fees payable by Students of the Faculty of Law. They are in all cases payable in advance.

Seats in the Lecture Room will not be assigned to Students until they have paid their Class Fees to the Dean.

Students are requested to pay their Class Fees and sign the University Register on Tuesday, 3rd September, 1889, at 10 A.M., in the office of the Law School.

Registration Fee, payable only by general Students............. \$ 200
Fee for each class attended, per Session, payable by general Students1000

Fee for the classes of the First Year, payable by undergraduates 4000 Fee for the classes of the Second Year, payable by undergraduates 4000 Fee for the classes of the Third Year, payable by undergraduates 3500 Fee for Ll. B. diploma, which is payable before the final examination, and will be returned in case of failure............... 1000
Fee for the Matriculation Examination........................... 500
Fee for the Supplementary Examination........................ 500
Students of any year are permitted to attend lectures in the subjects of an earlier year without extra charge.

## dfaculty of Attoicine.

The President, (ex officio).<br>Prof. Lawson,<br>Dr. Somers,<br>" Sinclair,<br>" Campbell,<br>" Lindsay,<br>" Stewart,<br>" Page,<br>" Slayter,<br>" Parker,<br>" Farrell,<br>" Cowie,<br>" Black,<br>" Reid,<br>" Morrow,<br>Mr. Shannon,<br>" Simson.

Secretary of the Faculty: Dr. Lindsay,
§ XXXVI.-COURSES OF INSTRUCTION.-1. Instruction is provided by the University in the following subjects of the Medical Curriculum :

## I. CHEMISTRY.

Professor . . . . . . . . . . . . . . . . . . . . . . Gborge Lawson, Ph. D., LL. D.
Daily Lectures, 9 A. M. -10 A. M.
With experimental demonstrations.
Part I.-Inorganic.-Objects and nature of the Science. General Principles : Chemical Affinity ; Laws of Combination, by weight, by volume. The Elements. Equivalents; Atomic Numbers; Atomicity. Nomenclature ; Notation ; Formulae; Equations. The Non-Metallic Elements and their compounds considered in detail. The Atmosphere. Water. Methods of Water Analysis. Mineral Waters. Combustion ; Respiration. Anhydrides. Aeids. Manufactures of Chlorine compounds, Acids, Ammonia, \&c.

The Metals : their physical and chemical characters ; Classification, \&c.; Salts ; Bases ; Acids ; Radicals. The Metals and their compounds
considered in detail. The Metals of the Alkalies, and the Alkali manufactures. Classification and separation of Bases. The Alkaline Earth Metals and their compounds. Magnesium Salts: Aluminium and the Earth Metals. Constitution of Silicates. Iron, its salts, and other compounds. Reduction of Iron Ores. In discussing the Metals, special attention is given to the Salts and other compounds of Mercury, Antimony, Arsenic, Bismuth, Silver, Copper, Lead, Tin, and the methods of testing for metallic poisons, their detection in organic mixtures and tissues, and their quantitative analysis.

Part II.-Organic.-Theory of Organic Compounds, founded on Marsh Cas as a starting point. Functions of Organic Compounds. Principles of Classification. Saturated Hydrocarbons; Homologous Series. Monatomic Alcohols aud their derivatives; Methyl Alcohol; Chloroform. Ethyl Alcohol; Ether; Nitrous Ether; Nitric Ether. Series of Saturated Hydrocarbons. Alcohols. Aldehydes. Volatile Fatty Acids, Compound Ethers. Chloral. Chloroform. Polyatomic Compounds. Fats. Saponification. Polyatomic and Polybasic Acids. Sugars and Starches. Fermentatiou. Glucosides. The Aromatic Compounds. Benzol; Phenol; Aniline, \&c. The natural Alkaloids of Opium ; Nicotine; Quinine ; Strychnine; Caffeine; Morphine, \&c. Albumen. Urea. Uric Acid. Urinary Calculi and other deposits; methods of determining their chemical composition, and presence of Glucose, Albumen, \&c., in urine. Analysis of Milk, Alcoholic Solutions, \&c.

Text Book: Fownes' Manual of Chemistry (English or American Edition) ; or Greene's Edition of Wurtz's Elements.

## Practical Chemistry.

Systematic Courses of Testing for Metallic Bases, and Inorganic and some of the more common Organic Acids, with special exercises. Where students can give the necessary time, this course will be followed by processes for detection of Metallic Poisons; examination of Urine for Glucose, Albumen ; nature of Calculi and other deposits. Sanitary Analysis:-Atmospheric Air; Water. Mineral Waters.

Text Books: Macadam's Practical Chemistry. Bowman's Medical Chemisty. Special Tables are used in the Laboratory, and reference books may be consulted by students in the Balance Room.

## II. BOTANY.

Professor..........................Gborge Lawson, Ph. D., LL. D.

> Lectures Tuesdays, Thurstays and Fridays, 10-11 A. M.

The Vegetable Cell: its structure and contents. Typical and Transformed Cells ; Tissues, Parenchyma, Prosenchyma. Minute Structure and Development of the Root, Stem and Leaf. Structure and Development of the Flower, Fruit and Seed. Vegetable Protoplasm: its structure, chemical character and movements ; effects upon it of Light, Electricity, Irritation, Gravitation, Moisture, Gases. Plant Growth: Relations of the plant to the soil and atmosphere. Diffusion, Osmosis, Absorption, Transpiration, Assimilation. Production of organic matter in the plant: Transmutation or Metastasis. Respiration. Vegetable Growth. Movements, of Chlorophyll, of organs (Circumnutation), Nyctitropic. Reproduction: Fertilization. The Seed, Germination, - dependent upon moisture, free oxygen, temperature. Effects upon plants of extremes of temperature.

Classification of Plants: The Natural System of Classification. The distinctive structural characters and geographical distribution of the more important natural orders will be given, with special attention to those orders containing poisonous plants, and plants used in medicine.

Text Books: Goodale's Physiological Botany (being Vol. II. of Gray's Botanical Text Book) ; Gray's How Plants Grow, with Lawson's Fern Flora.

Field Book for Summer Work: Gray's Manual of Botany of the Northern States.
2. Students wishing to attend the above courses may do so either as General Students without preliminary examination, or as Undergraduates. In either case they must enter their names in the University Register at the beginning of the Session.
3. In other subjects, the necessary classes may be attended at the Halifax Medical College or at any other recognized School of Medicine.
4. Attendance on classes by those registered as General Students, or as Undergraduates of other Faculties, will not qualify for Degree Examinations in this Faculty.
§ XXXVII.-THE ACADEMIC YEAR.--The Academic Year consists of one session. The session of 1889-90 will begin on Wednesday, October 30th, 1889, and end on Thursday, April 24th, 1890.

In order to qualify for Degree Examinations, the Medical Academic Year must include attendance on at least two courses of 100 lectures each, or one such course and two of 50 each.
§ XXXVIII.-DEGREES.-Two Medical Degrees are conferred by this University, viz, Doctor of Medicine (M. D.) and Master of Surgery (C. M.) ; but neither degree is conlerred on any person who does not at the same time obtain the other.
§ XXXIX.--MATRICULATION EXAMINATION.-1. Candidates for medical degrees must give evidence of having obtained a satisfactory general education before entering upon the course of study qualifying for the degrees, by passing either the Matriculation Examination of this Faculty or some other examination recognized by the Senate as sufficient.
2. The following are the subjects of the Matriculation Examination :
(1.) English, including (a) writing a passage of English from dictation.
(b) English Composition, with the correction of sentences of bad English.
(c) Questions in English Grammar with analysis of sentences and derivation and definition of some common English words.
(d) Questions in Geography and History, especially in the History of the British Islands and of English Literature.
(2.) Lativ, including Grammar and Translation of an easy passage from a Latin prose author*, and re-translation into Latin of a single passage of English (translated from a Latin author) the more difficult Latin words being given.
(3.) Arithmetic, the common rules including Vulgar and Decimal Fractions.
(4.) Elements of Mathematics, comprising (a) Geometry, Euclid, Books I, II, aad III ; (b) Algebra, including Simple Equations.
(5.) Elements of Dynamics (Mechanics), comprising Elementary Kinematics, Statics, Kinetics and Hydrostatics, as treated in Blaikie's Elements of Dynamicst (Thin, Edinburgh).
(6 and 7.) Any two of the following subjects :
(a) Greek, including Grammar, Translation from specified authors*, and Translation of easy English sentences into Greek prose.
(b) French, including Grammar, Translation from specified authors*, and translation of easy English sentences into French.
(c) German, including Grammar, Translation from specified authors*, and translation of easy English sentences into German.
(d) Natural Philosophy, as in Balfour Stewart's Elementary Physicst (Macmillan \& Co.)
(e) Logic, as in Jevon's Elementary Lessons in Logic† (Macmillan \& Co.)
3. This examination will begin on Wednesday, the 30th of October, 1889, in the College Hall, and will be conducted by instructors of the Arts Faculty.-Persons who wish to appear as candidates are required to give notice to the Secretary of the Faculty at least fourteen days before the date of Examination (specifying in such notice the elective subjects in which they wish to be examined), to enter their names in the Register of Candidates, and to pay a fee of Ten Dollars.
4. This Examination satisfies the requirements of the General Medical Council of Great Britain as to the preliminary examination which must be passed by persons wishing to register as medical students ; and also satisfies the requirements of the University of Edinburgh in the same respect.-Certificates will be issued to candidates showing the subjects in which they passed and the extent to which their knowledge of these subjects was tested - For classes in the Arts Fuculty in which candidates may prepare for the above Examination, see $\xi_{\S} \mathrm{I}$. and XIV.

[^15]5. A certificate of the possession of a University Degree in Arts, or of the Teacher's Grade A License of Nova Scotia, or of having passed the Matriculation Examination of the Provincial Medical Board of Nova Scotia, shall be considered by this University sufficient evidence of satisfactory general education.
6. The Matriculation and Sessional Examinations of any chartered University or College ; and also the Preliminary Examination of any Medical Licensing Board in Her Majesty's dominions will be recognized pro tanto.
7. Candidates who may have passed in all subjects but one, either at the University or the Nova Scotia Medical Board Matriculation Examinations, may enter as undergraduates, and will be allowed after six months to pass a Supplementary Examination in the subject in which they previously failed.
§ XL.-DEGREE EXAMINATIONS.-Candidates for the Degrees of M. D. and C. M. shall be required to pass two examinations-the Primary and the Final M. D., C. M. examinations, and to have satisfied at the dates of the examinations certain conditions as to attendance on classes, etc.

## § XLI.-PRIMARY M. D., C. M. EXAMINATION.-

1. Candidates for this examination shall be required to produce certificates to the following effect :-
(1.) Of having passed the Matriculation Examination, or other examination recognized as sufficient, at least two academic years previously, and of having completed their sixteenth year at the date of passing said examination.
(2.) Of having, after passing the Matriculation or other equivalent examination, attended either in this University, in the Halifax Medical College, or in some other School of Medicine approved by the Senate, two courses of 100 lectures each, in each of the following subjects, viz:-Anatomy, Chemistry, Materia Medica and Physiology ; and two courses of instruction of the same duration in Practical Anatomy, in the course of which they shall have dissected the whole body (i.e., the head and neck and upper and lower extremities) at least twice.
(3.) Of having, after passing the Matriculation Examination, attended either in this University, in the Halifax Medical College, or in some other University or College, approved by the Senate, one course of instruction of fifty lessons each, in each of the following subjects, viz., Botany and Practical Chemistry, and one course of twenty five lectures or demonstrations in Histology.
(4.) Either of having, after passing the Matriculation Examination, attended at the Halifax Medical College or at some College approved by the Senate, one course of instruction of fifty lessons in Practical Pharmacy, or of having had three months' practice in the dispensing of drugs with a recognized apothecary or dispensing medical practitioner.
2. Candidates shall be required to pass written and oral examinations in Chemistry (including Practical Chemistry), Botany, Anatomy (including Practical Anatomy), Physiology (including Histology), and Materia Medica (including Practical Pharmacy).
3. Candidates may appear for examination in Botany one academic year after passing the Matriculation Examination, on presentation of the certificates specified above, so far as they apply to this subject.
4. The Primary M. D., C. M. Examination will be held in the third week in April. Candidates are required to transmit the certificates specified above to the Secretary of the Faculty, at least fourteen days before the date of the Examination, to enter their names in the Register of Undergraduates of the University before the date of the examination, and to pay before the date of the examination two-fifths of the amount of the graduation fee. Should the candidate fail to pass, the fee will not be returned to him, but he will be admitted to any one subsequent Primary Examination without fee.
§ XLII-FINAL M. D., C. M. EXAMINATION.-1. Candidates for this examination shall be required to furnish certificates to the following effect, viz:-
(1.) That they have completed their twenty-first year, or that they will have done so on or before the day of graduation. This certificate shall be signed by themselves.
(2.) Of having passed the Primary M. D., C. M. Examination at this University, or of having passed the same examination at the Halifax Medical College.
(3.) Of either (a) having attended during four academic years at least two courses of lectures per year in subjects of the Primary and Final M. D., C. M. Examination either in this University or at the Halifax Medical College, or at some other recognized Medical School ; or (b) having spent one calendar year in the study of Medicine in the office or offices of one or more registered medical practitioners, and having subsequently attended during three academic years courses of lectures as above.
(4.) Of having, after passing the Matriculation Examination, attended at the Halifax Medical College, or at some other School of Medicine approved by the Senate, two courses of 100 lectures each, in each of the following subjects, viz.:-Principles and Practice of Surgery, Obstetrics and Diseases of Women and Children, and Principles and Practice of Medicine ; two courses of lectures of fifty lectures each, in each of the following subjects, viz.:-Clinical Medicine and Clinical Surgery ; and one course of fifty lectures in Medical Jurisprudence, including Hygiene and Insanity.
(5.) Of having, after passing the Matriculation Examination, attended during one calendar year the practice of the Victoria General Hospital, or that of some other Hospital approved by the Senate.
(6.) Of having attended for at least six months the practice of a lying-in hospital, approved by the Senate, or of having attended at least six cases of midwifery under a recognized practitioner.
(7.) Of having obtained proficiency in the practice of Vaccination under a recognized practitioner.
5. Candidates will be required to pass written and oral examinations in the following subjects:-Principles and Practice of Medicine, Obstetrics and Diseases of Women and Children, Principles and Practice of Surgery, and Medical Jurisprudence (including Hygiene and Insanity). The oral examinations in Medicine and Surgery shall include clinical examinations conducted at the bedside, cases being submitted for diagnosis and treatment.
6. Candidates may appear for examination in Medical Jurisprudence (including Hygiene and Insanity) alone, three academic years after passing the Matriculation Examination, on presentation of the certificates specified above, so far as they apply to this subject.
7. This examination will be held in the third week in April. Candidates are required to transmit the certificates specified above to the Secretary of the Faculty at least fourteen days before the date of the Examination, to enter their names in the register of under-graduates before the date of the examination, and to pay before the date of the examination threefifths of the amount of the graduation fee. Should the candidate fail to pass, the fee will not be returned to him, but he will be admitted to any one subsequent Final Examination without fee.
§ XLIII.-ACADEMIC COSTUME.-1. Doctors of Medicine of this University shall be entitled to wear black stuff gowns and hoods. The hoods shall have a lining of scarlet silk bordered with white silk.
8. Successful candidates for this degree shall be required to appear at Convocation in academic costume to have the degree conferred upon them. Degrees shall not be conferred in the absence of the candidate, except by special permissson of the Senate.
§ XLIV.-FEES.-The following fees, payable by candidates for the degree of M. D., C. M., are in all cases payable in advance :-
Registration Fee ..... $\$ 200$
Matriculation Examination Fee ..... 1000
Chemistry Class Fee ..... 1200
Chemistry Laboratory Fee (three months' course) ..... 600
Botany Class Fee ..... 600
Graduation Fee ..... 2500

## fnstitutions.

## THE UNIVERSITY LIBRARY.

The General $\dagger$ Library consists of over 3250 volumes, selected to meet the wants especially of students of the Faculty of Arts. It has no endowment funds, and its revenue is derived from the Registration Fees of Students of the Faculty of Arts, from fees for Supplementary and Special Examinations, and from fines.

It contains the Mackenzie Collection of works on Mathematical and Physical Science, which was presented to the College by the relatives of the late Professor J. J. Mackenzie ; and the Robert Morrow Colleotion of works on Northern Antiquities and Languages, presented by Mrs. Robert Morrow.

The following are the regulations with regard to the issue of books:-
(1.) All students, graduates, and members of the Alumni Association shall be entitled to the use of the Library.
(2) Such persons shall, on making a deposit of two dollars, have the further privilege of borrowing books from the Library; the deposit may at any time be withdrawn, provided the books have been returned in proper condition.
(3.) All books must be returned to the Library on or before the day appointed for that purpose in the University Almanac. Students who fail to comply with this rule shall forfeit half the amount of their deposit.
(4) No student shall have his Attendance and Examination certificates signed unless he has returned the books he may have obtained from the Library.
(5.) Books damaged or lost shall be paid for by the borrower at such rates as the Librarian may direct.
(6.) The Library shall be open daily from 3 to 5 p . m.

[^16]During the past year, 395 volumes, exclusive of pamphlets, calendars, etc., have been added to the Library. The following have been presented:

By R. Sedgewick, Esq., B.A., Deputy Minister of Justice.-The Encyclopædia Britannica, 9th Ed., Vol. XXIII.

By The Editors of the Dalhousic Gazette.-Webster's Unabridged Dictionary of the English Language.

By Professor MacGregor.--A Treatise on Geology, by Thomas Trotter ; The Historical Annals of Cornelius Tacitus, translated by Arthur Murphy.
By Professor Seth.-Philosophy of Kant, by John Watson.
By W. D. Lighthall, Esq., (the author).-The Young Seigneur.
By F. C. Sumichrast, Esq., (the editor).-Halévy's L'Abbé Constantin.
By Geo. Johnson, Esq., (the author).-Graphic Statistics.
By Professor Lawson, (the author).-Presidential Address before the Royal Society of Canada.

By Professsor Alexauder.-Moore's Life of Lord Byron ; An Introduction to the Poetry of Robert Browning.

By Collingwood Schreiber, Esq.-Annual Report of the Minister of Railways, 1889.

By J. G. Bourinot, Esq., (the author).-Manual of the Constitutional History of Canada.

By W. F. Ganong, Esq., (the author).-The Echinodermata of New Brunswick.

By Macmillan \& Co., (the publishers).-Laches of Plato, ed. Latham; Aneid, IV, ed. Stephenson ; Selections from Tennyson, ed. Rowe \& Webb; Kinder und Hausmärchen, ed. Fasnacht; Anabasis, IV, ed. Stone ; Lock's Arithmetic for Beginners ; Bower's Practical Instruction in Botany ; Stewart \& Gee's Elementary Practical Physics ; Geikie's Class Book of Geology ; Klein's Micro-organisms and Disease ; Ray's Deductive Logic ; Venn's Symbolic Logic ; Muir's Elements of Thermal Chemistry ; Keyne's Formal Logic ; Howe's Atlas of Elementary Biology ; Kennedy's Mechanics of Machinery ; Sidgwick's Ethics ; MacFarlane's Physical Arithmetic ; Goyen's Higher Arithmetic ; Eagle's Geometry of Plane Curves ; Todhunter's Analytical Statics, ed. Everett; Thompson's Lessons in Electricity and Magnetism; Bower \& Vines' Practical Botany, Pt. II ; Hall \& Knight's Algebraical Exercises ; Lock's Arithmetic for Schools; Macmillan's Latin Course, First Year ; Lock's Trigonometry for Beginners ; Progressive German Reader, First Year ; Marmillan's Shorter Latin Course; Progressive French Reader, First Year ; Thncydides' Sicilian Expedition, ed. Frost ; Thucydides, IV, ed. Graves ; Homer's Story of Achilles, ed. Pratt \& Leaf; Homer's Triumph of Odysseus, ed. Hamilton; Iphigeneia in Tauris, ed. England ; Hippolytus, ed. Mahaffy \& Bury ; Persae, ed. Prickard; Odyssey, IX, ed. Mayor ; Pro Ctesiphonte and De Corona, ed. Drake ; Against Leptines, ed. King; Andocides De Mysteriis, ed. Hickie; Lysiæ Orationes. ed. Schuckburgh :

Plutarch's Themistocles, ed. Holden; Hellenics, I and III, ed. Hailstone ; Hieron, ed. Holden ; Cyropaedia, ed. Goodwin ; Memorabilia, ed. Cluer ; Oeconomicus, ed. Holden ; Epistles of Horace, ed. Wilkins ; Satires of Horace, ed. Palmer ; Horace's Odes, ed. Page ; Eneid, II and III, ed. Howson ; Fasti, ed. Hallam ; Heroidum Epistulæ XIII, ed. Schuckburgh ; Catiline and Jugurtha, ed. Merivale ; Catilinarian Conspiracy, ed.Cook; Second Philippic. ed. Mayor ; Cicero against Cataline, ed. Wilkins ; Pro Sexto Roscio Amerino, ed. Donkin; Pro Lege Manilia, ed. Wilkins; Pro Publio Sestio, ed. Holden ; Livy, II and III, ed. Stephenson; Livy, XXI and XXII, ed. Capes; Livy, XXIII and XXIV, ed. Macaulay ; Livy, the Last Two Kings of Macedon, ed. Rawlins; Hauton Timoroumenos, ed. Schuckburgh ; Phormio, ed. Bond \& Walpole ; Miles Gloriosus, ed. Tyrrel ; Martial's Epigrams, ed. Stephenson ; Lucretius, I and III, ed. Lee ; Germania, ed. Church \& Brodribb; Tacitus' Annals, VI, ed. Church \& Brodribb; Agricola and Germania, ed. Church \& Brodribb; Propertius, ed. Postgate ; Catullus, ed. Simpson ; Pliny's Letters, III, ed. Mayor ; Juvenal for Schools, Pts. II and III, ed. Mayor ; La Fontaine, ed. Moriarty ; Perrault's Contes des Fees, ed. Fasnacht ; Hauff's Die Caravane, ed. Hager; Progressive French Reader, Second Year ; Charles XII, ed. Fasnacht ; Sandeau's Mademoiselle de la Seiglière, ed. Steel ; Sand's La Mare au Diable, ed. Russell; Dumas' Les Demoiselles de St. Cyr, ed. Oger ; Le Cid, ed. Fasnacht; Le Medicin Malgrè Lui, ed. Fasnacht; Le Bourgeois Gentilhomme, ed. Moriarty ; Götz von Berlichingen, ed. Ball; Die Jungfran von Orleans, ed. Gostwick; Maria Stuart, ed. Sheldon; Uhland's Ballads and Romances, ed. Fasnacht; Heine's Reisebilder, ed. Colbeck: Belcher's Short Exercises in Latin Prose Composition; Henry V, ed. Deighton ; Richard III, ed. Tawney; Hall \& Steven's Euclid, I-VI ; Jones' Examples in Physics ; Seven against Thebes, ed. Verral \& Bayfield ; Hieron, ed Holden, 3rd ed.; Lock's Elementary Statics ; Hardy's Latin Reader ; Colson's First Greek Reader ; Rullierford's First Greek Grammar ; Underhill's Greek Accidence : Gray's Measurements in Electricity and Magnetism, Vol. I ; Ball's Experimental Mechanics ; Lupton's Latin Lyric Verse Composition ; French Composition, First Course ; Loewy's Questions in Experimental Physics; Jebb's Selections from the Attic Orators ; Plato's Republic, ed. Warren; Wicksteed's Alphabet of Economic Science; Bradhaw's Arithmetical Examples; Dupuis' Synthetic Geometry ; also 36 volumes of Macmillan's Elementary Classics.

By Ginn \& Co., (the publishers).-Montgomery's Leading Facts of English History ; Leighton's Harvard Examination Papers.

By D. C. Heath \& Co., (the publishers).-Shepard's Elements of Inorganic Chemistry; Meiklejohn's English Language; William's Composition and Rhetoric.

By Longmans, Green \& Co., (the publishers).-Gibson's Elementary Biology.

By The Bureau of Education, Washington.-The College of William and Mary ; History in American Colleges ; Proceedings of the Department of Superintendence; Report of Commissioner of Education, 1886-7; Industrial Education in the South; Thomas Jefferson and the University of Virginia.

By The Geological Survey, Ottawa.-Annual Report, Vol. II, 1886 ; Catalogue of Canadian Plants, Pt, TV.

By The Meteorological Service of Canada.-Monthly Weather Review ; Report, 1885.

By The Smithsonian Institution.-Joseph Henry and the Magnetic Telegraph.

By The Royal Society of Canada. -Proceedings, 1887.
By The Nova Scotia Historical Society.-Collections, Vol. VI.
Also, Calendars, \&c., by the following :-Universities of Michigan, Mantoba, Durham. E'dinburgh, London, Glasgow, Melbourne, Aberdeen, Bologna, Toronto; Queen's College, Kingston ; McGill; Mount Allison ; Ottawa ; Acadia ; Laval ; Johns Hopkins ; King's College, Windsor; University College, Bristol; Bryn Mawr; University College, Dundee; Yale ; Harvard; Leheigh; Vassar; Trinity College, Toronto.

## THE UNIVERSITY MUSEUM.

The Museum * consists chiefly of the Thomas McCulloch and the Patterson Collections.

The Thomas MuCulloch Collection was presented to the University in 1884, by the Rev. William McCulloch, D. D., of Truro, with a fund of $\$ 1400$ for its maintenance and management. It formed the museum of Prof. Thomas McCulloch, who occupied the Chair of Natural Philosophy from 1863 to 1865. It contains a large and valuable collection of birds, especially of the native birds of the Maritime Provinces, collections of sheils, fossils, minerals, rock specimens and Indian implements, made in part by Rev. Thomas McCulloch, D. D., the first President of the College, and collections of dried specimens of native plants.

The Patterson Archeological Collection.-This collection of Indian Antiquities was made by the Rev.George Patterson, D. D., while engaged during a number of years in researches regarding the history and modes of life of the aborigines of Nova Scotia. The collection was presented by him to the College in 1889, on the cendition that the Governors should make suitable "provision for the preservation and exhibition of the same, in such a manner as is usual in well-managed museums." It is kept as a separate collection. It contains 288 specimens, separately catalogued, and is arranged conveniently for reference. About 250 of the specimens have been obtained in Nova Scotia; they represent the stone age of its aboriginal inhabitants, and

[^17]form an almost complete representation of the articles usually found among the remains of the native races of North America. There are also a number of similar articles from the United States, Scotland, the West Indies, and especially the New Hebrides. The classified catalogue of the collection, which is arranged according to the method adopter in the description of the Archæological Collection of the Smithsonian Institution, contains full particulars of the localities where the several specimens were obtained.

Donations of Dried Plants from the Pacific Islands and Australia have been made by Rev. Hugh Robertson and Rev. Joseph Annand, M. A., New Hebrides; and of Nuva Scotian Plants by Mr. George G. Campbell, B. Sc., Truro.

A Collection of Carboniferous Fossils, from the coal measures at Spring Hill, has been presented by Mr. Swift, of the Spring Hill Mines, Cumberland County.

## THE GYMNASIUM.

The Gymnasium is provided with apparatus which was purchased by funds contributed for the most part by former students.

Instruction is furnished by a competent Gymnast.
The following are the general regulations for the use of the Gymnasium :
(1.) All male students, graduates, and members of the Alumni Association shall, on paying the sessional fee, be entitled to the use of the Gymnasium.
(2.) Students shall be entitled to instruction in gymnastics without the payment of any additional fee.
(3.) Graduates and members of the Alumni Association shall be admitted to the classes, on payment of a fee of three dollars.

Gold and Silver Badges are offered by the President for competition at the close of the session.

## Anibersity Tists.

## DEGREFS

Conferred April 25th, 1889.

## BACHELOR OF ARTS.

Allison, Edmund Powell Halifax, N. S.<br>Brown, Ernest Nicholson ......... Lower Newcastle, N. B.<br>Burkitt, Robert James... ......... Athenry, Ireland.<br>Davison, James McGregor . . . . . . . . . . Halifax, N. S.<br>Fraser, Alexander ................... West River, Pictou Co., N. S.<br>Fraser, John Keir Geddie ......... Alberton, P. E. I.<br>Frazee, Victor Gladstone ......... Dartmouth, N. S.<br>Fulton, Edward....... ................ Lower Stewiacke, N. S.<br>Harvey, McLeod . . . . . . . . . . . . . . . . . Newport, N. S.<br>Henry, Joseph Kaye . . . . . . . . . . . . . Shubenacadie, N. S.<br>Laird, Arthur Gordon ... ........ Charlottetown, P. E. I.<br>Macdonald, Robert James . . . . . . . . . Hopewell, N. S.<br>Paton, Vingent John ............... Halifax, N. S.<br>Putdam, Homer. ......................... Lower Onslow, N. S. .<br>Smithers, Allan . ........................ Halifax, N. S.<br>Stewait, Frank Ingram.............. Charlottetown, P. E I.

## BACHELOR OF LAWS.



Ad Eundem Gradum.
Congdon, Frederick Tennyson, LL. B. (Toronto).... Halifax, N. S.

## GENERAL PASS LIST.

(Containing the names, alphabetically arranged, of Undergraduates who have passed in all the subjcets proper to their years.)

## FACULTY OF ARTS.

For B. A. Degree.
Fourth Year: Allison, E. P.; Brown, E. N.; Burkitt, R. J.; Davison, J. M.; Fraser, A.; Fraser, J. K. G.; Frazee, V. G.; Fulton, Edw.; Harvey, McL.; Henry, J. K.; Laird, A. G.; Macdonald, R. J.; Paton, V. J.; Putnam, H.; Smithers, A.

Third Year: Campbell, D. F.; Cogswell, G. A.; Fisher, J. M.; Fulton, Eben ; Grierson, R.; Laird, A.; Lewis, E. W.; McKay, D. O.; Mackinnon, J. A.; Mackintosh, D. C.; MacLeod, F. J., Rattee, E. J.; Rowlings, G. R.; Saunders, Maria F.; Schurman, G. W.; Smith, E. B.

Second Year: Baxter, Agnes S.; Brehaut, J. W., Cox, C. H.; Gardner. N. H.; Goodwin, Emily M.; Grierson, J. A.; Hugh, D. D.; Jordan, E. J.; McGlashen, J. A.; Maclean, J. B.; McMillan, C. E.; McMillan, F. A.; McNaughton, Elizabeth; Macrae, A. O.; Magee, W. H.; Moore, C. L.; Oliver, A. C. L.; Robertson, S N.; Robinson, C. B.; Stairs, H. B.; Thompson, F. W.; Tupper, J. W.; West, T. F.
${ }^{\text {EFinst Year: Archibald, Sara E.; Bakin, F. W. M.; Borden, }}$ H. C.; Campbell, R. S.; Douglas, E. A.; Fullerton, A.; Graham, R. H.; Hill, A. R.; Johnson, G. F.; Johnson, J. B.; Macdonald, A. J.; Macdonald, A. F.; McIntosh, D. S.; Mackay, M. S.; McKeen, G. W.; McNeill, R.; Sutherland, J. A.; Thompson, W. E.; Webster, K. G. T.; Weston, R. A.

## For B. L. Degree.

Second Year: Muir, Ethel.

## For Short Course in Literature and Science.

Second Year: Stewart, Elizabeth H.

## FACULTY OF LAW.

For LL.B. Degree.
Third Year: Campbell, A.; Campbell, A. J.; Cummings, S. W.; Forsyth, G. O.; Lovett, H. A.; McNeill, A. H.; Patterson, G. G.; Ross, H. T.; Tobin, T. F.; Whitford, J. A.

Second Year: Armstrong, B. H.; Bowser, W. J.; Fairweather, F. L.; Frame, J. F.; Hamilton, C. F.; Howay, F. W.; Macdonald, W.; Mellish, H.; McBride, R.; McPhee, D. L.; Oxley, .C. H.; Roberts, J. A.; Robertson, T. R.; Sinclair, J. A.

First Year: Byrne, J. P.; Howatt, C. A.; Logan, H. J.; McDonald, A. J.; McDonald, J.; McLean, A. K.; Ruggles, N. C.; Shaw, A. E.; Wickwire, H. H.

FACULTY OF MEDICINE.
Primary M. D., C. M. Examinations.
Elliot, Charles Schomberg ; Fraser, J. Frank ; Walsh, Thomas W.

## HONOURS, MEDALS, PRIZES, EXHIBITIONS AND BURSARIES, 1888-89.

## honours.

In Classics.--First Rank.--A. G. Laird.
In Mathematics and Mathematical Physics.-Second Rank.-R. J. Burkitt.
In Mental and Moral Philosophy.-First Rank.-A. Fraser. Second Rank.--E. N. Brown.
In English and English History.-First Rank.-Ed. Fulton.

## MEDALS.

The Governor-General's Gold Medal.-A. G. Laird.
The Governor-General's Silver Medal.-Not awarded. The Sir Wim. Young Gold Medal.-Not awarded.
The DeMill Gold Medal. - Ed. Fulton.
The Mackenzie Gold Medal. - Not awarded.

## SPECIAL PRIZES.

The Waverley Prize.-C. L. Moore. The Avery Prize.-J. K. Henry.
The Early English Text Society's Prize.-Ed. Fulton.
The New Shakspere Society's Prize.-Miss E. H. Stewart.

## SENIUR MUNRO EXHIBITIONS.

(1) Schurman, G. W. (2) MacLeod, F. J.
(3) Campbell, D. F.

## SENIOR MUNRO bURSARIES.

(1) Cogswell, G. A.
(2) Grierson, R.
(3) Mackintosh, D. C.
(4) Rowlings, G. R.
(5) Fulton, Eben.
(6) MacKinnon, J. A.
(7) Smith, E. B.
(8) McKay, D. O.

## JUNIOR MUNRO EXHIBITIONS.

(1) Macdonald, A. F.
(3) West, T. F.
(2) Webster, K. G. T.
(4) McNeill, R.
(5) Bakin, F. W. M.

## JUNIOR MUNRO BURSARIES.

(1) Hill, A. R.
(2) Johnson, J. B.
(3) Archibald, Sara E.
(4) Johnson, G. F.
(5) Sutherland, J. A.
(6) MacKay, D. T.
(7) MeIntosh, D. S.
(8) Fullerton, A.
(9) Macdonald, A. J.
(10) Campbell. R. S.

## EXAMINATIONS, 1888-9.

## FACULTY OF ARTS.

## hatriculation examination.

(The following list contains the names of those who either passed the Matriculation
Examination, or were allowed to matriculate on report of the Examiners for Munro Bursaries. The names are in alphabetical order.)
For B. A. Course.

First Year.-Arbuckle, J. A.; Archibald, Sara E.; Bakin, F. W. M.; Borden, H. C.; Campbell, R. S.; Doherty, Pbilip; Fullerton, A.; Fulton, J. A.; Graham, R. H.; Hill, A. R.; Johnson, G. F.; Johnson, J. B.; Macdonald, A. J.; Macdonald, A. F.; McIntosh, D. S.; Mackay, D. T.; McKay, T. C.; McKeen, G. W.; McNeill, Rodk.; Mahon, J. A.; Pelton, C. S.; Rankin, J. (conditionally) ; Sutherland, J. A; 'Vehster, K. G. T.; West, T. F.; Weston, R. A.

Second Year.-Stairs, H. B.; West, T. F.
SUPPLEMENTARY EXAMINATIONS.
Third Year: Physics.-Fraser, J. K. G.
Second Year: Greek.-Murray, N. F. Geometry.-Chapman, A. E. Trigonometry and Algebra.-Maclean, I. N.

First Year: Geometry.-Muir, Ethel. Algebra.-Thomson, J. W.

## SPECIAL EXAMINATION.

Inorganic Chemistry.-Smith, E. B.

## SESSIONAL EXAMINATIONS.

## CLASS LISTS.

(Containing the names, arranged in order of neerit, of all students who have passed in the subjects of the various classes.)

## LATIN.

Fourth Year: Class $I$-Laird, A. G. Class II-Frazee, V. G.; Davison, J. M ; Paton, V. Passed-Allison, E. P.

Third Year: Class I-Macleod, F. J.; Schurman, G. W. Class II-Fulton, Eben. Passed-Cogswell, G. A.; Smith, E. B.; Chapman, A. E.; MacKinnon, J. A.

Second Year: Class I-Brehaut, J. W ; MacMillan, F. A. Class II-Goodwin, Emily ; Magee, W. H.; McNaughton, Lizzie; Robertson, S. N.; Jordan, J. E.; Robinson, C B.; Moore, C. L.; Hugh, D. D.; McMillan, C E. Passed-Maclean, J. B ; Macrae, A.O.; Tupper, J. W.; (Oliver, A. C. L.; West, T. F.;) Cox, G. H.; Munro, Chris.; Gardner, N H.; Baxter, Agnes ; McGlashen, J. A.; Harrington, Emily ; Thomson, J. W.; Stairs, H. B.; Grierson, J. A.; McCurdy, J. F.; Thompson, F. W.

First Year: Class I-Macdonald, A. F.; McNeill, Rod.; Webster, K. G. T. Class II-Archibald, Sara; Hill, A. R.; Bakin, F. W. M.; Johnson, G. F.; Johnson, J. B.; Weston, R. A.; Campbell, R. S. Passed
-Fullerton, A.; Saunders, Maria; Graham, R. H.; McKay, T. C.; McIntosh, D. S.; Dodge, G. B.; Sutherland, J. A.; (Doherty, Pr; Weston, Clara;) McDonald, A. J.; Mackay, M. S.; Douglas, E. A.; Thompson, W. E.; MeIntosh, J. A.; Borden, H. C.; (Pelton, C. S.; Thompson, W. S.;) Morrison, W. C.; McKeen, G W.

GREEK.
Fourth Year: Class I-Laird, A. G. Class II-Henry, J. K.; Putnam, H. Passed-Macdonald, K. J.

Third Year.-Class I-Macleod, F.f. Passed-Grierson, R.; Mackintosh, D. C.; Campbell, D. F.; Rattee, E. J.

Second Year: Class I-Brehaut, J. W.; McMillan, F. A.; Robinson, C. B.; Hugh, D. D. Class $I I$-Magee, W. H.; Tupper, J. W.; Robertson, S. N.: West, T. F.; Jordan, J. E. Passed-Goodwin, Emily; Maclean, J. B.; McMillan, C. E.; (Mioore, C. L.; Oliver, A. C. L.;) Macrae, A. O.; McNaughton, Eliz.; Gardner, N. H., Munro, Chris.; Cox, C. H.; Baxter, Agnes ; (Thompson, F. W ; Thomson, J. W ;) Grierson, J. A.; McGlashen, J. A.; Morash, A. V.

First Year: Class 1 (Macdonald, A. F.; Hill, A. R.;) MeNeill, Rod. Class II-Bakin, F. W. M.; Johnson, G. F.; Webster, K. G. T.; McKay, T. C. Passed-Fullerton, A.; Graham, R. H.; Johnson, J. B.; (Campbell, R. S.; Sutherland, J. A.;) Mackay, M. S.; McIntosh, D. S.; Archibald, Sara ; Douglas, E. A.; (MclDonald, A. J.; Thompson, W. S.;) MacIntosh, J. A.; Thompson, W. E.; Doherty, P.; Borden, H. C.; Mahon, J. A.

## FRENCH.

Third Class: Class I-Stewart, Elizabeth H.; Harrington, Emily B. Class II-Liechti, Minna; Muir, Ethel.

Second Class: Class I-Burkitt, Rob. J. Class II-Macleod, Mary ; Lewis, E. W.; Frazee, Victor; Stairs, H. B.; Fulton, Edw.; Passed-Davison, J. M.; Pelton, Chas. S.; Paton, Vincent ; Montgomery, John ; Doherty, P.

First Class: Class I-Weston, R. A.; Rowlings, G. R. Class II -Weston, Miss C. P.; Cogswell, G. A.; Brown, H. S.; Mackintosh, D. C. Passed-Johnson, J. B ; Chapman, A. E; Logan, J. J.; Grierson, G. F.

## GERMAN.

Third Class: Class $I$-Liechti, Minna; Mackintosh, Gertrude; Saunders, Maria F.

Second Class: Class I-Putnam, Homer; Henry, J. K. Class II -Macdonald, IR. J. Passed-Fraser, Alex.; Muir, Ethel ; Brown, E. N.

First Class: Class I-MacLeod, Fred. J.; MacLeod, Mary. Class II-Rat ee, E. J.; Grierson, Robert. Passed-Smith, E. B.; Dickie, Joan ; McKeen, Geo. W.

## ENGI.ISH.

First Year: Class I-Webster, K. G. T ; Archibald, Miss S. E. Class 11.-(Dickie, Miss Juan ; McIntosh, D. S ; Sutherland, J. A.); McKay, T. C.; Johnson, G. F.; Weston, Miss C. P. Passed-Bakin, F. W. M.; (Weston, R. A.; Johnson, J. B.) ; Graham, R. H.; (MacIntosh, Jno. A.; Thompson, W. Ernest) ; Macleod, Miss M ; (McKeen, G. W.; Pelton, C. S.) ; Mackay, M. S ; (Campbell, R. S.; Gabriel, J. M ; Hill, A. R ; Mahon, J. A.) ; Douglas, E. A.; (Borden, H. C.; Morrison, W. C.; McNeill, R ) ; (Logan, S. J.; Fraser, J. G.) ; Fullerton, A.; McDonald, A. J.; (Harrington, J. G.; McCawley, S.) ; Thompson, Willard S; Dorge, B .

Second Year: Class I-Stewart, Miss E. H.; Brehaut, J. W; Class II-(Magee, W. H.; Tupper, J. W.) ; (Macrae, A. O.; Munro, C.). Macleod, Miss M.; Robertson, S. N. Passed-(Maclean, J B.; Hugh, D. D.) ; (Moore, C. L.; Jordan, E. J.) ; Robinson, C. B.; (Muir. Miss E.; Cox, C. H.; Oliver, A. C.L; West, T. F ); Dickie, Miss Joan ; (McMillan, F. A.; McMillan, C. E.) ; Stairs, H. B.; Fraser, J G ; (Goodwin, Miss E. M.; Grierson, J. A.; Gardner, N. H.; Logan, J. D.) ; (Baxter, Miss A. S.; McCawley, S.); McNaughton, Miss E.; (Thomson, Jas. W.; McCurdy, Jas. F.) ; (Thompson, F. W.; McCulloch, Wm.)

## HISTORY.

Fourth Year: Class I-Fulton, Edward; Frazee, Victor G.; Putnam, H.; Henry, J. K.; Allison, E. P.; Smithers, A. Clase II-Fraser, A.; Brown, E. N. Passed-Fraser, J. K. G.; Lear, G. A.

Third Year: Class I.-Schurman, G. W.; Lewis, E. W.; Saunders, Miss M. F.; McKay, D. O. Class II-Rattee, E. J.; Mackintosh, D. C.; Fulton, Eben ; Campbell, D. F.; Laird, Alex.; Grierson, Robert ; Fisher, J. M.; Cogswell, G. A.; Smith, E. B. Passed-Chapman, A. E.; Miller, George ; McKinnon, J. A.; Fraser, J. G.

## political economy.

Class I-Lewis, E. W.; Henry, J K. Class II-Frazee, V. G.; Dickie, Joan ; Fraser, J. K. G; Grierson, Robert ; Brown, E. N.; Smithers, A ; Putnam, H. Passed-Fraser, J G; Mackinnon, J. A.; Chapman, A. E.; Howatt, C. A.; Fraser, Alex.

## METAPHYSICS.

Class I-Rattee, E. J. Class II-(Cogswell, G. A.; McKinnon, J. A.; Schurman, G. W.) ; Fisher, J. M.; (Grierson, R.; Millar, Geo.); Dickie, Miss Joan. Passed-(Laird, Alex.; Chapman, A E.)
ethics.
Class I-Frazee, V. G.; Dickie, Miss Joan ; Henry, J. K.; Putnam, H.) Cluss II-Laird, A. G.; (Allison, E. P; Fulton, Ed.; Harvey, McL.) ; (Davison, J. M; Macdonald, R. J.) ; Smithers, A. W. Passed-Paton, Vincent; Fraser, J. K. G.; Howatt, C. A.

## LOGIC AND PSYCHOLOGY.

Class I-McMillan, C. E ; Brehaut, J. W.; Muir, Ethel : (McMillan, F. A.; Grierson, J. A.; Hugh, D.; Jordan, E. J.; Robertson, S.) Class 1I-Thompson, F. W.; Magee, W. H.; Maclean, J. B. ; McNaughton, Elizabeth ; Cox, Charles H.; Macrae, A. O.; West, F.; Goodwin, Emily ; Oliver, A.; Baxter, Agnes S.; Gard̃ner, N. H.; Moore, C. L.; Montgomery, J.; Fraser, Simon. Passed-Robinson, C. B.; Mackay, M. S. ; Stairs, H.; McCurdy, J. F. ; Tupper, J. W.; Morash, A. V.; Thomson, J. W.

## Mathematics.

Second Year: Class I-Moore ; Maclean, J. B.; Baxter, Agnes ; Brehaut; Hugh ; Magee. Class II-(Robertson; Jordan ;) (Oliver; West.) Passed-(MacMillan, F. A.; Stairs ;) Grierson, J. A.; Robinson; Morash; Gardner ; Tupper; (Macrae ; McGlashen ;) Cox ; Thompson, F. W.; Muir, Ethel ; MacMillan, C. E.; Munro ; (Montgomery ; Goodwin, Emily) ; McNaughton, Elizabeth.

First Year: Class I-Hill, A. R; Macdonald, Al. F.; Bakin ; Weston, R. A.; Fullerton ; Johnson, J. B.; Webster ; MacIntosh, D. S ; Archibald, Sarah ; Mackay, T. C.; Johnson, G. H.; Weston, Clara.

Class II-Graham; Logan; Mahon; Sutherland; Macdonald, A. J.; Thompson, Willard; Thompson, W. Ernest; Morrison; Borden; Dodge; McNeill; Campbell. Passed-Doherty ; MacIntosh, J.; Douglas; Macleod, Mary; McKeen. Passed in Geometry-McLeod, T. C.; Harrington.

PHYSICS.
Fourth Year: Class I-None. Class II-Burkitt, R. J.
Third Year: Class I-None. Class II-McKay, D. O. ; Rowlings, G. R.; Fulten, Eben ; (Mackintosh, D. C.; Sehurman, G. W.) ; Campbell, 1). F. ; Fisher, J. M. Passed-Millar, G ; (Grierson, R.; Rattee, E. J.) ; Stewart, Miss E. H. ; Smith, E. B. ; Lewis, E. W.; Cogswell, G. A.; MeKinnon, J. A. ; Laird, A.

DYNAMICS.
Class 1-Rowlings, G. R. Class II-McKay, D. O.

## INORGANIC CHEMISTRY.

Class I-Archibald, S. E. ; Johnson, G. F.; Bakin, F. W. M.; Weston, Clara P. ; MeIntosh, D. S.; Johnson, J. B ; Weston, R. A.; Webster, K. G. T.; Logan, John J. Class $/ I$-Macdonald, A. J.; Thomson, W. Ernest ; Fnllerton, A.; Hill, A R ; Borden, H. C. Passed-Thompson, Willard S.; McIntosh, J. A.; Sutherland, J. A.; Doherty, P.; Graham, R. H.; Mackay, M. S.; Morrison, W. C.; Mahon, J. A.; McNeill, Rodk.; Pelton, Chas. S. ; McKeen, Geo. W.; Campbell, Robert S.; Douglas, E. A.; Brown, H. S.; Murray, George W.

ORGANIC CHEMIBTRY.
Class I-McKay, D. O.; Stewart, Miss E. H.; Macdonald, R. J.

PRACTICAL CHEMISTRY.
Class I-McKay, D. O.; Stewart, Miss E. H. Class II-Campbell, D. F.; Fulton, Eben. Passed-Harvey, McL.

BOTANY.
Class I-Campbell, D. F.; Macdonald, R. J. Class II-Smith, E. B.; Logan, John J.; McIntosh, D. C.; Fulton, Eben.; McCulloch, W.; Harvey, McLeod; Passed-Harrington, J G.

## FACULTY OF LAW.

SESSIONAL EXAMINATIONS.

## CLASS LISTS.

(Containing the names arranged in the order of merit in the First and Second Class, and alphabetically in the pass List, of students who have passed in the
various subjeets).
TORTS.
Class I. --Cahan, Shaw, McEchen. Class II.-A. J. McDonald, Ruggles, Byrne. Passed.-Fairweather, Howatt, LePage, Logan, Jos. McDonald, McLean, Wickwire.

CRIMES.
Class I.-A. J. McDonald, Cahan, McEchen, LePage, McLean, Jos. McDonald. Class I1.-Wickwire, Byrne, Ruggles, Congdon. Passed.-Fairweather, Howatt, Logan, Shaw.

## REAL PROPERTY.

Class I.-McEchen, W. McDonald, Robertson, Ruggles, Cahan, A. J. McDonald. Class II.-Jos. McDonald, Logan, Shaw, Byene. Passed-Congdon, Fairweather, Howatt, LePage, McLean, Wickwire.

CONTRACTS.
Class I.-Shaw, W. McDonald, Robertson, Cogswell, Byrne. Class II-McLean, Davidson, Wickwire, Ruggles, A. J. McDonald, McEchen, Patton. Passed.-Cahan, Howatt, Logan, Jos. McDonald.

CONSTITUTIONAL HISTORY.
Class I.-Schurman, McEchen, Shaw, McKinnon, McLean. Class II.-Lewis, Byrne, LePage, A. J. McDonald. Passed.-Congdon, Higgs, Jos. McDonald, Ruggles, Wickwire.

INTERNATIONAL LAW.
Class I.-Patterson, Lovitt, McNeill, Cummings, Tobin, Cahan, Class II.-Forsyth, Ross. Passed.-Alex. Campbell, Higgs, Steven. Whitford.

## CONSTITUTIONAL LAW.

Class I.-Allison, Paton, Armstrong, Hamilton, Howay, Mellish. Class II.-McPhee, McEchen, Oxley. Passed.-Bowser, Cahan, Davidson, Fairweather, Frame, Higgs, McBride, Roberts, Sinclair, Stevens.

SALES.
Class I.-Patterson, Ross, Lovitt, Tobin, A. J. Campbell, Howay, Cummings, McBride. Class II. -McNeill , Forsyth, Robertson, Alex. Campbell, F. Fairweather, Hamilton, W. McDonald, Oxley, Sinclair, Roberts. Passed.-Armstrong, Bowser, Cahan, Cogswell, Frame, McPhee, Mellish, Whitford.

## CONFLICT OF LAWS.

Class I.-Patterson, McNeill, Howay, Forsyth, McPhee, Hamilton, A. Campbell, A. J. Campbell, Lovitt. Claiss II.-Mellish, Cummings, Frame, Tobin, Roberts, Armstrong, Bowser, Ross.--Passed.-Cogswell, F. Fairweather, McBride, Oxley, Sinclair, Stevens.

Equity.
Class I.-McB ide, Howay, A. J. Campbell, Bowser, Robertson, W. McDonald, Mellish, Frame, Oxley, Roberts, McPhee. Class II.Hamilton, Cogswell, McEchen, Whitford. Passed.-Armstrong, Fairweather, Huggins, Sinclair.

## EVIDENCE.

Class I.-McNeill, Howay, Ross, Patterson, Hamilton, W. McDonald and A.J. Campbell (equal), Tobin, Roberts and McPhee (equal), Frame, Mellish. Class II.-Oxley and Cummings (equal), Robertson and Forsyth (equal), McBride, Alexander Campbell, Armstrong, Sinclair, Fairweather and Cogswell (equal). Passed.Bowser, Huggins, White.

## INSURANCE.

Class I.-A. J. Campbell, Tobin, Lovitt, Patterson.--Class II.Cummings, Ross, Forsyth, McNeill and Allison (equal). Passed.Alex. Campbell, Stevens, Whitford.

FACULTY OF MEDICINE. PRIMARY M. D., C. M. EXAMINATIONS.

## CLASS LISTS.

(Containing the names, arranged in order of merit, of students who have passed in the various subjects.)

Anatcmy (Including Practical Anatomy and Histology).-Elliot, Charles Schomberg; Fraser, J. Frank ; Murray, Harvey Vicars.

Physiology.-Fraser, J. Frank ; Murray, Harvey Vicars ; Purcell, John Martin ; Elliott, Charles Schomberg.

Materia Medica (Including Therapeutics and Pharmacy).-Elliot, Charles Schomberg; (Fraser, J. Frank; Murray, Harvey Vicars); Purcell, John Martin.

Chemistry (Including Practical Chemistry).-Fraser, J. Frank; Elliot, Charles Schomberg; Murray, Harvey Vicars; Purcell, John Martin.

Botany.-Johnson, Isaac Wellwood; Hamilton, Miss Annie Isabel: Murray, Robert Lowrie; Woodworth, Percy Churchill; Armstrong, Melbourne Edward; Cochran, Francis J. A.; Grant, William.

Histology (Only).-Hamilton, Miss Annie Isabel.
Practical Anatomy (Only).-Walsh, Thomas W.

## GRADUATES OF THE UNIVERSITY.

N. B.-Degrees printed with the names have been obtained at other Universities.

Graduates are requested to notify the President of changes of address
$\ddagger^{8}$ Adams, H. S., Jesuits' College, Montreal. ..... B A., 1884
$\dagger^{1}$ Aiton. W., Sussex, N. B. ..... B. A., 1885
Allan, Rev. John M., Edinburgh ..... B. A., 1873 ; M. A., 1876
Allison, Edmund P., Halifax, N. S. ..... B. A., 1889
Allison, Matthew G., Windsor, N. S ..... B. A., 1886
Annand, Rev. Joseph, New Hebrides. . B. A,, 1869 ; M. A., 1872
Archibald, Rev. F. W., M. A., B. D., Ph. D., St. Thomas, Ont.,B. A., 1877.Archibald, Rev. W.P., Cavendish, P.E.I., B.A., 1873; M. A., 1878
Armstrong, E. H., Kingston, N. S ..... LL. B., 1888
Bayne, Prof. H. A., Ph. D., F.R.S.C., (obit.). B. A., 1869 ;
M. А., 1872.
$\dagger^{2}$ Bell, F. H., Halifax ..... B. A., 1876
$+^{2}$ Bell, J. A., Halifax ..... B. A, 1883
Bennett, A. W., Hopewell, N. B ..... LL. B., 1885
Bethune, J. L., Baddeck, C. B. ..... M. D., C. M., 1875
Blanchard, C. W., Truro ..... B. A., 1880
Boak, H. W. C., Halifax ..... Lц.B., 1885
${ }^{6}$ Brown, Ernest N., Lower Newcastle, N. B ..... B. A., 1889
Bruce, Rev. W. T., M. D., Coldstream, Col. Co ..... B. A., 1872
Bryden, Rev. C. W., Selkirk ..... B. A., 1873
${ }^{6}$ Buchanan, James, J., Sydney, C. B ..... B. A., 1887
Burgess, Rev. J. C., Danville, Col., U. S. A ..... B. A., 1867
${ }^{8}$ Burkitt, Robt. J., Athenry, Ireland ..... B. A., 1889
Cahan, Charles H., Halifax ..... B. A., 1886
Cairns, Rev. J. A., M. A., Upper Musquodoboit ..... B. A., 1878
Calder, John, West Bay, C. B ..... B. A., 1886
Calkin, Wiliiam S., Truro ..... B. A., 1887
Cameron, A. G., Newton, Guỳsboro' ..... B.Sc., 1882
${ }^{4}$ Cameron, C. S., Halifax ..... B. A., 1879
$\ddagger$ Cameron, Rev. J. H., Bass River, N. B. B. A., 1878
${ }^{1}$ Graduated with First Rank Honours in Classics.
${ }^{2}$ Graduated with Second Rank Honours in Classics.
${ }^{4}$ Graduated with Second Rank Honours in English and English History.
${ }^{6}$ Graduated with Second Rank Honours in Mental and Moral Philosophy.
${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathematical Physics.
$\dagger$ Governor-General's Gold Medallist.
$\ddagger$ Governor-General's Silver Medallist.
Cameron, William, Merigomish, N. S B. A., 1873
Cameron. Rev. J. J., Shakespere, Ont., B. A., 1869 ; ..... M.A., 1871
Campbell, Alexander J., Truro, N. S., B. A., 1886 ; Lu.B., ..... 1889
Campbell, Alex., Sydney, C. B ..... Lц. B., 1889
Campbell, D. A., Halifax, N. S. M. D., C. M. ..... 1874
Campbell, George G., Truro ..... B.Sc., 1885
$a \S{ }^{8}$ Cimpbell, George M., Truro ..... B. A., 1882
Campbell, J. R., Jr., Dorchester, N. B ..... L.. B., 1888
Campbell, Wm. R., E. River, St. Mary's, Pictou Co. B. A., 1887
Carmichael, J.M., New Clasgow B. A., 1872
Carr, Rev. A. F., Alberton, P. E. I. . . B. A., 1868 ..... M. A., 1871
Carson, Rev. G. S., Pictou, N. S ..... B. A., 1882
Carter, Titus James, Point de Bute, N. B ..... Ľ. B., 1887
Carter, William D., Richibucto, N. B ..... Lц. B., 1886
Chambers, F. B., Truro ..... B. A., 1879
Chambers, R. E., Truro ..... B. A., 1877
Chase, Rev. J. H., Onslow B. A., 1866 ; ..... M. A., 1869
Chisholm, Don., Antigonish. M.D.. C. M., ..... 1874
Chisholm, Joseph A., Antigonish. ..... LL.B., 1886
Christie, Rev. T. M., (obit.) ..... B. A., 1868
Clarke, Daniel McD., West River, Pictou Co., N. S ..... B. A., 1888
Cluney, Andrew, Halifax ..... LL.B., 1887
${ }^{4}$ Coffin, Fulton J., Mt. Stewart, P. E. I ..... B. A., 1886
Coffin, F. S., M. A., Mt. Stewart, P. E. I ..... B. A, 1885
${ }^{* 3}$ Coffin, Victor E., Mt. Stewart, P. E. I ..... B. A., 1887
Congdon, Fred. T., LL.B. (Toronto), Halifax, ad eundem gradum, Le.B., 1889.
${ }^{2}$ Coops, Frank H., Milton, Queens Co. ..... B. A., 1887
Costley, Alfred, Halifax ..... B. A., 1881
Cox, Robinson, Stewiacke ..... C. M., 1875
.M. D.,
Creelman, Rev. D. F., (obit.)
$\dagger^{8}$ Creelman, H. G., B. Sc., Vans Dunlop Scholar, Edinburgh Univ.,B. A., 1881 .
Creighton, J. G. A., Montreal ..... B. A., 1868
Creighton, H. S., Dartmouth ..... B. A., 1880
$\ddagger^{5}$ Creighton, James E., West River, Pictou Co ..... B. A., 1887
Crowe, Walter, Sydney, C. B. ..... Le.B., 1889
${ }^{4}$ Crowell, Rev. Edwin, Yarmouth ..... B. A., 1880
Cummings, Selden W., B. A., Truro, N. S ..... Ll. B., 1889

[^18]Cruikshank, Rev. W., B. D., Montreal ..... B. A., 1872
Davidson, J. F., Pinos Altos, Grant Co., New Mexico. ..... B. A., 1882
Davison, James McG., Halifax, N. S ..... B. A , 1889
DeWolf, G. H., Tintern, England ..... M. D., C. M., 1872
Dickie, Alfred, Upper Stewiacke B. A., 1879 ; ..... M. A., 1883
Dickie, Henry, Upper Stewiacke ..... B. A , 1883
Dill, Rev. Edmund M., Parrsbore' ..... B. A., 1884
Doull, W S., Halifax B. A., 1875 ; ..... Le.B., 1885
Duff, Kenneth, Lunenburg. ..... B. A., 1873
Emmerson, R. R. J., Middle Sackville. N. S ..... B. А., 1879
${ }^{6}$ Fitzpatrick, H. H. K., Scotsburn, Pictou Co., B.A., 1885 ; ..... M. A., 1888
Fitzpatrick, Rev. James, Saltsprings ..... B. A., 1875
Forbes, Antoinette, Little Harbor, Pictou Co ..... B. A., 1887
Forrest, James, Halifax ..... M. A., 1872
Forsyth, Geo. O., B. A., Greenwich. ..... Ll.B., 1889
${ }^{5}$ Fraser, Alex., West River, Pictou Co., N. S ..... B. A., 1889
Fraser, Hon. D. C., New Glasgow ..... B. A., 1872
Fraser, Rev. D. S., Springside, Col., U. S. A ..... B. A., 1874
Fraser, Donald, Pictou ..... B. A., 1877
Fraser, Jno. K. G., Alberton, P. E. I ..... B. A., 1889
$\ddagger$ Fraser, W. M., Halifax ..... B. A., 1883
Fraser, W. R., Pictou ..... B. A., 1882
Frazee, Victor G., Dartmouth, N. S. ..... B. A., 1889
*3Fultun, Edwd , Lower Stewiacke, N. S ..... B. A., 1889
Fulton, G. H., M. D., C. M. ..... B. A., 1876
Fulton, W H., Halifax. ..... B. A., 1888
*3Gammell, I., Pictou ..... B. A., 1885
$\dagger$ George, Rev. J. L., M. A., Dartmouth. ..... B. A., 1878
Grant, David K., Riverton, Pictou Co. ..... B. A., 1888
Grant, W. R., (obit.) ..... B. A., 1877
Gregory, C. E., Antigonish. ..... Ll.B., 1888
Gunn, Rev. Adam, Kennetcook. ..... B. A., 1872
Hamilton, H. H., Pictou ..... B. A., 1877
Hanright, Fred. W., B. A., Windsor ..... Lu.B., 1887
Harvey, McLeod, Newport, N. S ..... B. A., 1889
Henry, Jos. K., Shubenacadie, N. S ..... B. A., 1889
Henry, William A., Halifax, N. S ..... Ll B., 1886
${ }^{2}$ Herdman, Rev. J. C., B. D., Calgary, N. W. T. ..... B. A., 1874;M. A., 1887.
Herdman, W. C., Pictou B. A., 1874 ; M. A., 1881
Herdman, A W., Pictou. ..... B. A., 1877

[^19]Hiltz, C. W., (obit.) ..... M. D., C. M., 1862
Hunter John, California. B. A., 1873
Ives, W. B., New Glasgow, N. S ..... LL.B., 1885
Jennison, Hedley V., New Glasgow, N. S ..... LL.B., 1885
Johnson, George M., Upper Stewiacke, N. S ..... B. A., 1888
Jones, Frank, Digby ..... B. A., 1884
Jones, H. 'T., Halifax, N. S ..... LL.B., 1888
$\dagger$ Jordan, Rev. L. H., B. D., Montreal B. A., 1875 ; M. A., ..... 1878
Kinsman, F. S., M. D., Centreville. ..... B. A., 1880
Knowles, J. H., Milton ..... B. A., 1882
$\dagger^{1}$ Laird, A. G., Charlottetown, P. E. I ..... B. A., 1889
Laird, G. A., Manitoba ..... B. A., 1877
Landells, R., Cedar Hill, B. C ..... B. A., 1882
Lane, Charles W., Pictou ..... Le.B., 1887
${ }^{6}$ Langille, R. M., River John, Pictou Co... . B. A., 1885 ; M. A., 1888
LeNoir, M. U., Halifax, N. S ..... LL.B., 1885
Lewis, Rev. Abner W., Chebogue, N. S. ..... B. A., 1886
Lindsay, A. W. H , M. B., C. M., Halifax. B. A., 1870 ;
M. D., C. M., 1875.
Lippincott, Aubrey, M. D., Pittsburg, Pa ..... B. A., 1867
Locke, R. T., Lockeport ..... B. A., 1885
Logan, Rev. Richmond, Santa Monica, Cal., B. A., 1877 ; M. A., ..... 1880
Logan, Melville, Halifax ..... B. A., 1873
Lovett, Henry A., Kentville, N. S ..... LŁ.B., 1889
Lyons, William Alex., Halifax ..... Lц.B., 1887
McColl, A., New Glasgow, N. S ..... B.Sc., 1883
McCready, Chas. A., Moncton, N. B.. ..... Le. B., 1888
McCully, Frank A., B. A., Sussex, N. B ..... Le.B., 1887
McCurdy, S. T., New Glasgow ..... B. A., 1877
Macdonald, C. D., Pictou ..... B. A., 1873
McDonald, Rev. Donald, Port Hastings, C. B ..... B. A., 1884
Macdonald, Ed. M., Pictou ..... Ll.B , 1887
$\ddagger^{8}$ Macdonald, J. A., Halifax B. A., 1883 ; L.L.B., ..... 1886
McDonald, J. H., (obit.) ..... B. A., 1867 ; M. A., 1870
Macdonald, Robt. J., Hopewell, N. S. ..... B. A., 1889
Macdonald, William, Pictou, N. S ..... B. A., 1888
Macdonald, W. M., Halifax. ..... B. A., 1888
McDowell, Isaac, (obit.) ..... B. A., 1876
McGregor, Rev. Daniel, Amherst. ..... B. A., 1874
MacGregor, Prof. J. G., D.Sc., Halifax. . ..... M. A,, 1874
${ }^{8}$ MacGregor, T. S., Boston, Mass ..... B. A., 1882
McInnes, Hector, Halifax. ..... Le.B., 1888
Mackay, Adams A., B. A., Halifax, N. S. ..... Ll B., 1888
${ }^{8}$ Mackay, A. H., B. Sc., F. R. S. C., Pictou ..... B. A., 1873
${ }^{1}$ Graduated with First Rank Honours in Classics.
${ }^{6}$ Graduated with Second Rank Honours in Mental and Moral Philosophy.
${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathemat. Physies.
$\dagger$ Governor-General's Gold Medallist.
$\ddagger$ Governor-General's Silver Medallist.
McKay, Rev. Kenneth, Richmond, N. B B. A., 1868
${ }^{\top}{ }^{9}$ Mackay, Ebenezer, New Glasgow. N. S B. A., 1886
${ }^{8}$ Mackay, H. M., Plainville, Pictou Co., N. S ..... B. A., 1888
$\ddagger^{9}$ Mackay, Neil F., West River, Pictou Co., N. S ..... B. A., 1886
McKeen, Rev. J. A., Orono, Ont. ..... B. A., 1873
$a \S^{8}$ Mackenzie, A. S., Dartmouth, N. S ..... B. A., 1885
McKenzie, Hugh, Truro M. A., 1875 B. A., 1872 ; ..... 1875
Mackenzie, Prof. J. J., Ph. D., (obit.)
McKenzie, Rev. James, Pugwash. ..... B. A., 1878
McKenzie, Rev. J. W., East St. Peter's, P. E. I. ..... B. A., 1882
McKenzie, William J., West Bay, C. B B. A. 1888
MacKinnon, Don. Alex., Charlottetown, P. E. I. ..... Ll.B., 1887
$\ddagger$ McKittrick, Burgess, Sydney, C. B ..... B. A., 1877
McLatchy, Henry F., Hillsboro', N. B ..... Ll. B, 1887
${ }^{2}$ McLean, I. M., M. $D$ ..... B. A., 1879
McLean, Rev. J. A., Harvey, N. B. ..... B. A., 1876
McLennan, Daniel, Port Hood, C. B ..... LL.B., 1888
McLennan, J. W., B. D., Sydneh, C. B. . B. A., 1883; M. A.; 1887
McLennan, S. J., Sydney, C. B ..... B. A., 1888
McLeod, Rev. A. W., Ph.D., Vale, Pictou Co., B.A., 1875; M. A., ..... 1878
${ }^{6}$ MacLeod, Ambrose W., Dunstaffnage, P. E. I B. A., 1888
${ }^{*}{ }^{3}$ MacLeod, George, Murray River, P. E. I ..... B. A., 1888
MacLeod, Rev. J. W., (obit.) B. A., 1876 ; M. A., ..... 1880
McLeod, Rev. Don., Priceville, Ont ..... B. A., 1874
McLeod, J. M., M. A., Valleyfield, P. E. I ..... B. A., 1885
$b \nmid{ }^{1}$ McLeod, J. P., Principal High School, Victoria, B. C. . ..... B. A., 1884
§ ${ }^{7} \mathrm{McLeod}, \mathrm{Malcolm}$ J., Belfast, P. E. I ..... B. A., 1887
McMillan, Finlay, Sheet Harbor, N. S. ..... M. D.
C. M, 1872
$\ddagger$ McMillan, Rev. G. W., Malpeque, P. E. I ..... B. A., 1875
McNaughton, Rev. Samuel, Preston, G. B., B. A., 1867 ; ..... M. A., 1870
McNeill, Albert H., Charlottetown, P. E. I... ..... Ll.B., 1889
${ }^{8} \mathrm{McNeill}$, Charlotte M., Charlottetown, P. E. I. ..... B. A, 1887
Macrae, Alex. W., St. John, N. B ..... B. A , 1886
McRae, William, (obit.) ..... C. M., 1872
Magee, Edgar A., Annapolis. ..... Ll.B., 1888
${ }^{8}$ Martin, K. J., Charlottetown, P. E. I ..... B. A., 1885

${ }^{1}$ Graduated with First Rank Honours in Classics.
${ }^{2}$ Graduated with Seeond Rank Honours in Classics.
${ }^{3}$ Graduated with First Rank Honours in English and English History.
${ }^{6}$ Graduated with Second Rank Honours in Mental and Moral Philosophy.
${ }^{7}$ Graduated with First Rank Honours in Mathematies and Mathematical Physics.
${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathematical Physics.
${ }^{9}$ Graduated with First Rank Honours in Experimental Physies and Chemistry.

+ Governor-General's Gold Medallist.
$\ddagger$ Governor-General's Silver Medallist.
* GoverHor-General's Siver Medallist.
§ Sir Williiam Young Gold Medallist.
- Mackenzie Gold Medallist.
a Munro Tutor in Mathematics, 1887-89.
b Munro Tutor in Classics, 1885-7.
Mason, Rev. W. A., Georgetown, P. E. I. ..... B. A., 1877
Matheson, J. A , Halifax, N. S ..... B. A., 1888
Mellish, H., Pictou ..... B. A., 1882
Millar, Rev. E. D., Lunenburg ..... B. A., 1869
Miller, J. J., Halifax ..... B. Sc., 1885
Milliken, Albert E., Moncton, N. B ..... Ll.B., 1886
Mooney, P. C. C., Halifax ..... Lц.B., 1886
Moore, Edmund, Chatham ..... M. D., C. M., 1872
$\S^{7}$ Morrison, A. M., Dartmouth, N. S ..... B. A., 1888
Morrison, Aulay, Cow Bay, C. B ..... Ll.B., 1888
Morse, C., Shelburne, N. S. ..... Le B., 1885
Morton, Joseph H., M. D., Shelburne ..... B. A., 1876
$\S^{7}$ Morton, Silvanus A., Milton, Queens Co., N. S ..... B. A., 1886
Muir, W. H., L. R. C'. P. \& S., Edin., Truro.....M.D, ..... C. M., 1875
Murro, Rev. John, Antigonish, N. S ..... B. A , 1876
Munro, G. W., 17-27 Vandewater St., New York ..... B. A., 1878
Murray, J. S., North Sydney, C. B. ..... B. A., 1877
$a \S^{8}$ Murray, D. A., Truro ..... B. A. 1884
Newcombe, E. L., LL. B., Halifax. ..... M. A., 1881
${ }^{4}$ Newcombe, Margaret F., Ladies' College, Halifax ..... B. A., 1885
${ }^{8}$ Nicholson, Alfred, M. A., Southport, P. E. I ..... B. A., 1886
${ }^{6}$ Oxley, J. M., LL B., Ottawa. ..... B. A., 1874
Paton, Vincent J., Halifax, N. S. ..... B. A., 1889
Patterson, G. G., New Glasgow. B. A., 1882; M. A.,1887; I ..... Lц. B., 1889
Pitblado, Colin ..... B. A., 1876
Pollok, A. W., (obit.) ..... B. A., 1872
Putnam, Homer, Lower Onslow, N. S ..... B. A., 1889
Putnam, Wm. G., Maitland. ..... B. A, 1887
$\S^{7}$ Reid, A. G., Halifax. ..... B.Sc., 1883
${ }^{5}$ Ritchie, Eliza, Halifax ..... B. L., 1887
Robert, Cassimir, Arichat, C. B ..... M. D., C. M., 1875
Robertson, Henry McN, ,Barrington, N. S. ..... Lu.B., 1886
Robertson, T. R., Annapolis, N. S. ..... B. A., 1888
$\dagger^{1}$ Robinson, Alex., Sussex, N. B ..... B. A., 1886
${ }^{8}$ Robinson, G. E., Charlottetown, P. E. I. ..... B. A., 1886
Robinson, Rev. J. M., Moncton. ..... B. A., 1883
Rogers, Rev. Anderson, Yarmouth. ..... B. A., 1887
Rogers, Henry W., Amherst LL. B., 1887

[^20]Ross, Alexander, Dalhousie, N. B ..... B. A., 1867
Ross, Henry T., B. A., Halifax, N. S ..... Le.B., 1889
Ross, Rev. William, Prince William, N. B ..... B. A., 1873
Russell, Rev. A. G., Oyster Bay, L. I, N. Y ..... B. A., 1871
Russell, Joseph A., Newcastle, N. B ..... Le.B., 1887
Scott, Rev. Ephraim, New Giasgow. ..... B. A., 1872 ; M. A., 1875
Scott, Rev. Prof. H. McD., B. D., Chicago ..... B. A., 1870
Scott, J. McD., (obit.) ..... B. A., 1877
Sedgewick, J. A., Halifax ..... B. A., 1881 ; Ľ.B., 1885
Sedgewick, Robert, Q. C., Ottawa ..... B. A., 1867
${ }^{4}$ Shaw, Henry C., Stanhope, P. E. I ..... B. A., 1887
$\dagger^{1}$ Shaw, James C., Stanhope, P. E. I ..... B. A. 1887
Shaw, Robert, (obit.) ..... B. A., 1866
Simpson, Rev. Isaac ..... B. A., 1868
Smith, Rev. D. H., Truro ..... M. A., 1871
Smith, Rev. Edwin, Stewiacke ..... B. A., 1867
Smith, H. McN., Halifax ..... B.Sc., 188 t
${ }^{4}$ Smith, James F., B. D., Halifax, N. S ..... B. A., 1886
Smithers, Allan, Halifax, N. S ..... B. A., 1889
${ }^{4}$ Soloan, D. M., Windsor, N. S ..... B. A., 1888
Spencer, Rev. W. H., Montague, P. E. I ..... B. A., 1881
Stewart, Alex. F., Pictou ..... B. A., 1887
${ }^{8}$ Stewart, Anne A., Pictou. ..... B.Sc., 1886
${ }^{7}$ Stewart, Dugald, Upper Musquodoboit, N. S. ..... B. A., 1886
Stewart, F. I., Charlottetown, P. E. I ..... B. A., 1889
$\ddagger^{8}$ Stewart, J. McG., Pictou ..... B. A., 1876
Stewart, Rev. Thomas, B. D., Sussex, N. B ..... B. A., 1882
Stramberg, H. M., New Westminster, B. C ..... B. A., 1875
Sutherland, Rev. J. M., Virden, Man ..... B. A., 1869
Sutherland, Robert, (obit.) M. D., C. M., ..... 1872
$\ddagger{ }^{\text {S }}$ Sutherland, J. S., St. James, Char. Co., N. B ..... B. A., 1888
Taylor, W. B., (obit.) ..... B. A., 1884
${ }^{4}$ Thompson, A. W., M. A., Durham, Pictou Co ..... B. A., 1885
Thompson, Stanley R., Oxford, N. S ..... Ll.B., 1886
Thomson, A. E., Halifax ..... B. A , 1880
Thomson, Walter K., Halifax ..... Lц.B., 1887
Thorbuin, W. M., Madras Pres., India ..... B. A., 1880
Tobin, Thos. F., Halifax, N. S ..... Ll. B., 1889
Torey, E. J., Windsor B. A., 1882

[^21]
# Troop, Arthur G., A. B., Dartmouth, N S............ Ll.B., 1886 

Trueman, A. I., St. John, N. B........... B. A., 1872 ; M. A., 1878 $b \dagger^{2}$ Trueman, J. S., Johns Hopkins Univ., Baltimore ......... B. A. 1882

Tuffts, W. M., M. A., Halifax .............. . . . . . . . . . . B. A., 1885
Turner, D. F. D., London, G. B........... .............. B. A., 1864
$\dagger^{8}$ Waddell, Prof. John, Ph. D., D. Sc, Kingston, Ont.....B. A., 1877
Wallace, Rev. John, Gridley, Cal., U. S. A........... B. A., 1870
Wallace, W. B., Halifax . . . . . . . . . . . . . . . . . . . . . . . . . . . Ll. L. B., 1885
Walsh, Wm. W., Halifax . . . . . . . . . . . . . . . . . . . . . . . . . . Ll. B., 1886
Wells, Wm. W., Point de Bute, N. B.................. Ll. B., 1886
Whitford, Jos. A., Bridgewater, N. S......... . . . . . . . . . Lı. L. B., 1889
Whitman, Alfred, Halifax. . . . . . . . . . . . . . . . . . . . . . . . . . . Le. B., 1885

[^22]
## UNDERGRADUATES, 1888-89.

IN ARTS.<br>FOURTH YEAR.


Goodwin, Emily Maud St. John, N. B.
Grierson, John Arthur . . . . . . . . . . . . Kentville.
Harrington, Emily Bevan. . . . . . . . . Halifax.
Hugh, David Donglas................ Murray Harbor, P. E. I.
Jordan, Elijah John..................Murray Harbor, P. E. I.
Logan, John Daniel ................. Pictou.
McCurdy, James Farquhar, . . . . . . Halifax.
Mç্xlashen, John Archibald......... New Glasgow, N. S.
Maclean, John Brown . . . . . . . . . . . . Hopewell, N. S.
McMillan, Charles Edward........... Whycocomagh, C. B.
McMillan, Frederick Alex. ......... Alberry Plains, P. E I.
McNaughton, Elizabeth............. St. John, N. B.
Macrae, Archd. Oswald.............. . St. John, N. B.
Magee, Wm. Henry . . . . . . . . . . . . . . Kings Co.
Moore, Clarence Leander.......... Salisbury, N. B.
Morash, Albert Victor.............. . . Lunenburg.
Oliver, Allyne Cushing Litchfield . . .Digby.
Robertson, Samuel Napier. . . . . . . . . . North Bedeque, P. E. I.
Robinson, Chas. Budd............... Pictou.
Stairs, Henry Bertram. . . . . . . . . . . . Halifax.
Thompson, Fenwick Williams....... Merigomish.
Thomson, James Wm ............. Halifax.
Tupper, James Waddell................New Glasgow, N. S.
West, Thos. Fredk . . . . . . . . . . . . . . . . York, P. E. I.
FIRST YEAR.
Archibald, Sarah Elizabeth......... Sherbrooke.
Bakin, Frank Wright Mudge....... Digby.
Borden, Benry Clifford................ Grand Pre.
Cameron, Simon Hugh Holmes . . . . . . Dartmouth.
Campbell, Robt. Sedgwick.......... . Tatamagouche.
Doherty, Philip . . . . . . . . . . . . . . . . . . Halifax.
Donglas, Emest. . . . . . . . . . . . . . . . . . . . Maitland, N. S.
Fullerton, Archibald................ . Annapolis.
Graham, Robert Henry............... New Glasgow, N. S.
Hill, Albert Ross..................... . . Five Islands, N. S.
Johnson, George Fulton. . . . . . . . . . . Wardner, Idaho, U. S. A.
Johnson, James Bayne............... . Pictou.
Macdonald, Alvin Fraser............. Hopewell, N. S.
Macdonald, Alexr. John. . .... .... Malagawatch, Inv. Co., C. B.
MeIntosh, Don. Sutherland. ......... Pleasant River, Inv. Co., C. B.
Mackay, Murdoch Sutherland...... Cariboo River, N. S.
McKeen, George Wilbert............. Baddeck, C. B.
McNeill, Rodk. . . . . . . . . . . . . . . . . . . St. Catherine's, P. E. I.
Mahon, James Arthur . . . . . . . . . . . . . . Truro.
Pelton, Chas. Sandford . . . . . . . . . . . . Yarmouth, N. S.
Sutherland, Jas. Alex............... River John, N. S.
Thompson, Wm. Ernest. . . . . . . . . . Halifax.
Webster, Kenneth Grant Tremaine. Yarmouth.
Weston, Rolfe Andrew . . . . . . . . . . . . . Halifax.

## IN LETTERS.

SECOND YEAR.
Muir, Ethel. . . . . . . . . . . . . . . . . . . . . Annandale Street, Halifax.

## IN LA. W. <br> THIRD YEAR.

| Campbell, Alexander.............. Sydney, C. B. |  |
| :---: | :---: |
| Campbell, Alexander John, B. A | Truro. |
| Cummings, Selden William, B. A...Truro. |  |
| Forsyth, George Orman, B. A..... Greenwich. |  |
| Lovett, Harry Almon. . . . . . . . . . . . Kentville. |  |
| McNeill, Albert Howard . . . . . . . . . . Charlottetown, P. E. I. Patterson, George Geddie, M. A.... New Glasgow. |  |
|  |  |
| Ross, Henry Taylor, B. A. .... . . . Halifax. |  |
| Tobin, Thomas Finlayson. ......... Halifax. |  |
| SECOND | YEAR. |
| Armstrong, Bennett Hornsby. . . . . . Halifax. |  |
| Bowser, William John.. ............ Kingston, Kent Co., N. B. Fairweather, Fred. Lawrence........ Sussex, N B. |  |
|  |  |
| Frame, Joseph Fulton, . . . . . . . . . . . Maitland. |  |
| Hamilton, Charles Francis, B. A.... North Sydney, C. B. |  |
| Howay, Frederick William......... New Westminster, B. C. |  |
| Huggins, William Hugh.............. St. John, N. B. <br> McBride, Richard $\qquad$ New Westminster, B. C |  |
|  |  |
| McDonald, William, B. A. ..... . . . Pictou. |  |
| McPhee, Daniel Lachlan. . . . . . . . . . Little Bras d'Or, C. B. |  |
| Mellish, Humphrey, B. A......... Charlottetown, P. E. I. |  |
| Notting, Thomas . . . . . . . . . . . . . . . Truro. |  |
| Oxley, Charles Howard, B. A....... Oxford. |  |
| Robertson, Thomas Reginald, B. A. Annapolis. |  |
| Roberts, John Arthur.. . . . . . . . . . Bridgewater. |  |
| Sinclair, John Archibald. . ........ St. John, N. B. |  |
| e, Thos. H | helbu | FIRST YEAR.

Byrne, James Paul .Sussex, N. B.
Congdon, Frank Hinkle Dartmouth.
Fairweather, Stewart Lee........... Rothesay, N. B.
Howatt, Cornelius A. . . . . . . . . . . . . . Summerside, P. E. I.
LePage, Alfred Wilmot. . . . . . . . . . . . Alma, N. B.
Logan, Hance James . . . . . . . . . . . . . . Amherst.
McDonald, Joseph.
Sydney Mines, C. B.


IN MEDICINE.
SECOND YEAR.
Elliot, Charles Schomberg. ......... Stillwater, Guysborough Co.
Fraser, J. Frank......................West River Station, Pictou.
Murray, Harvey Vicars............. Truro.
Purcell, John Martin . . . . . . . . . . . . . Halifax.

FIRST YEAR.
Armstrong, Melbourne Edward ...... North Kingston, Kings Co.
Cochran, Francis J. A.... ........... Newport, Hants Co.
Fairbanks, Harry Gray . . . . . . . . . . . Halifax.
Grant, William ...................... Boulardarie, C. B.
Hamilton, Miss Amnie Isabel . . . . . . . . Brookfield, Colchester Co.
Johnson, Edgar Douglas............ . St. John, N. B.
Johnson, Isaac Wellwood. . ..........Tatamagouche, Colchester Co.
Murray, Robert Lowrey............ . North Sydney, C. B.
Pitblado, John Henry . . . . . . . . . . . Truro.
Rockwell, Lee. . . . . . . . . . . . . . . . . . . Lakeville, Kings Co.
Romans, Charles G. . . . . . . . . . . . . . . . . Dartmouth.
Woodworth, Percy Churchill........ Kentville.

## GENERAL STUDENTS, 1888-89.

## IN ARTS

Boak, Louise.......... . . . ............ . Halifax.
Bowles, Henry Edward Allison....... . Gratton, Kings Coo.
Brown, Henry Stewart. .......... . . . Halifax.
Bruce, Charles Stanley........ . . . . . Shelburne.
Burns, James Alexander Stead....... . Halifax.
Chapman, Howard ....... . ....... Chapman, Westmoreland, N. B.
Corbett, Winifred Blanche. . . . . . . . . . . Halifax.
Cunningham, Anna Matilda............ "
Dickie, Joan. . . . . . . . . . . . ......... Truro.
Dodge, Blanchard.... ............... Halifax.
Fraser, James Gordon...... ........ New Glasgow, N. S.
Fraser, Simon Alexander. . . . ... . . Halifax.
Frew, Robert . . . . . . . . . . . . . . . . . . . . . Glasgow, Scotland.
Gabriel, James McNutt . . . . . . . . . . . . . . Halifax.
Grierson, George. .. . . . . . . . . . . . . . . . Kentville.
Harrıngton, John Geddie . . . . . . . . . . Halifax.
Hatfield, Byron Ulric. . . . . . . . . . . . . . . Port Greville.
Hayward, Irene. . . . . . . . . . . . . . . . . . Burlington, Hants Co.
Higgs, Benjamin Darby. . . . . . . . . . . . Charlottetown, P. E. I.
Hood, John. .......... . ............. . Shelburne.
Howatt, Cornelius A. . . . . . . . . . . . . . . Summerside, P. E. I.
Lawson, Frances Mary . . . . . . . . . . . . Halifax.
Lear, Gerald Aldington............... "
Liechti, Minna........................... "
Logan, John Johnson.. ............ "
McCawley, Stuart...... ................ . "
McCulloch, William .......... . .... "
MacGregor, Isabel Forman........... "
MacIntosh, John Alexander........... "
McKay, Thomas Calvin .............. Dartmouth.
Mackintosh, Gertrude. . . . . . . . . . . . . . Halifax.
McLennan, Charles Prescott ......... "
Macleod, Mary . . . . . . . . . . . . . . Orwell, P. E. I.
McLeod, Thomas Chalmers...... ... Sydney, C. B.
Martin, Donald McLean.............. . Mount Forest, Ont.
Montgomery, John. ................... . . Dalhousie, N. B.
Morrison, Alex. M., B. A.......... . Dartmouth.
Morrison, William Chisholm........ Halifax.
Munnis, Samuel Watson ............. "
Munro, Christopher..... ............ . Valleyfield, P. E. I.
Murray, George William . . ......... Halifax.
Murray, Robert Harper "

Russell, Frank Weldon
Dartmouth.
Seeton, Robert Howe. . . ............. . Halifax.
Stewart, Elizabeth Helen
Pictou.
Thompson, Alfred Stewart ..... Halifax.Thompson, Willard Sutherland....... New Glasgow, N. S.
Tremaine, Dunsier Lambton. ..... Halifax.
Weston, Clara Paine*
IN LA WV


## IN MEDICINE.

Simpson, Henry O. Dartmouth.
SUMMARY.
FACULTY OF ARTS.
Undergraduates in Arts. ..... 88
Undergraduates in Letters ..... 1
General Students ..... 49
Students, Arts Faculty ..... 138
FACULTY OF LAW.
Undergraduates ..... 38
General Students ..... 14
Students, Law Faculty. ..... 52
FACULTY OF MEDICINE.
Undergraduates ..... 16
General Students ..... 1
Stucients, Medical Faculty ..... 17
Students, Faculties of Arts, Law and Medicine ..... 207
Deduct, studying in more than one Faculty ..... 8
Total ..... 199

## THE ALUMNI ASSOCIATION.

## (Incorporated 1876.) <br> EXTRACT FROM THE LAWS.

1. The object of the Association shall be the promotion of the interests of the University.
2. The Association shall consist of Ordinary and Associate Members.
3. All Graduates of the University, all persons who during at least one academic year have been registered students either of Dalhousie College or of Colleges which have been merged in or united with Dalhousie College, and all other persons who have at any time heen educated by means of the funds of Dalhousic College, shall be eligible for ordinary membership. But no persons other than graduates shall become members until three years have elapsed from the date of their first entering the College, except by special permission of the Executive.
4. Persons not eligible for membership under Section 3 may be elected Associate members.

## OFFICERS

Hon. D. C. Fraser, B. A.............. President.
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H. W. C. Bоaк, LL, B................... . Secretary.

James A. Sedgewiok, B. A., Ll B......Treasurer.
William Cameron, Hector McInnes, Ll. B , V. G. Frazee, B. A.,

Members of Executive Committee.
A. A. McKay,
B. A., Ll. B.,
H. M. MacKay, B. A.,

## APPENDIX.

## EXAMINATION PAPERS, 1888-89.

## MATRICULATION

JUNIOR MUNRO EXHIBITIONS AND BURSARIES.

## LATIN.

Examiner........................John Johnson, M. A.
(For Matriculation.)
CAESAR: Gallic War, Book I., or VIRGIL: Æneid, Book I.
Thme: Three Hours.
N. B.-Candidates will take Parit I. or Part II., and Part III.
I.
A. Translate:

Helvetii omnium rerum inopia adducti legatos de deditione ad eum miserunt. Qui cum eum in itinere convenissent seque ad pedes projecissent suppliciterque locuti flentes pacem petissent, atque eos in eo loco, quo tum essent, suum adventum exspectare jussisset, paruerunt. Eo postquam Caesar pervenit, obsides, arma, servos, qui ad eos perfugissent, poposcit. Dum ea conquiruntur et conferuntur, nocte intermissa circiter hominum milia vi ejus pagi, qui Verbigenus appellatur, sive timore perterriti, ne armis traditis supplicio afficerentur, sive spe salutis inducti, quod in tanta multitudine dediticiorum suam fugam aut occultari aut omnino ignorari posse existimarent, prima nocte e castris Helvetiorum egressi ad Rhenum finesque Germanorum contenderunt.

1. Write out the main clause of the second sentence.
2. Give the rules for the cases of : "inopia," "nocte intermissa," " milia," " perterriti," "fugam," "prima nocte."
3. Name the gender, number and case, and give the nom. and gen. sing. of::" "itinere," "pacem," "adventum," " obsides," " salutis,' "castris."
4. Parse giving chief parts: " miservnt," "locuti," "essent," "poposcit," "traditis."
5. Where did the Helvetii live? What modern country corresponds to theirs? How was Gallia dividec according to Caesar? When was it conquered?
B. Translate :

## II.

> O dea, si prima repetens ab origine pergam, Et vaceet annalis nostrorum audire laborum, Ante diem clauso componat Vesper Olympo. Nos Troja antiqua, si vestras forte per auris Trojae nomen iit, diversa per aequora vectos Forte sua Libycis tempestas adpulit oris. Sum pius Aeneas, raptos qui ex hoste Penatis Classe veho mecum, fama super aethera notus. Italiam quaero patrian et genus ab Jove summo. Bis denis Phrygium conscendi navibus aequor, Matre dea monstrante viam, data fata secutus; Vix septem convolsae undis Euroque supersunt. Ipse ignotus, egens, Libyae deserta peragro, Europa atque Asia pulsus. Nec plura querentem Passa Venus medio sic interfata dolore est :

1. "Ante !diem clauso componat Vesper Olympo." Write an explanatory note.
2. Account for the cases of: "diem," "Olympo," "Troja," "oris," "undis."
3. Name the gender, number and case, and give the nom. and gen. sing. of : "origine," "aequora," " oris," " aethera," " plura."
4. Parse, giving chief parts: "pergam," "vectos," " querentem," " passa."
5. Give the substance of the events recorded in this book.

## III.

1. Decline throughout: puer, nubes, dies; tu, sui, qui.
2. Compare : fortis, pulcher, magnus, summus, similis.
3. Write in full : millia ceclxiri.
4. Form (a) the 3rd sing. fut. indic. act. of : rego, fio, paro ;
(b) the 2nd sing. pres. subj. pass. of : habeo, ago, celo
5. What classes of verbs take two accusatives?
6. What is the Latin for: at home-twice a rear-in spring-on the following day-to Rome-by land and sea.
7. Translate into Latin :

I dwelt across the Rhine for two years. Ambassadors were sent to Caesar by the enemy. On the seventh day we shall attempt to cross the river. The corn that the Aedui promised was not ripe. The general hopes that hostages will be given.
(For Junior Munro Exhibitions and Bursaries.)
CAESAR: Gallic War, Book I. VIRGIL: Aneid, Book I.

## A. Translate:

His Caesar ita respondit : Eo sibi minus dubitationis dari, quod eas res, quas legati Helvetii commemorassent, memoria teneret, atque eo gravius ferre, quo minns merito populi Romani accidissent: qui si alicujus injuriae sibi conscius fuisset, non fuisse difficile cavere; sed eo deceptum, quod neque commissum a se intellegeret, quare timeret, neque sine causa timendum putaret. Quod si veteris contumeliae oblivisci vellet, num etiam recentium injuriarum, quod eo invito iter per provinciam per vim temptassent, quod Aeduos, quod Ambarros, quod Allobrogas vexassent, memoriam deponere posse? Quod sua victoria tam insolenter gloriarentur, quodque tam diu se impune injurias tulisse admirarentur, eodem pertinere. Consuesse enim deos immortales, quo gravius homines ex commutatione rerum doleant, quos pro scelere eorum ulcisci velint, his secundiores interdum res et diuturniorem impunitatem concedere.

1. Point out or supply in Latin the subjects of : "dari," "ferre," " accidissent," "fuisset," "fuisse," "deceptum," "posse," and account for infinitives.
2. To whom or what do these pronouns refer: "eo," "sibi," (in "eo sibi minus,") " sibi," (in "sibi conscius fuisset,") " suc," " his"?
3. (a) Give briefly the rules for the cases of:"Eo," "dubitationis," "memoria," "injuriae," "contumeliae," "injuriarum."
(b) Parse the following, accounting for tense and mood and giving chief parts : "commemorassent," "oblivisci," "vellet," "intellegeret," "gloriurentur," "consuesse."
4. Write in "direct discourse" the sentence from "Eo sibi minus" to "cavere."
5. Is dieserat a. d. V. Kal. Apr. Write this in full. Translate it and show how the nominally corresponding date in our calendar is got.
6. Draw a rough map of Gallia, showing its four chief divisions with their boundaries. Give the modern names of rivers and towns mentioned in the First Book.

## II.

B. Translate :

Tum breviter Dido, vultum demissa, profatur : Solvite corde metum, Teucri, secludite curas. Res dura et regni novitas me talia cogunt Moliri, et late finis custode tueri. Quis genus Aeneadum, quis Trojae nesciat urbem, Virtutesque virosque, aut tanti incendia belli? Non obtunsa adeo gestamus pectora Poeni, Nec tam aversus equos Tyria Sol jungit ab urbe. Seu vos Hesperiam magnam Saturniaque arva, Sive Erycis finis regemque optatis Acesten, Auxilio tutos dimittam, opibusque juvabo. Vultis et his mecum pariter considere regnis? Urbem quam statuo, vestra est ; subducite navis ; Tros Tyriusque mihi nullo discrimine agetur. Atque utinam rex ipse Noto compulsus eodem Adforet Aeneas !

1. Note some constructions in this extract that are not used in prose.
2. (a) "Nec tam aversus equos Tyria Sol jungit ab urbe."
(b) "Seu vos Hesperiam magnam Saturniaque arva, Sive Erycis fines."
Write explanatory notes.
3. "Quis Trojae nesciat urbem:" "Utinam rex ipse adforet!" Give the rules for the use of moods. What difference would adsit make?
4. "Corde," "custode," "Aeneadum," "pectora," " finis," "opibus," parse these words, and give the nom. and gen. in both the sing. and plural of each.
5. Relate briefly the adventures of Aeneas up to the opening of the Aeneid.
6. Give the date and place of Virgil's birth and death.

## III.

1. Name the gender and write the gen. and abl. sing. and the gen. pl. (if such forms be found) of : ignis, ŏs, tellus, artus, puppibus, faces, veribus, olli, corda.
2. Compare the adverbs formed from, or corresponding to : bonus, facilis, acer, malus, fortis, providus.
3. Write the $3 \mathrm{r} d$ sing. pres. and imp. subj. pass. of : conficio, celo, duco, deleo.
4. Scan verses $8,9,10$ of extract.
5. Translate into Latin. On the following day the camp is moved from that place and pitched nearer to the enemy's.-W Word was brought to Caesar that the enemy with all their forces were marching towards the town.-After the delivery of this speech, all present began to beg assistance from Caesar.-For several years he lived in the country, but after his brother's death he removed to the city and spent the rest of his life there.

## GREEK.

 (For Matriculation.) XENOPHON: Anabasis, Book III. or Symposium. N. B.-Candidates will take Part I. or Part II., and Part III.

Time: Three Hours.

I.
A. Translate:












1. Name the case, number, and gender of these words and give the nom. and gen. sing. of each in full : $\dot{\sigma} \pi \lambda \omega v, \sigma \pi o v \delta a i ̈ s, ~ \dot{\varepsilon \kappa \varepsilon i v o t, ~ \tau о ́ v т o v, ~}$

2. Write out the subject and predicate of the main clause in the first sentence.
3. Parse the following verbal forms, giving chief parts in use:

4. Give the date of the events recorded in this book. Tell briefly what had happened to the "Ten Thousand" previously.

## II.

B. Translate :










 Naì $\mu a ̀ \tau o ̀ v ~ \Delta i ́, ~ \varepsilon ̌ \phi \eta, ~ \kappa a i ̀ ~ a ̈ \lambda \lambda o t s ~ \gamma \varepsilon ~ \pi ~ o ~ \lambda \lambda o i ̈ s . ~$

1. Write the main clause of the first sentence.
2. Name the case, number and gender of these words and give the nom. and gen. sing. of each in full : غ̇ $\pi \tau \delta \varepsilon \iota \gamma \mu a ́ \tau \omega v, \mu \varepsilon \tau \varepsilon \omega \rho \omega \nu, \Delta \hat{i}^{\prime}, \tau o v \tau \omega v$, $\dot{\phi} \tilde{\varsigma}, \pi \dot{\sigma} \delta a c$.
3. Parse these verbal forms, giving the chief parts in use : övt $\omega v$,

4. Tell what you know of Socrates' life.

## $1 I I$.

1. Decline (a) in the singular : $\lambda 6$ jovs, $\theta \dot{\eta} \rho, \pi \alpha i \delta \omega v$;
(b) in the plural : veфغ́ $\lambda \eta, \beta a \sigma i \lambda \varepsilon v ́ c$, Tis,

2. What is the Greek for : $15,37,1000$, second, twice?
3. Decline in all numbers : oí.
4. Give varied examples of augments, and reduplication.
5. Write out the chief parts of : $\gamma \rho a ́ \phi \omega, \sigma \tau \hat{\ell} \lambda \lambda \omega, \delta i \delta \omega \mu \mu$.
6. Decline through all numbers and persons: $\lambda \varepsilon \gamma \varepsilon \varepsilon$, , $\pi i \theta \circ \mu \mu$, , $\mu \varepsilon ́ v \varepsilon$, $\dot{v} \beta \rho \iota \sigma \theta \omega$.
(For Junior Munro Exhibitions and Bursaries.)
XENOPHON : Anabasis, Book III; Symposuim.
Time: Three Hours.
I.
A. Translate: Xenophon, Symposuim, Chap. VI., §§ 6, 7, 8.
 $i_{\text {ovtas }}$; Explain the difference between participles with and without the article.
 Supply the Greek words understond.
7. Account for the cases of the following words and give in full the

8. Translate these phrases:
(a.) $\dot{\varepsilon} \pi i$ ßacì $\lambda \varepsilon \imath ~ \gamma \varepsilon v e ́ \sigma \theta a u . ~$
(b.) $\pi \varepsilon \rho i ̀ ~ \pi \lambda \varepsilon i \sigma \tau o v \pi о \varepsilon \varepsilon і ̈ \theta \theta u$.
(c.) $\dot{\varepsilon} \pi \grave{\imath} \pi \tilde{a} v \dot{\varepsilon} \lambda A \varepsilon \varepsilon \tau$.
(d.) aitoīs dià фiخias iéval.
9. Give the Greek for: northward, eastward, westward, southward.
10. How is Xenophon's age referred to in this Book? Why was the Anabasis supposed not to have been written by him?

## II.

P. Translate: Xenophon, Anabasis, liook III,, Chap. I., § \$ 29, 30, 31.

1. Explain the references to Socrates in this extract.
 $\theta \varepsilon \omega ̃ \nu, \pi \delta \delta \alpha, \varsigma, \dot{\varepsilon} \mu \nu \bar{v}$.
 $\Delta^{\prime} \alpha-\sigma \varepsilon ̀ \pi \varepsilon \theta \theta \varepsilon i v, \sigma o \grave{~} \pi \varepsilon i ́ \theta \varepsilon \sigma \theta a \iota$.
2. Write explanatory notes on :



3. When and where is the Symposium represented to have been held? Who are the speakers?

## III.

## GRAMMAR.

1. Decline (a) in the singular : $\delta \pi \lambda \omega v$, äv $\nu \rho \varepsilon \varsigma$, $\sigma \kappa \varepsilon \dot{j} \eta$ (Ext. A.)
(b) in the plural : aviroṽ, $\tau \circ \bar{\tau} \omega v, \pi \sigma \delta a c$ (Ext. B.)
2. What forms in the other degrees of comparison correspond to :

3. Write in Greek words: 400 bowmen,--a wall twenty feet high,-thirty-nine ships.
4. Write the modal conjugation of :

( $\ell$.) ถั้т $\omega v, \phi \theta o \nu \omega ̃ \nu$, (Ext. B.)
5. Parse, giving chief parts in use :


C. Translate into Greek :

O King, we all honour you for your goodness. Who can save us from these dangers? Let all who love the queen obey her. The following day the Greeks remained there, for there was much food in the village. The Greeks, after marching in safety the remainder of the day, reached the river Tigris.

## FRENCH.

Examiner.... . . . . . . . . . . . . . . . . . . . . . . J. Liechti, M. A.
(For Matriculation.)
Time: Tifee Hours.
A. Translate : Charles XII.-Charles XI. épousa en 1680 UlriqueEléonore, fille de Frédéric III., roi de I)anemarck, princesse vertueuse, et digne de plus de confiance que son époux ne lui en témoigna: de ce mariage naquit le roi Charles XII., 1 'homme le plus extraordinaire peut-être qui ait jamais été sur la terre, qui a rénni en lui toutes les grandes qualités de ses aïenx. et qui n'a eu d'autre défaut ni d'autre malheur que de les avoir tontes outrées. Dès qu'il eut quelque connaissance de la langue latine, on lui fit traduire Quinte Curce : il prit pour ce livre un goût que le sujet lui inspirait beaucoup plus encore que le style. Celui qui lui expliquait cet auteur lui ayant demandé ce qu'il pensait d'Alexandre: "Je pense, dit le prince, que je voudrais lui ressembler." Mais, lui dit-on, il n'a vécu que trentedeux ans. "Ah! reprit-il, n'est-ce pas assez quand on a conquis des royaumes !" On ne manqua pas de rapporter ces réponses au roi son père, qui s'écria: "Voilà un enfant qui vaudra mieux que moi, et qui ira plus loin que le grand Gustave."

1. Parse, and give the primitive tenses of : témoigna, ait, fit, dit est, ira. Write down the Indicative present and the past definite of these words, omitting fit and ira.
2. Princesse vertueuse. Give the masculine of this. Translate: She was the most virtuous woman. He is the least ambitious of men. Paris is not so large as London, but it is a finer city. Fewer men. Most things.
3. Write down the comparative and superlative of : bon, bien, beaucoup, peu. Give the meaning of: la moindre chose. Plus il gagne, moins il dépense. La chose est pire que vous ne le croyez. Ce qui me frappe le plus, c'est le peu de zèle qu'il montre.
4. Le roi Charles XII., naquit de ce mariage. Put this sentence in the negative-interrogative form, and translate into French : Her Majesty, the Queen of England. His Majesty, the Emperor of Germany. Explain peculiarity in the construction of such sentences.
5. Toutes les' grandes qualités de ses aïeux. Mention the term analogous to aïeux. What is the meaning of aieuls? Write some nouns without a plural form, and a few that admit of no singular. Give the masculine plural of toutes, and translate: All men are mortal. I have read the whole of it. Distinguish betwen toute ville and toute la ville.
B. Translate: Enfin, après deux ans de voyages et de travaux auxquels nul autre homme que lui n'eût voulu se soumettre, Pierre le Grand reparut en Russie, amenant avec lui les arts de l'Europe. Des artisans de toute espèce l'y suivirent en foule. On vit pour la première fois de grands vaisseaux russes sur la mer Noire, dans la Baltique, et dans l'Océan; dos bâtiments d'une architecture régulière et noble furent élevés au milieu des huttes moscovites. Il établit des colléges, des académies, des imprimeries, des bibliothèques; les villes furent policées; les habillements, les coutumes changèrent peu à pen, quoique avec difficulté : les Moscovites connurent par degrés ce que c'est que la société. Les superstitions même furent abolies: la dignité de patriarche fut éteinte : le czar se déclara le chef de la religion.
6. Amenant; chargèrent. Can you tell in what respects verbs of this class differ in their conjugation from other verbs in er? Write the Present Iudicative of amenant, and the Imperfect Subjunctive of changèrent.
7. Translate and comment upon peculiarities (if any) in the construction of the following sentences: He is nineteen years old. How old are you? We have travelled (voyagé) two thousand miles. Eighty men were killed (tnés) and three hundred and twenty were wounded (blessés), It is fine weather to-day. The 17 th (letters) September, 1888 (letters).
8. L'y suivirent en foule. Parse $y$, and write this sentence in full, substituting for $y$ the word or words for which it stands. What is en? Illustrate by a few short examples the use of en as partitive article, as pronoun and as preposition. Give the idiomatic French of: We have friends, have you any? Money. No children. Good books. Magnificent paintings. Some (a few) young ladies.
9. La première fois. Explain the presence of the grave accent in the word premiere. Can you tell the difference between : $a$ and $\grave{a}$; ou and où ; des and dès. Write the masculine of : fraíche, nette, chere, vive, vieille; and the feminine of: joli, protecteur, pauvre, blanc, doux, grec, beau, malin.
10. The word time is differently rendered in the following sentences: What time is it? It is twelve o'clock (M). Time is precious. I have read ( $l u$ ) it many a time.

## ENGLISH LANGUAGE.

Examiner........................W. J. Alexander, Ph. D.
Time: Three Hours.
(Candidates for Matriculation merely are to answer the first five questions and any one of the remainder.)

1. Write out and punctuate the passsage dictated. (From Burke.)
2. Give a general analysis of the passage dictated as far as "sea-town."
3. Parse in the passage, what, to understand, everywhere, us, to make.
4. Combine each of the following groups into one complex sentence :
(a) That monarch had a great end in view : he proposed to attain it by a certain method; he was disappointed; he was in consequence almost heart-broken; he was baffled ; he held on his course.
(b) In 1697 there was a general debasement of coin; there was a fall in the ordinary revenues ; all extraordinary supplies failed; commerce was ruined; our infant credit was almost extinguished; the Chancellor of the Exchequer himself came forward to move a resolution ; the resolution was full of vigour; in this resolution the the Commons agreed to address the Crown in the manly, spirited, and truly animating style; the Commons were far from being discouraged by adverse fortune and the. long continuance of the war.
5. Discuss the syntax of the following sentences, amending if necessary :-
(a) Two young gentlemen have made a discovery that there was no God.-Swift.
(b) But if it be of God ye cannot overthrow it, lest haply ye be found even to fight against God.-Acts.
(c) Most compounded sentences are more or less elliptical ; some examples of which may be seen under different parts of speech.-Murray.
(d) By greatness I do not only mean the bulk of any simple object, but the largeness of the whole view.-Addison.
(e) Of this admirable work a subsequent edition has been published in 1822.-Alison.
(f) If any man be a worshipper of God, and doeth his will, him he heareth.-John.
(g) We have now named the most extraordinary individual of his time, one certainly than whom none ever better sustained the judicial office.-Brougham.
(h) There are no less than twenty diphthongs in the English language.
(i) The metaphorical and literal meaning of words are to be carefully distinguished.
6. In what respect does the participle of an intransitive verb differ from an adjective ? Illustrate your answer by examples. Give examples of the same word used as a participle and as an adjective.
7. Write a short essay on one of the following themes :-My Schooldays, A Fishing Excursion; or give a description of any book you have read, or of any piece of scenery with which you may be acquainted.
8. Reproduce as accurately as possible in simple prose, the substance of the following : -

Last noon beheld them full of lusty life,
Last eve in Beauty's circle proudly gay.
The midnight brought the signal-sound of strife,
The morn the marshalling in arms,--the day
Battle's magnificently proud array!
The thunder-clouds close o'er it, which when rent
The earth is covered thick with other clay,
Which her own clay shall cover, heaped and pent, Rider and horse,-friend, foe,-in one red burial blent !

## HISTORY AND GEOGRAPHY.

$\qquad$
Time: Three Hours.

## ENGLISH HISTORY.

1. What is known of Britain before the Roman invasion? What were the effects of Romin occupation?
2. What was the condition of England during the Saxon period?
3. What changes did William the Conqueror introduce in the government of England?
4. Give the leading events of the reign of Richard II.
5. During whose reigns did the following events take place': Cades's Rebellion. Discovery of America, Union of Scotland and England. Union of Wales and England. Great fire of London, Gordon Riots. Sacheverell Riots.
6. "The most remarkable political event of the reign of George IV. was the passing of the _-_Bill." Give name and explain.
7. Write a short account of the English Parliament. State as accurately as you can when great changes were introduced.
8. Write a short account of Marlborough.

## CANADIAN HISTORY.

1. "The French king recalled Frontenac and appointed LaBarre governor in his stead." What led to this?
2. Give an acconnt of Governor Denonville's dealings with the Iroquois. What led to the massacre of LaChine ?
3. Give an account of Phipps' expedition against Quebec.
4. "The history of the period relates chiefly to the quarrels of the rival governors-Charnise and Charles de la Tour." Explain.
5. In 1826 a dispute between the Assembly and the Council caused great loss to Nova Scotia. What led to it?
6. What representation has each of the provinces in the Dominion Parliament?

## GEOGRAPHY.

1. Give the three largest rivers, lakes and cities in each of the Give continents.
2. What countries and large islands lie betwen the equator and $30^{\circ} \mathrm{N}$. latitude.
3. If you passed round the world on the same parallel of latitude as Halifax, through what states and countries would you go?
4. Bound Germany, Holland, New Brunswick, Georgia, Chili.
5. Describe briefly the climate of Denmark, Italy, Egypt, Ireland, New Zealand, Newfoundland.
6. The following names of places appear in the shipping list of this morning's paper. Give location : Porto Rico, Parrsboro, Adelaide, Brisbane, Hamburg, Lundy Isle, Montevidio, Bahia, Stettin, Rotterdam, Swienemunde, Santos.

## MATHEMATICS.

Examiner. . . . . . . . . . . . . . . . . . . . . . C. Macdonald, M. A.

## (For Matriculation.)

## GEOMETRY AND ALGEBRA

## Time: Three Hours.

1. The sum of any two sides of a triangle is greater than the third side.
2. Either diagonal of a parallelogram divides it into two triangles equal in every respect.
3. Equal triangles on the same side of the same base are between the same parallels.
4. Prove, by means of a diagram or otherwise, that if a straight line be divided into two equal and also into two unequal parts, the rectangle of the two unequal parts together with the square of the line between the points of section is equal to the square of half the line.
5. Divide a line into two parts so that the rectangle of the whole line and one of the parts is equal to the square of the other part.
6. Shew that $a^{m} \times a^{n}=a^{m+n}$, and that $\frac{a^{m}}{a^{n}}=a^{m-n}$.
7. One vessel contains a mixture of 16 pints of brandy and 5 of water : another contains 24 of brandy with 11 of water. Compare the strengths of the mixtures with reference to brandy.
8. Find the numerical value of $\frac{2 \sqrt{a^{2}+2 b c}}{a}+\frac{\sqrt{b^{2}+a c}}{b} \cdot \frac{\sqrt{c^{2}+a b}}{c}$, when $a=4, b=3$ and $c=-2$.
9. Find the Highest Common Factor of $x^{3}-19 x+30$ and $5 x^{3}-$ $19 x^{2}+36$.
10. Shew that any term can be transposed from one side of an equation to the other, provided its sign be changed: and solve

$$
\frac{1-3 x}{2}+\frac{3 x+1}{2}=\frac{2}{1-3 x} .
$$

11. A and B each shoot 30 arrows at a target, $B$ makes twice as many hits as A, and A makes three times as many misses as B. Find the number of hits of each.
(For Junior Munro Exhibitions and Bursaries.)
GEOMETRY.

Time: Three Hours.

1. How do you justify the Geometer for taking the trouble to prove so obvious a proposition as :-"Any two sides of a triangle are greater than the third side ?"
2. If two lines are equal and parallel, the straight lines joining their extremities towards the same parts are equal to one another, and those joining opposite extremities bisect each other.
3. Divide a straight line into two parts such that the rectangle of the whole line and one of the parts is equal to the square of the other part: and specify the lines in your diagram that are the ratio of $1: \sqrt{5}$.
4. If a straight line be bisected and produced to any point, the rectangle of the whole line thus produced and the part of it produced together with the square of half the line bisected is equal to the square of the line which is made up of the half and the part produced: also deduce the geometrical proof of the algebraic formula $(a+b)(a-b)=a^{2}-b^{2}$.
5. In a circle the greater chord is nearer the centre than the less. Prove also the converse proposition.
6. If a point be taken either within or without a circle, the difference of the squares of its distance from the centre and the radius of the circle is equal to the rectangle of the segments of any chord of the circle drawn through the point. Prove for one of the two cases.
7. $P Q$ is parallel to $A B$, and a line $C D$, of fixed length, slides along in PQ. Shew that the area of CABD is constant.
8. Bisect a quadrilateral by a straight line drawn from one of its angles.
9. On a given line describe a rectangle equal to the sum of two given rectangles.
10. If equilateral triangles are described outwardly on the three sides of any triangle, and circles are drawn passing through the three angles of each, these three circles intersect in the same point.
11. Construct a triangle having given the base, the vertical angle, and the sum of the squares of the sides.

## ARITHMETIC AND ALGEBRA.

## Time: Three Hours.

1. A gentleman having $\$ 10,000$ to invest is in doubt whether to put his money into stock that yields $5 \frac{1}{2}$ p. c. and sells at 105 , or into other stock that yields $8 \frac{1}{4}$ p. c. and sells at 160 . Find which is the better investment.
2. Two railway trains travel at the constant rates of 45 and 35 miles an hour respectively. Find the ratio of their times of passing one another, when they are travelling in the same and in opposito directions.
3. Shew that $1+\frac{1}{16}\left\{\frac{x+y}{x-y}+\frac{x-y}{x+y}-2 \frac{x^{2}-y^{2}}{x^{2}+y^{2}}\right\}^{2}=\left(\frac{x^{4}+y^{4}}{x^{4}-y^{4}}\right)^{2}:$ and shew that if $\frac{x}{b+c-a}=\frac{y}{c+a-b}=\frac{z}{a+b-c}$, then $(b-c) x+$ $(c-a) y+(a-b) z=0$.
4. Shew that if C be any common measure of A and B , it is also a measure of $m \mathrm{~A} \pm n \mathrm{~B}, m$ and $n$ being integers: and prove that the two ex pressions $a x^{3}+b x+c$, and $a, x^{3}+b_{1} x+c_{1}$, cannot have a quadratic factor as their common measure.
5. Shew that $x^{m-y=}(x-y)\binom{m-1}{x^{m-2}+x^{m-2} y+\& c \ldots+y^{m-1}}$ $=\left(x^{\frac{1}{m}} y^{\frac{1}{m}}\right)\left(x^{\frac{m-1}{m}}+x^{\frac{m-2}{m} \frac{1}{m}} y^{\frac{m-1}{m}}+\& c \ldots \ldots+y^{2}\right)\left(\begin{array}{c}m-1 \\ x^{m-2} \\ x^{m} y+\& c \ldots .\end{array}\right.$ $\left.y^{m-1}\right)$ : and continue this composition into factors one step further.
6. Given $(x+a)^{3}+(x+b)^{3}+(x+c)^{3}=3(x+a)(x+b)(x+c)$, prove $x=-\frac{a+b+c}{3}$.
7. Given that $\frac{3 \sqrt{2}}{\sqrt{3}+\sqrt{6}}+\frac{\sqrt{6}}{\sqrt{2}+\sqrt{3}}=\frac{4 \sqrt{3}}{\sqrt{6}+\sqrt{2}}$.
8. Solve the equations, $\frac{x+1}{x-1}-\frac{x-3}{x+3}=\frac{8}{x}$ : and

$$
x^{\frac{1}{2}}+(x-\sqrt{1-x})^{\frac{1}{2}}=1
$$

9. From the simultaneous equations, $m y^{2}+n y+p=0, m, y^{2}+$ $n_{l} y+p_{i}=0$, find an equation involving the coefficients of $y$ only.
10. $\left.\frac{2}{x}+\frac{3}{y}-\frac{5}{z}=\frac{7}{60}\right)$

$$
\left.\begin{array}{l}
\frac{3}{x}-\frac{4}{y}+\frac{3}{z}=\frac{1}{6} \\
\frac{15}{z}+\frac{8}{y}-\frac{5}{x}=\frac{7}{6}
\end{array}\right\} \text { Solve these simultaneous equations. }
$$

SENIOR MUNRO EXHIBITIONS AND BURSARIES.

## A.-CLASSICS.

## LATIN.

Examiner John Johnson, M. A.
horace : Epodes. PLINY: Selected Letters.
A. Translate :

Lupis et agnis quanta sortito obtigit, Tecum mihi discordia est,
Ibericis peruste funibus latus Et crura dura compede.
Licet superbus ambules pecunia, Fortuna non mutat genus.
Videsne, Sacram metiente te viam Cum bis trium ulnarum toga,
Ut ora vertat huc et huc euntium Liberrima indignatio?
Sectus flagellis hic Triumviralibus Praeconis ad fastidium
Arat Falerni mille fundi iugera
Et Appiam mannis terit,
Sedilibusque magnus in primis eques
Othone contemto sedet !
Quid attinet tot ora navium gravi
Rostrata duci pondere
Contra latrones atque servilem manum
Hoc, hoc tribuno militum ?

1. Explain the meaning of the last four lines.
2. Write explanatory notes on :
(a) "Sectus flagellis hic Triumviralibus."
(b) "Sedilibusque magnus in primis eques, Othone contemto, sedet."
(c) Non huc Sidonii torserunt cornua nautae.
3. Quote some imitations of Greek syntax from the Epodes.
4. What is the force of the epithets in the following :
(a) Ibericis peruste fumibus latus.
(b) Spargens Avernales aquas.
(c) Misit Thyesteas preces.
(d) Modo ense pecius Norico recludere.
5. A map of Rome, showing the Tiber, the Servian walls, the seven hills, the Forum, Suburra, Via Sacra, and the chief roads leading from the city.
6. Scan the following lines, marking quantities and naming the metre of each :
(a) Nec munus humeris efficacis Herculis.
(b) Reddit ubi Cererem tellus inarata quotannis.
(c) Tu vina Torquato move consule meo.

## II.

B. Translate :
(a) Accepi pulcherrimos turdos, cum quibus parem calculum ponere nec urbis copiis ex Laurentino nec maris tam turbidis tempestatibus possum. Recipies ergo epistulas steriles et simpliciter ingratas ac ne illam quidem sollertiam Diomedis in permutando munere imitantes. Sed quae facilitas tua, hoc magis dabis veniam, quod se non mereri fatentur. Vale.
(b) Libera tandem hendecasyllaborum meorum fidem, qui scripta tua communibus amicis spoponderunt. Appellantur cotidie et flagitantur, ac iam periculum est ne cogantur ad exhibendum formulam accipere. Sum et ipse in edendo haesitator, tu tamen meam quoque cunctationem tarditatemque vicisti. Proinde aut rumpe iam moras aut cave ne eosdem istos libellos, quos tibi hendecasyllabi nostri blanditiis elicere non possunt, convicio scazontes extorqueant. Perfectum opus absolutumque est nec iam splendescit lima, sed atteritur. Patere me videre titulum tuum, patere audire describi legi venire volumina Tranquilli mei. Aequum est nos in amore tam mutuo eandem percipere ex te voluptatem, qua tu perfrueris ex nobis. Vale.

1. Write explanatory notes on :
(a) "Cum quibus parem calculum ponere possum."
(b) "Ne illam quidem sollertiam Diomedis . . . imitantes."
(c) "Libera tandem hendecasyllaborum meorum fidem."
(d) "Periculum est ne cogantur ad exhibendum formulam accipere." Note also unusual syntax in this sentence.
2. The following words may have more than one meaning, sometimes with a difference in quantity: maris, veniam, libera, fidem, edendo, patere, legi, venire, perfrueris.
3. Translate and explain :
(a) Nam ut in reciperatoriis judiciis sic nos in his comitiis quasi repente adprehensi sinceri judices fuimus.
(b) Signata (se. glebula) anulo meo, eujus aposphragisma quadriga.
(c) Non tamen ommino Marci nostri $\lambda \eta \kappa \hat{v}$ 在ovs fugimus,
4. Write such notes as you think necessary on the syntax of the following sentences:
(a) Neque enim ego, ut multi, invideo aliis bono quo ipse careo.
(b) Nam femina . . . exheredata $a b$ octogenario patre intra undecim dies quam illi novercam . . . . induxerat, . . . . bona paterna repetebat.
5. Give the substance of Pliny's letter on the system of education in the provinces.

## C. Translate into Latin :

To our men, exhausted with hunger, thirst, sleeeplessness, toil, and fighting, it seemed that the day would never come to an end. A letter, it was believed, had been brought in by a spy from Caesar to the purport that he hoped to arrive before sumset. But evening was now coming on, and some began to express indignation at our forces' delay, others to lay aside all hope of safety, others to complain of being deceived and abandoned. Suddenly a rumor ran through the town and soon reached the Citadel, that the enemy were silently stealing away and flying in all directions and that there was nowhere any resistence or fighting.

## GREEK

> Examiner. ........ .... ........... Joun Johnson, M. A.

## HERODOTUS : Book II.

## Thme: Three Hours.

## I.

## A. Translate :





















 т $\check{7}$ ミupín oikéovat.
 $\lambda$ ojos? How does H. come to mention Helen in this place?
2. $\delta \tilde{\eta} \lambda o v$ dè $\kappa a \tau \grave{a} ~ \gamma a ̀ \rho ~ \dot{~} \pi \pi o i ́ \eta \sigma \varepsilon ~ \dot{\varepsilon} v ~ ' \mathrm{I} \lambda c a ́ \delta \iota \kappa$ к. $\tau . \lambda$. Different explanations of the syntax of this passage have been given. The corrections
 suggested : translate accordingly.
 What difficulties have been found in this sentence?
4. Herodotus discusses the reasons assigned for the rise of the Nile in summer.

## II.

B. Translate :















 ôкоv $\dot{\eta} v$ ह̇л兀т

 Baбìcús. Explain the syntax of the verbs.

4. Give the forms or words used in Attic prose for: |  |
| :---: |
| $\eta \eta \rho$ |
| ,$\delta i \zeta \eta \mu \iota$, |





## III.

1. Write the following with breathings and accents :
(a.) $\tau \iota \mu a, \tau \mu u, \lambda \iota \pi \varepsilon \iota \nu, \sigma \tau a \lambda \eta \nu a \iota, \tau \iota \theta \varepsilon \iota \sigma, \varepsilon \iota \chi \circ v, \pi о \lambda \iota \tau \omega \nu$, оvтоৎ, $\tau \varphi d \varepsilon о$ giving briefly the rules.

 $\varepsilon \omega v \tau \omega \nu, \tau \omega v \delta \varepsilon a \lambda \lambda \omega \nu \varepsilon \omega v \tau o v g$.
2. Show by varied examples the different ways of expressing a purpose.
3. Turn "indirect discourse" in Extract B into "direct."
4. Enumerate the uses of the combination $\mu$ ो̀ ov.
5. Translate into Greek :

The Libyans are a strange race and men tell many singular stories about them. Once a man had a Libyan slave and he sent him often to a friend with fish which the Libyan carried. But the friend was miserly and the slave never got any gift from him in return for his trouble, so at last he grew angry with him on account of his stinginess, and he was not willing to carry anything to him any more. However he was not able to become free and his master forced him, and on account of this he devised the following stratagem.
B.-MATHEMATICE

Examiner ...................... C. Macdonald, M.A.

## GEOMETRY.

Time: Three Hours.

1. Draw any line and divide it harmonically: and deduce an algebraic definition of harmonic proportion from your line thus divided.
2. Draw the three diagonals of a quadrilateral and enumerate the harmonic pencils formed by joining certain points in your diagram : proving what you say for one of the pencils.
3. $O$ is the centre of the circle circumscribed about the triangle ABC . Prove that $\mathrm{OA}, \mathrm{OB}, \mathrm{OC}$, respectively are perpendicular to the lines joining the feet of the perpendiculars dropped from the angles on the opposite sides.
4. S , the focus of a parabola, is the centre of a circle which passes through the intersection of the directrix and the principal diameter of the parabola. Prove that the angle of intersection of the circle and the parabola is half a right angle.
5. Draw a tangent to an ellipse from a given \{point in the major axis produced.
6. S and H are the foci of an ellipse whose major axis is $\mathrm{AA}_{\text {, }}$, and P is any point in the circumference. In the triangle PSH a circle is inscribed touching SP and HP in D and F. Prove that PD or DF is constant and equal to one of the lines in your diagram.
7. $A B$ is a perpendicular object on a horizontal plane, and of known height $h$. Taking a long string, a mathematician, stretching it on the level ground from the foot of the object to the point C, observed the apparent size of the object; and measuring backwards with his string, and in the same line with ( ) and the foot of the object, found that at a distance $1 \frac{1}{4}$ times the length of the string from $\mathrm{C}, \mathrm{AB}$ appeared just one half the former size. Find the length of the string.
8. A piece of iron water-pipe, 48 ft . long, has a diameter of 22 inches and is 1 inch thick. Having given that $5 \frac{1}{2}$ cubic feet of iron weigh one ton, find the weight of the pipe.

## MISCELLANEOUS.

## Time: Threr Hours.

1. $x^{3}+p x^{2}+q x+r=0$. The roots of this equation are given in geometrical progression, prove that $p^{3} r=q^{3}$.
2. Find the coefficient of $x^{r}$ in the expansion $\left\{\frac{1}{(1+x)^{3}}\right\}^{n}:$ and the first negative coefficient in the expansion of $\left(1+\frac{2}{3} x\right)^{\frac{19}{4}}$.
3. A and B toss alternately three cents, A having first throw, on the condition that whichever first throws three Heads is to have the whole stake of 60 dollars. In what proportion should they contribute to make up the money that their expectations may be equal?
4. Enunciate and prove the fundamental relations of co-polar spherical triangles.
5. Assuming the formula $\cos x+\sqrt{-1} \sin x=\varepsilon^{\sqrt{x-1}}$, deduce the $-1$
series for $\tan x$ : and describe with sufficiency of detail the utility of this formula in approximating the numerical value of $\pi$. Illustrate by reference to the best series you know for the purpose.

$$
\frac{1}{n}
$$

6. Prove that in the expression $(\cos \theta+\sqrt{-1} \sin \theta)$ there are $n$ different values, and no more; and find the four values of

$$
\{1+\sqrt{-1}\}^{\frac{1}{4}}
$$

7. From the two equations, $x=a(\cos \theta-\cos 2 \theta), y=b(\sin \theta-\sin$ $2 \theta$ ), find an equation independent of $\theta$.
8. Find from the series for $\sin \theta$ and $\cos \theta$, in ascending powers of $\theta$, three terms of the series for $\tan \theta:$ and hence find the value of the fraction $\frac{\tan \theta-\sin \theta}{\theta^{8}}$, when $\theta=0$.

## C.-ENGLISH AND HISTORY.

## ENGLISH.

Examiner...................... W. J. Alexander, Pe. D.
Lounsbury's History of the English Language, Part I.
Spenser's Fakrie Queen, Bk. I; Shakespeare's King John, and The Tempest; Hutton's Scott; Scott's Marmion and Rob Roy.

Time : Three Hours.
(Not more than two questions to be answered in each section.)

## A.

1. Give a description of the Indo-European family of languages.
2. Give a sketch of the three early English dialects, their geographical distribution and points of difference.

## B.

3. Write notes explanatory and etymological on twelve of the italicisel words on the following extracts from the Faerie Queen:-
(a) With holy father suts not with such things to mell.
(b) Purflecl with gold and pearl of rich assay.
(c) Some frounce their curled hair in courtly guise, Some prancke their ruffes.
(cl) From every work he challenged essoyne.
(e) To weet that mister wight was so dismayed,
$(f)$ All night she spent in bidding of her bedes.
(g) He humbly louted in meek lowliness.
(h) Like eyas hauke up mounts into the skies.
(i) Before that cursed dragon got

That happy land,

*     *         *             *                 * it rightly hot The well of life.
( $j$ ) And therewith scourge the buxome air.
(k) The housling fire did kindle, At which the bushy teade a groom did light.

4. Give an abstract of the following canto :-

Her faithful knight faire Una brings to house of Holiness, Where he is taught repentance, and the way to heavenly blesse.
5. Give the substance of Spenser's description of Idelnesse, Avarice, and Wrath.

## C.

6. Describe Falconbridge. What reasons may have led Shakespeare to introduce this imaginary personage among the historical characters of Kinq John?
7. Describe any scene of King John which you specially admire, indicating its points of special excellence.
8. What evidence external and internal may be adduced to show that The Tempest is one of Shakespeare's latest plays?

## D.

9. Give a concise account with dates of Scott's literary life.
10. Reproduce the Introduction to Canto III. of Marmion, which is addressed to Erskine, and defends Scott's choice of Romantic themes for his poems.
11. Reproduce the main points of Hutton's discussion of Scott as a novelist, illustrating as fully as possible from Rob Roy.

## CLASSICAL HISTORY AND GEOGRAPHY.

Examiner $\qquad$ John Johnson, M. A.

## Time: Three Hours.

1. The ties that bound together the people of Greece. One bond, important in modern times, was wanting. The constitution and object of the Amphictyonic Council. When did it interfere in politics ?
2. The political constitution of Athens in the time of Cleisthenes ?
3. What states enjoyed in succession pre-eminence over the others? Give the dates and causes of such pre eminence.
4. The action of Epaminondas in the Peloponnesus, B. C. 370.
5. Trace Alexander's course of conquest through Asia, giving dates.
6. A map, showing the States of the Peloponnesus, their chief towns and rivers.
7. Describe the situation of Corcyra, Naupactus, Dodona, Arginusæ, Potidæa, Delos, Sphacteria. Write in detail an account of any notable event connected with any one of the above and state briefly why the others are famous.

## SESSIONAL EXAMINATIONS.

FACULTY OF ARTS.

GREEK.
Examiner ..............................John Johnson, M A.
FIRST YEAR.

## lucian : Vera Historia.

## Time : Three Hours.

## I.

A. Translate: Bk. I, Il. 374-387, beginning $\tau a ̀$ ì $̄ \tau a$, ending with á $\lambda \eta \theta \tilde{\eta} \lambda \hat{\varepsilon} \gamma \omega$.

 $\zeta \omega \gamma \rho \varepsilon i \nu, \kappa \omega \pi \eta \lambda a \tau \varepsilon i v, \dot{a} \gamma \chi \varepsilon$ й $\quad \chi \circ \iota$.
3. Parse : $\dot{\varepsilon} \rho \rho \varepsilon \iota, \dot{\varepsilon} \pi \varepsilon ́ \varepsilon \pi \tau \eta \sigma a v$, $\delta \iota \varepsilon \xi \bar{\eta} \varepsilon \iota$, $\delta \varepsilon \delta \varepsilon \mu \varepsilon ́ v \eta \nu$, and give lst sing. pres. ind. of : ă $\rho a \nu \tau \varepsilon \varsigma, \dot{\varepsilon} \phi \theta \eta, \dot{a} \pi \eta \nu \varepsilon ́ \chi \theta \eta \mu \varepsilon \nu, \delta \iota a \pi a \rho \varepsilon i \zeta$.
B. Translate : Bk. II, 11. 498-514, beginning $\dot{\varepsilon} \pi \varepsilon \iota \tau a \delta \dot{\varepsilon}$, ending


1. OUYESETE KAArfOI xaiperv. Explain the syntax. Give the corresponding Latin phrase. Decline KA $\triangle \Upsilon \Psi 0$ I.
 participle used here? What is the force of $\varepsilon i \zeta$ in this connection?
 tence in the regular indirect form after $\dot{\varepsilon} \lambda \varepsilon \xi \varepsilon$.


Write explanatory nutes.


## II.


2. (a.) Compare in the same case, \&c. : $\mu \varepsilon ́ \lambda \alpha \iota \nu a v$, aiб $\chi \rho \delta v$, ка $\lambda \bar{\phi}$, тахи́s, $\pi \dot{\varepsilon} \pi \omega \nu$.
(b.) What adjectives form the comparative and superlative in -aıтepos and-aıтatos?

4. The ways of expressing a wish.
5. How are conditional sentences expressed in Greek when the supposition is understood to be contrary to reality?


7. Translate into Greek: Alcibiades having a very large and beautiful dog, which he had bought ( $\omega v \varepsilon$ ह́o $\mu a \iota$ ) for a large sum of money, cut off ( $\dot{a} \pi о \kappa \dot{\sigma} \pi \tau \omega$ ) its tail. And his friends censured ( $\dot{\varepsilon} \pi \iota \tau \iota \mu \dot{\alpha} \omega$ ) him saying that all the citizens were abusing ( $\lambda o \iota \delta \rho \rho \dot{\varepsilon} \omega)$ hinı for that. But he laughed and made reply: "The very thing that I wished for then is taking place (rizvoual) for I want the Athenians to talk about that in order that they may not say anything worse about me."

## (Additional for First and Second Class.)

## XENOPHON : Cyropfdia, Book I.

Time: Three Hours.

I.
A. Translate :











1. What is irregular in the construction of the first sentence ?
2. Parse: $\dot{\varepsilon} \gamma \nu \omega$, òvтa, бvvтєӨрадн́́vos.
3. The difference between $\dot{\omega} \varsigma$ and $\pi \tilde{\omega} \varsigma$ in such sentences as $\dot{\varphi} \varsigma \kappa \alpha \lambda \dot{\rho} \varsigma$
 Latin words corresponding ?

 What is meant by the $\tau \grave{a} \dot{a} \lambda \lambda a$ ?


 infinitive $\lambda v \sigma \iota \tau \varepsilon \lambda \varepsilon i v$.


## B. Translate :









入ovs бขvтєӨраццச́vol.

1. Explain clearly the syntax of each infinitive in this extract.
2. Account for the use of the optatives herein.
 $\pi \varepsilon \iota \rho \tilde{\rho} \sigma \theta a \iota$. Another construction is more common with á á $\sigma \chi 0 \nu \tau o$. Explain the use of the double negative. What is the meaning of the phrase $\tau 0 \tilde{v} \dot{\eta} \lambda i ́ o v \pi \lambda \varepsilon o v \varepsilon \kappa \tau \varepsilon i v$ used in Book $I$.


## II.

1. Decline with accents : $\beta o \tilde{s}, \dot{\eta} \delta \varepsilon i a, ~ \theta \varepsilon o ́ s$.
2. What words are enclitic? When does ह̇ot८ take an accent ?
3. (a.) What constructions are used after verbs of fearing?
(b.) When is $0 \pi \omega s$ used with the future indicative?
4. How are indirect questions expressed in Greek? What particles are used in introducing a double indirect and what in a double direct question?
C. Translate into Greek : Those whose ambition it is to become clever at speaking do not practice that art in order that they may never cease delivering speeches, but in the hope that by their clever speaking they may persuade men to follow their advice and that thus they may effect much good.

My friends, I have chosen you, not now for the first time having proved you, but knowing that from your very infancy you have been zealous in the performance of all that the State regards as honourable, and that you have altogether abstained from those things which it regards as dishonourable.

## SECOND YEAR.

homer: Odyssey, Book IX. Xenophon : Hellenica, Book II.

Time: Three Hours.

A. Translate : Homer, 11. 195-215.

1. (a.) Write the Attic prose forms of:

(b.) What are the Homeric forms of:

$$
\gamma \tilde{\eta}, v a \tilde{v} v, \dot{\eta} \mu \varepsilon i \check{ }, \dot{\varepsilon} \sigma \theta i \varepsilon v v, \tau i \theta \eta \varsigma, \pi o \lambda i v v .
$$



3. Show by examples the differences between the Epic and ordinary terminations of the dat. plural. Are there any traces of lost cases in Homer ?
4. Some words in the extract have lost one or more initial consonants; show this by scansion and comparison with Latin.
5. What is the difference between the ancient and the modern "Homeric question"? State Professor Jebb's views concerning the composition of the Iliad and the Odyssey. What eminent scholars of antiquity assigned Homer to about the same date as that to which Jebb would assign the first forms of the poems?
B. Translate : Xenophon, Bk. II, Chap. I, §§ 25, 26, 27.

1. Account for the different cases used with $\pi \rho \sigma$ s and $\pi a \rho a ́$ in the extract. ámoтдغ́ovtac: Why is this case used?
2. Change oratio obliqua into o. recta and o. r. into o.ob.






Translate, explain (b), and write notes on points of syntax.
3. What parts of Athens are mentioned in this Book? Derive their names. Xenophon once expresses an opinion and once refers to a time later than that of the narrative.
4. Parse fully these words: $\mu \varepsilon \tau \iota o v t a s, ~ \sigma \tau a d i o v s, ~ \dot{\varepsilon} \sigma \kappa \varepsilon \delta \alpha \sigma \mu$ évovs,

5. Write the Greek for: He promised to sail.-I told him to go.He knows how to fight.-He came to find out.-He asked how many there were of them.-Would I had died that day !

## (Additional for First and Second Class.)

## DEMOSTHENES: Olynthiacs.

## A. Translate:















(b.) ঠоквĩ $\mu \varepsilon \gamma a ́ \lambda \eta v$ àv ह̀ $\chi \varepsilon \iota v$ aviтoüs $\chi a ́ p \iota v$. Write in Latin.
(c.) oi $\mu \grave{\eta}$ хคךбáuعvoc. Distinguish from oi ò $\chi \rho \eta \sigma a ́ \mu \varepsilon \nu o \iota$.
(d.) $\varepsilon \dot{v} \varepsilon \rho \gamma \varepsilon ́ \tau \eta \mu$, $\tau \tilde{\omega} \nu \lambda o \iota \pi \tilde{\omega} \nu$, $\varepsilon \kappa \beta a ́ \nu$. Parse fully.
 What custom is referred to ?
 Translate and explain the syntax.


## B. Translate :


 $\kappa a i ̀ ~ \tau о \iota \sigma v \tau i ̀ ~ \sigma v \mu \beta a i v \varepsilon \iota, ~ \kappa a i ̀ ~ \tau a ̀ ~ \mu \varepsilon ̀ v ~ \tau о и ́ т \omega v ~ \pi a ́ v т a ~ \kappa a ̀ ̀ \tilde{\omega} \varsigma ~ \dot{\varepsilon} \chi \varepsilon \iota, ~ \tau a ̀ ~ \delta ’ ~ \dot{v} \mu \varepsilon ́ \tau \varepsilon \rho a ~$










 is meant?
(b.) $\mu \dot{v} p \iota a$ тánavta. Give the amount approximately in our money.

 $\beta \lambda a ́ \pi \tau o v \tau a \varsigma ~ v ́ \mu a ̃ ̧ ~ \lambda v ́ \sigma a t \varepsilon$. Translate. Distinguish $\theta \varepsilon i ̃ v a \iota ~ v o ́ \mu o v, ~ \theta ́ ̇ \sigma \theta a \iota ~ v б-~$ $\mu o v$. Why are different moods used in the two clauses? Explain vоцо日е́таця.
3. 'А $\mu \phi і \pi о \lambda \iota \varsigma, ~ \Lambda a ́ \mu \psi а к о \varsigma, ~ \Sigma i ́ \gamma \varepsilon \iota o v . ~ W r i t e ~ g e o g r a p h i c a l ~ n o t e s . ~$
C. Translate into Greek: The priests of the Boeotians used to teach the children concerning the divine marvels, in order that they might rightly learn about the Gods. And once a priest was explaining about this, and he asked the children, "What now would you say, if I were to tell you that I had seen the sun in the night?" hoping that some one would answer that he had seen a divine marvel. But the first child, being a rustic, said, "For my part 1 should say that you saw the moon and not the sun," and the second said, "Well, for my part, I should reply that we ought not to sleep any longer, as the sum had risen." But the third said, "But I should differ from the rest, for I should not believe you at all."

## THIRD AND FOURTH YEARS.

## demosthenes : Philippics I. II. III. EURIPIDES : Medea.

Time: Three Hours.

A. Translate:












 Write a grammatical note on this sentence.
 writing the main clause in full.
3. Classify the participles used in the extract.
 $\dot{\varepsilon} \mu \circ i \pi \sigma \lambda \varepsilon \mu \varepsilon i$. Explain the mood in the relative clause. Distinguish its meaning from that of ois àv $\lambda \eta \phi \theta \tilde{\omega}$, ois $\lambda \eta \phi \theta \varepsilon i m \nu$.

 Translate, give Demosthenes' answer (in Greek, if you can,) and write a note on $\tau \grave{\eta} \nu \tau \tilde{\omega} \nu \Delta$. $\dot{\varepsilon} \rho \rho \tau \dot{\eta} \nu$.

B．Translate ：

$$
\begin{aligned}
& \dot{\eta} \delta^{\prime} \dot{\varepsilon} \xi \text { ảvav́dov каí } \mu \dot{v} \sigma a v t o s ~ o ̀ \mu \mu a t o \varsigma ~
\end{aligned}
$$

$$
\begin{aligned}
& \text { хрvбой́ } \mu \varepsilon ̀ v ~ а \dot{\mu ф \grave{\iota} к р а т і ̀ ~ к \varepsilon ́ ́ \mu е v o s ~} \pi \lambda \text { о́коऽ }
\end{aligned}
$$

$$
\begin{aligned}
& \pi \varepsilon ́ \pi \lambda \lambda o \iota ~ \delta \grave{\varepsilon} \lambda \varepsilon \pi \tau \tau \circ \dot{\prime}, \sigma \tilde{\omega} \nu \tau \varepsilon ́ \kappa \nu \omega \nu \delta \omega \rho \eta ́ \mu a \tau a \text {, }
\end{aligned}
$$

бєíovoa хаítクv крäтá $\tau^{\prime}$ à $\lambda \lambda o \tau^{\prime} a ̉ \lambda \lambda \lambda \sigma \sigma \varepsilon$ ，
1192
1193

1．$\eta \delta \eta \eta \delta^{\prime} \dot{a} \nu \varepsilon \dot{\varepsilon} \lambda \kappa \omega v \kappa \omega ̃ \lambda o v \kappa . \tau . ~ \lambda$ ．Two meanings have been given to the phrase $\dot{\alpha} v \varepsilon ́ \lambda \kappa \omega \nu \kappa \tilde{\omega} \lambda o \nu$ ．Wherein is the difficulty？What remedies have been suggested？

2．$\dot{\eta} \delta^{3} \dot{\varepsilon} \xi$ ảvaúdov к．$\tau . \lambda$ ．Parse ávav́ $\delta o v$ and translate another reading ảvaú $\begin{gathered}\text { ov．}\end{gathered}$

3．Parse fully the following words，which are found in the Medea：


4．Scan vss．1192－3．Write the Scheme of Anapaestic Dimeters．
5．What were the duties of a $\chi \circ \rho \eta \gamma \sigma c$ ？Describe the dress of the actors in a Greek play．

6．（a．）Attach appropriate clauses to the following：фvえátт $\varepsilon \sigma \theta \varepsilon$ ，

（b．）Write the four chief forms of the conditional sentence （1）in direct speech，（2）in indirect speech after a past tense of $\phi \eta \mu i$ ，

7．（a．）Show that in various languages indistinct articulation has caused the pronunciation of letters not original（1）at the beginning， （2）in the middle and（3）at the end of words．
（b．）Discribe the various ways of forming the perfect in Latin， and give the corresponding forms in English and Greek．

## （Additional for First or Second Class．）

Time ：One Hour．

Translate into accentuated Greek：Athenians，a terrible disease， and one that calls for attention from you，has fallen on Greece．The most distinguished men in the different states are betraying freedom， and are bringing on themselves a slavery of their own choice，though they call it the companionship and friendship of Philip．And the rest of the inhabitants in each of the states，who ought to have instantly
punished them, are so far from doing so that they admire them and are jealous of them and would wish to be each like them. And yet in the case of the Thessalians, it was this conduct that had lately destroyed their sovereignty, and is now at last stripping them of their independence, for their citadel is garrisoned by Macedonians ; and entering the Peloponnesus, he caused the massacres in Elis, and filled the wretched inhabitants with such madness, that they slaughtered their kinsman to rule one another, and gratify Philip.

> (Additional for First Class.)

Time: One Hour.
Translate this unseen passage:
A $\theta H \mathrm{NA}$.



 $\dot{a} \lambda \lambda ’$ àvтì т $\omega \nu ~ \sigma \tilde{\omega} \nu ~ \kappa a i ̀ ~ \pi o ́ \lambda \varepsilon \omega s ~ \mu о \chi \theta \eta \mu a ́ т \omega \nu$
 "Adpaбtov* ovitos кv́pıos, túpavvos $̀ v$,



 иे $\delta^{\prime}$ öркоv $\dot{\varepsilon} \kappa \lambda \iota \pi о ́ \nu \tau \varepsilon \varsigma ~ \dot{\varepsilon} \lambda \theta \omega \sigma \iota \nu \pi o ́ \lambda \iota \nu$, $\kappa а \kappa \bar{\omega} \varsigma$ ò $\lambda \varepsilon \sigma \sigma \theta a \iota ~ \pi \rho o ́ \sigma \tau \rho \varepsilon \pi$ ' 'Аруєíшv $\chi$ Ө́́va.









-Eurip Supp. 1183-1204.

LATIN.

FIRST YEAR.

Ctcero : Pro Lege Manilia. Virgil : Aeneid, VI.

Time : Three Hours.
A. Translate:

Bono te animo tum, Q. Hortensi, populus Romanus et ceteros, qui erant in eadem sententia, dicere existimavit ea, quae sentiebatis; sed tamen in salute communi idem populus Romanus dolori suo maluit quam auctoritati vestrae obtemperare. Itaque una lex, unus vir, unus annus non modo nos illa miseria ac turpitudine liberavit, sed etiam effecit, ut aliquando vere videremur omnibus gentibus ac nationibus terra marique imperare. Quo mihi etiam indignius videtur obtrectatum esse adhuc, Gabinis dicam anne Pompeio, an utrique, id quod est verius, ne legaretur A. Gabinius Cn. Pompeio expetenti ac postulanti. Utrum ille, qui postulat ad tantum bellum legatum quem velit, idoneus non est qui impetret, quum ceteri ad expilandos socios diripiendasque provincias quos voluerunt legatos eduxerint, an ipse, cuius lege salus ac dignitas populo Romano atque omnibus gentibus constituta est, expers esse debet gloriae cius imperatoris atque eius exercitus, qui consilio ipsius ae periculo est constitutus?

1. "Quo mihi etiam indignius.... postulanti." Show the relation of clauses in this sentence.
2. "Qui postulat," "qui impetret," "quem velit," "quos voluerunt." Account for difference of mood.
3. "Itaque una lex, unus vir, unus annus non modo nos illa miseria ac turpitudine liberavit." Write an historical note explanatory of this sentence.
4. a. Aguntur bona multorum civium, quibus est a vobis et ipsorum et reipublicae cansa consulendum.
b. Vos convenit... sociorum salutem... defendere, praesertim quum de maximis vestris vectigalibus agatur.
Translate, and explain any unusual constructions. What sources of revenue does Cicero name?
5. What incidents in Pompey's career are mentioned by Cicero as unprecedented? What was the cause of the war against Mithridates? Why was the Lex Manilia proposed ?
B. Translate :

Ille autem: 'Neque te Phoebi cortina fefellit, dux Anchisiade, nee me deus aequore mersit. Namque gubernaclum multa vi forte revolsum, cui datus haerebam custos cursusque regebam, praecipitans traxi mecum. Maria aspera juro non ullum pro me tantum cepisse timorem, quam tua ne, spoliata armis, excussa magistro, deficeret tantis navis surgentibus undis. Tris Notus hibernas immensa per aequora noctes vexit me violentus aqua; vix lumine quarto prospexi Italiam summa sublimis ab unda. Paulatim adnabam terrae; iam tuta tenebam, ni gens crudelis madida cum veste gravatum prenssutemque uncis manibus capita aspera montis ferro invasisset, praedamque ignara putasset.

1. Is there any peculiarity of construction in the last sentence?
2. Parse : æquore, vi, maria, excussa, magistro.
3. Scan the last three lines of the extract.
4. Write brief notes on the following names : Chimæra, Phlegethon, Pirithous, alius Achilles.
5. Mention three constructions used in this book which would not be permissible in prose, quoting, if you can, at least one actual example of each.
6. A sketch of Virgil's life and works.

## II.

1. (a) Decline: vires, vice, crater, pelagus.
(b) Give chief parts of ; adstitit, conticuit, ciere, solet, residunt, agnovit.
2. What verbs may take two accusatives?
3. Show by examples how conditions referring to the future are expressed in Latin.
4. The kinds of clauses which may be introduced by qui, naming the mood used in each case, giving subdivisions where they occur.
5. The difference between: non unus and ne unus quidem; semel atque iterum and semel ac saepius ; hi sunt quos fugere debetis and hi sunt quos fugere debeatis ; potest solvere si velit and possit solvere si velit.

## C. Translate into Latin :

When you see your brother tell him that I want to have a talk with him. - As long as I live I will love you ; by yonder moon I swear it. O, swear not by the inconstant moon. - Cicero was born at Arpinum on the 3rd of January, B. C. 106, and was murdered on the 7 th of December, B. C. 43 , in the 64 th year of his age.-He said that any man might err ; but that to err and to persist in error were two very different things. - In proportion as one has spent his time unprofitably during the winter does he look forward to the Ides of April with fear and trembling.

## (Additional for First or Second Class.)

Cicero: Pro Milone.

## A. Translate:

Time : Three Hours.
Cur igitur incendium curiæ, oppugnationem ædium M. Lepidi, cædem hanc ipsam contra rempublicam senatus factam esse decrevit? Quia nulla vis umquam est in libera civitate suscepta inter cives non contra rempublicam. Non enim est illa defensio contra vim umquam optanda, sed nonnumquam est necessaria. Nisi vero aut ille dies, quo Ti. Gracchus est cæsus, aut ille, quo Caius, aut quo arma Saturnini, etiamsi e republica, oppressa sunt, rempublicam tamen non vulnerarunt. Itaque ego ipse decrevi, quum cædem in Appia factam esse constaret, non eum, qui se defendisset, contra rempublicam fecisse; sed quum inesset in re vis et insidiæ, crimen judicio reservavi, rem notavi. Quod si per furiosum illum tribunum senatui, quod sentiebat, perficere licuisset, novam quæstionem nunc nullam haberemus. Decernebat enim ut veteribus legibus tantummodo extra ordinem quæreretur. Divisa sententia est postulante
nescio quo. Nibil enim necesse est omnium me flagitia proferre. Sic reliqua auctoritas senatus empta intercessione sublata est.

1. a. "Incendium curiæ."
b. "Die quo Tib. Gracchus est cæsus."
c. "Arma Saturnini non.. .rempublicam tamen vulnerarunt."

Write historical notes.
2. "Divisa sententia est, postulante nescio quo." Explain what is meant. Parse neszzo quo.
3. "Sic reliquı auctoritas senatus emp'a interce-sione sublata est." Write an explanatory note.
4. Classify the subjunctives in this extract.
B. Translate :

Tuque ex tuo edito monte, Latiaris sancte Jupiter, cujus ille lacus nemora finesque sæpe omni nefario stupro et scelere maculardt, aliquando ad eum puniendum oculos aperuisti : vobis illæ, vohis vestro in conspectu seræ sed justæ tamen et debitæ pœenæ solutæ sunt. Nisi forte hoc etiam casu factum esse dicemus, ut ante ipsum sacrarium Bonæ Deæ, quod est in fundo T. Sextii Galli, in primis honesti et ornati adolescentis, ante ipsam, inquam. Bonam Deam quum prælium commisisset, primum illud vulnus acceperit, quo texterrimam mortem obiret, ut non absolutus judicio illo nefario videretur, sed ad hanc insignem pœenam reservatus. Nec vero non eadem ira deorum hanc ejus satellitibus injecit amentiam, ut sine imaginibus sine cantu acque ludis sine exsequiis sine lamentis sine laudationibus sine funere, oblitus cruore et luto, spoliatus illius supremi diei celebritate, cui concedere etiam inituici solent, ambureretur abjectus.

1. a. "Tuque ex tuo edito monte, Latiaris sancte Jupiter."
b. "Ut non absolutus judicio illo nefario videretur."
c. "Sine imaginibus."

Write explanatory notes.
2. a. Me non potuisse Milonis salutem tueri per eosdem per quos nostram ille servasset !
b. Heus tu Rufio, verbi causa, cave, sis, mentiaris.
c. Semper ille et quantum interesset P. Clodii se perire, et quanto illi odio esset. . . . cogitabat.
Translate these sentences and give explanations of such points of syntax as you think require them.
3. What was Cicero's defence to the charge brought against Milo ? On what points did he found his defence?

## II.

1. What nouns form the accus. sing. in -im ?
2. What supines have the first syllable short ?
3. Write short sentences to show the different uses of $u$ t.
4. Illustrate by examples the use of the subjunctive in simple sentences.
5. Write the following sentences $\ln$ oratio obliqua after an Historic tense :
a. Si hoc dico, erro.
b. Si hoc dicam, errabo.
c. Si hoc dicam, errem.
d. Cum hoc perfecero, abibo.
e. Divide et impera.

## SECOND YEAR.

Horace : Odes, Book I. Livy : Book I.

Time: Thrfe Hourg.
A. Translate:

Te maris et terrae numeroque carentis arenae Mensorem cohibent, Archyta,
Pulveris exigui prope litus parva Matinum Munera, nec quidquam tibi prodest
Aërias tentasse domos animoque rotundum Percurrisse polum morituro.
Occidit et Pelopis genitor, conviva deorum, Tithonusque remotus in auras
Et Jovis arcanis Minos admissus, habentque Tartara Panthoiden iterum Orco
Demissum, quamvis clipeo Trojana refixo Tempora testatus nihil ultra
Nervos atque cutem morti concesserat atrae, Judice te non sordidus auctor
Naturae verique. Sed omnes una manet nox Et calcanda semel via leti :
Dant alios Furiae torvo spectacula Marti; Exitio est avidum mare nautis ;
Mixta senum ac juvenum densentur funera, nullum Saeva caput Proserpina fugit.
Me quoque devexi rapidus comes Orionis
Illyricis Notus obruit undis.
At tu, nauta, vagae ne parce malignus arenae Ossibus et capiti inhumato
Particulam dare :

1. State difficulties in the interpretation of this ode.
2. a. "Te maris et terrae numeroque carentis

Mensorem cohibent, Archyta."
b.
" habentque
Tartara Panthoiden, iterum Oreo
Demissum, quamvis clipeo Trojana refixo
Tempora testatus."
e.
" Nullum
Saera caput Proserpina fugit."
Write explanatory notes.
3. a. Parse and give chief parts of verbs and rules for cases: " morituro," " densentur," " Tartara," " exitio," "fugit."
b. Note any unusual constructions in the extract.
4. Scan : $\alpha$. "Me quoque devexi rapidus comes Orionis."
b. "Ossibus et capiti inhumato."
c. Pone sub curru nimium propinqui.
5. In what terms are some contemporaries mentioned in this Book? What is the date in Latin of Horace's birth? How is it fixed?

## B. Translate :

Lucumoni contra omnium heredi bonorum cum divitiae iam animos facerent, auxit ducta in matrimonium Tanaquil summo loco nata et quae haud facile iis, in quibus nata erat, humiliora sineret ea, quo innupsisset. Spernentibus Etruscis Lucumonem exule advena ortum, ferre indignitatem non potuit, oblitaque ingenitae erga patriam caritatis, dummodo virum honoratum videret, consilium migrandi ab Tarquiniis cepit. Roma est ad id potissimum visa : in novo populo, ubi omnis repentina atque ex virtute nobilitas sit, futurum locum forti ac strenuo viro ; regnasse Tatium Sabinum, arcessitum in regnum Numam a Curibus, et Ancum Sabina matre ortum nobilemque una imagine Numae esse. Facile persuadet ut cupido honorum et cui Tarquinii materna tantum patria esset. Sublatis itaque rebus amigrant Roman. Ad Ianiculum forte ventum erat. Ibi ei carpento sedenti cum uxore aquila suspensis demissa leniter alis pilleum aufert, superque carpentum cum magno clangore volitans rursus velut ministerio divinitus missa capiti apte reponit.

1. a. "quo innupsisset;" "facile persuadet, ut cupido honorum." Explain the constructions.
b. Account for the mood and tense of the other subjunctives in the passage.
2. a. Nobilemque una imagine Numae esse.
b. Itaque, quum populum in curias triginta divideret, nomina earum curiis imposuit.
c. Locum, qui nunc septus descendentibus inter duos lucos est, asylum aperit.
d. (Annum) intercalaribus mensibus interponendis ita dispensavit ut.....
Write explanatory notes on these sentences and complete the last.
3. Turn into the opposite form of speech : hinc patres, hinc viros orabant Sabinae mulieres, ne se sanguine nefando soceri generique respergerent ; ne parricidio macularent partus suos, nepotum illi, liberum hi progeniem. Si affinitatis inter vos, si connubii piget, in nos ve:tite iras ; nos causa belli sumus. Melius peribimus, quam sine alteris vestrum viduae aut orbae vivemus.
4. Why is Livy's First Book considered unhistorical? What are the first and last circumstances related in it and how is the intervening time accounted for? How is the date of its publication fixed?
C. Translate into Latin: When Louis the eleventh, king of France, was sojourning among the people of Burgundy, his affairs being disturbed at home, he contracted an intimacy with one Conon, a plain honest countryman. After walking or hunting, the king would frequently turn aside to Conon's, and as kings are at times pleased with plebeian fare, he would eat turnips with him and his wife, with the utmost satisfaction. After Louis' restoration to the throne, Conon's wife advised him to wait on the king and remind him of their old friendship and also to take with him some large turnips as a present to his majesty.

## (Additional for First or Second Class.)

HORACE: Odes, Book II, III.
Time: Three Hours.
A. Translate :

Non ebur neque aureum Mea renidet in domo lacunar,
Non trabes Hymettiae
Premunt columnas ultima recisas
Africa, neque Attali
Ignotus heres regiam occupavi,
Nec Laconicas mihi
Trahunt honestae purpuras clientae:
At fides et ingeni
Benigna vena est, pauperemque dives
Me petit; wihil supra
Deos lacesso nec potentem amicum
Largiora flagito,
Satis beatus unicis Sabinis.
Truditur dies die, Novaeque pergunt interire lunae.
Tu secanda marmora
Locas sub ipsum funus et, sepulcri
Immemor, struis domos
Marisque Baiis obstrepentis urges
Summovere 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
Kapacis Orci fine destinata
Aula divitem manet
Herum. Quid ultra tendis? Aequa tellus Pauperi recluditur

Regumque pueris, nec satelles Orci
Callidum Promethea
Revexit auro captus. Hic superbum
Tantalum atque Tantali
Genus coërcet, hic levare functum
Pauperem laboribus
Vocatus atque non vocatus audit.

1. What is the subject of this ode ?
2. a. "Mea renidet in domo lacunar."
b. "Trabes Hymettiae."
c. " neque Attali

Ignotus haeres regiam occupavi."
d. "Marisque Baiis obstrepentis urges Summovere litora."
Write explanatory notes.
3. Scan any two successive lines.
4. In what terms does Horace predict in the Second Book, the immortality of his writings ? Quote the Latin as far as you can.
B. Translate :

Exegi monumentum aere perennius
Regalique situ pyramidum altius,
Quod non imber edax, non Aquilo impotens
Possit diruere, aut innumerabilis
Annorum series et fuga temporum.
Non omnis moriar multaque pars mei
Vitabit Libitinam ; usque ego postera
Crescam laude recens, dum Capitolium
Scandet cum tacita virgine pontifex.
Dicar, qua violens obstrepit Aufidus
Et qua pauper aquae Daunus agrestium
Regnavit populorum, ex humili potens Princeps Aeolium carmen ad Italos Deduxisse modos. Sume superbiam Quaesitam meritis, et mihi Delphica Lauro cinge volens, Melpomene, comam.

1. a. "Non omnis moriar multaque pars mei

Vitabit Libitinam."
b. "Dicar, qua violens obstrepit Aufidus."
c. "et mihi Delphica

Lauro cinge volens, Melpomene, comam.
Explain these lines.
2. What Greek constructions are found in these two odes? Quote others from the same Books.
3. Arrange the following as Lyric verses :
a. Premit nocte caliginosa deus.
b. Vafer mille modis tentat.
c. Sub Alpibus Rhaetis bella videre.
C. Translate into Latin : It is recorded of Philip, King of Spain, that he saluted the peasants, though he required from his nobles that they should show the utmost respect to himself. No one was allowed to address him but on the knees: for which he gave this artful excuse that as he was of low stature, every one would have seemed higher than himself, unless he had done this. He rarely showed himself affable to the nobles, that he might better uphold his own dignity and check their pride

## THIRD AND FOURTH YEARS.

## HORACE: Seleoted Satires. TACITUS: Annals, Book I.

Time: Three Hours.
A. Translate :

Caesar, qui cogere posset,
Si peteret per amicitiam patris atque suam, non Quidquam proficeret ; si collibuisset, ab ovo Usque ad mala citaret, , Io Bacché !" modo summa Voce, modo hac, resonat quae chordis quatuor ima. Nil aequale homini fuit illi : saepe velut qui Currebat fugiens hostem, persaepe velut qui Iunonis sacra ferret; habebat saepe ducentos, Saepe decem servos; modo reges atque tetrarchas, Omnia magna, loquens, modo,, Sit mihi mensa tripes et
,, Concha salis puri et toga, quae defendere frigus,
", Quamvis crassa, queat." Decies centena dedisses

> Huic parco paucis contento : quinque diebus Nil erat in loculis. Noctes vigilabat ad ipsum Mane, diem totum stertebat. Nil fuit unquam Sic impar sibi.-Nunc aliquis dicat mihi ,, Quid tu ? ,,Nullane habes vitia?" Immo alia, et fortasse minora. Maenius absentem Novium cum carperet, ,,Heus tu, " Quidam ait ,,ignoras te, an ut ignotum dare nobis Verba putas? "-,,Egomet mi ignosco" Maenins inquit. Stultus et improbus hic amor est dignusque notari.
> 1. "Saepe velut qui currebat fugiens hostem, persaepe velut qui Junonis sacra ferret." Write these sentences in full. What is the reference in the latter sentence?
2. "Ab ovo usque ad mala citaret ,,Io Bacche!" modo summa voce, modo hac, resonat quate chordis quattuor ima." Write explanatory notes, supplying the subject to citaret.
3. "Decies centena dedisses." Write in full and give the approximate value in our money.
4. Explain any unusual use of mood or tense in the extract and give the ordinary forms.
5.

## dumque

Ridetur fictis rerum, Balatrone secundo,
Nasidiene, redis mutatae frontis, ut arte
Emendaturus fortunam.
Translate, explain the connection of the clauses, and note any unusual constructions.

## B. Translate :

Consultatum ibi de remedio ; etenim nuntiabatur parari legatos qui superiorem exercitnm ad causam eandem traherent : destinatum excidio Ubiorum oppidum, imbutasque praeda manus in direptionem Galliarum erupturas. augebat metum gnarus Romanae seditionis et, si omitteretur ripa, invasurus hostis : at si auxilia et socii adversum abscedentis legiones armarentur, civile bellum suscipi. periculosa severitas, flagitiosa largitio ; seu nihil militi sive omnia concederentur, in ancipiti res publica. igitur volutatis inter se rationibus placitum ut epistulae nomine principis scriberentur: missionem dari vicena stipendia meritis, exauctorari qui sena dena fecissent ac retineri sub vexillo ceterorum inmunes nisi propulsandi hostis, legata quae petiverant exsolvi duplicarique.

1. "Augebat metum....hostis." Explain the construction of this sentence.
2. "At si auxilia, et socii....suscipi." Explain the use of moods. Who are meant by auxilia et socii?
3. Turn oratio obliqua into o. recta.
4. a. Responde, Blaese, ubi cadaver abjeceris ? ne hostes quidem sepultura invident.
b. Nam barbaris quanto quis audacia promptus, tanto magis fidus. . habebatur.
c. Praemisso Caecina utocculta saltuum serutaretur et aggeres humido paludum...imponeret.
d. Caecina suffosso equo delapsus circumveniebatur ni prima legio sese opposuisset.
Note peculiarities of expression in these sentences, and write the usual forms.
5. Tacitus gives a brief summary of the forms of gevernment at Rome up to the time of Tiberius. What period is covered by the Annals? Why did he write them?
6. Name the titles of Augustus, the powers he possessed, and the effect of each.
C. Translate into Latin: The Spaniards while thus employed were surrounded by many of the natives, who gazed in silent admiration upon actions which they could not comprehend. The dress of the Spaniards, the whiteness of their skin, their beards, their arms, appeared strange and surprising. The vast machines in which they had traversed the ocean, that seemed to move upon the waters with wings, and uttered a dreadful sound resembling thunder accompanied with lightning and smoke, struck them with such terror that they began to respect their new guests as a superior kind of beings and concluded that they were the children of the sun who had descended to visit the earth.

## (Additional for First Class.)

## Translate these " unseen " passages :

a. Non referrem vulgarissimum senatus consultum, quo civitati Syracusanorum egredi numerum edendis gladiatoribus finitum permittebatur, nisi Paetas Thrasea contra dixisset praebuissetque materiem obtrectatoribus arguendae sententiae. cur enim, si rem publicam egere libertate senatoria crederet, tam levia consectaretur? quin de bello aut pace, de vectigalibus et legibus, quibusque aliis res Romana continetur, suaderet dissuaderetve? licere patribus, quotiens ius dicendae sententiae accepissent, quae vellent expromere relationemque in ea postulare. an solum emendatione dignum, ne Syracusis spectacula largius ederentur : cetera per omnes imperii partes perinde egregia, quam si non Nero sed Thrasea regimen eorum teneret? Quod si summa dissimulatione transmitterentur, quanto magis inanibus abstinendum? Thrasea contra, rationem poscentibus amicis, non praesentium ignarum respondebat eius modi consulta corrigere, sed patrum hnori dare, ut manifestum fieret magnarum rerum curam non dissimulaturos, qui animum etiam levissimis adverterent.
b. Si quis emat citharas, emptas comportet in unum, Nec studio citharae nec musae deditus ulli, Si scalpra et formas non sutor, nautica vela Aversus mercaturis: delirus et amens Undique dicatur merito. Qui discrepat istis, Qui nnmmos aurumque recondit, nescius uti Compositis metuensque velut contingere sacrum ? Si quis ad ingentem frumenti semper acervum Porrectus vigilet cum longo fuste, neque illinc Audeat esuriens dominus contingere granum, Ac potius foliis parcus vescatur amaris; Si positis intus Chii veterisque Falerni Mille cadis-nihil est, tercentum millibus, acre Potet acetum ; age, si et stramentis incubet undeoctoginta annos natus, cui stragula vestis,
Blattarum ac tinearum epulae, putrescat in arca :
Nimirum insanus paucis videatur, eo quod
Maxima pars hominum morbo iactatur eodem.
-Hor. Satt. II. 3, vss. 104-121.

## FRENCH

Examiner........................ Professor J. Liechti, M. A.

## FIRST FRENCH CLASS.

## Time: Threre Hours.

## I.

A. Translate:--Guizot: Guillaume le Conquérant.-Dès les premières années de sa vie, Guillaume prit, même dans ses jeux, l'habitude et le goût du commandement. Il reçut en même temps, dans le palais 1. de son père, une éducation plus soignée et plus lettrée que celle de la plupart des princes de son siècle; à sept ans, il pouvait déjà lire et expliquer les Commentaires de César ; il s'intéressait vivement à ses
2. études, et il en conserva tant de goût pour la culture d'esprit que, pendant toute sa vie, au milieu de passions et d'affaires bien étrangeres aux lettres, il avait coutume de dire "qu'un roi ignorant n'était 3. qu'un âne couronné."
4. Ce fut un jour de fête à la cour de Normandie que celui où, pour la première fois, Guillaume endossa son armure, "car c'était un spectacle agréable et terrible à la fois que de le voir dirigeant la course de son cheval, brillant par son épée, éclatant par son bouclier, et menaçant par son casque et ses javelots." Sa haute taille, sa mâle figure le faisaient remarquer au milieu de tous les jeunes seigneurs qui l'entouraient, et la fierté de son maintien inspiraient une crainte respectueuse à ses serviteurs comme à ses ennemis.

1. Dès les premières années. Point out the difference between: dès, dés, and des. Illustrate the use of each of these words with a complete sentence. Write the mascul. of années, and translate: Halifax was settled in the year 1749 (letters). The Queen of England was eighteen years old wheu she ascended the throne. Put this last sentence in the neg.-interrog. form also, and comment on its construction.
2. Il s'intéressait vivenent à ses études. Parse the words italicized. Rewrite this sentence, giving a pronominal form to the indirect object. Conjugate the present Indicat. of s'interéssait negat.-interrogatively.
3. In the lines: $1,2,3$ and 4 , the word que assumes different characters; parse each que separately. The same word may perform the part of: (a) an adverb of quantity; (b) an interrogat. pronoun. Prove this assertion by short examples, Give the English equivalent of : Que ne le faites-vous? and turn the same into non-idiomatic French.
B. Translate:-Molière : Le Bourgeois Gentilhomme.-Le Maítre à Danser.-Les applaudissements me touchent; il y a plaisir, ne m'en parlez point, à travailler pour des personnes qui soient capables de sentir les délicatesses d'un art, qui sachent faire un doux accueil aux beautés d'un ouvrage, et, par de chatouillantes approbations, vous régaler de votre travail. Oui, la récompense la plus agréable qu'on puisse recevoir des choses que l'on fait, c'est de les voir connues, de les voir caressées d'un applaudissement qui vous honore. Il n'y a rien, à mon avis, qui nous paye micux que cela de toutes nos fatigues ; et ce sont des douceurs exquises que des louanges éclairées. $-M r$. Jourdain. -Ah! monsieur, je suis fâché des coups qu'ils vous ont donnés. Le Mat́tre de Philosophie.-Cela n'est rien. Un philosophe sait recevoir comme il faut les choses; et je vais composer contre eux une satire du style de Juvénal, qui les déchirera de la belle façon. Laissons cela. Que voulez-vous apprendre? M. Jourdain.-Tout ce que je pourrai; car j'ai toutes les envies du monde d'être savant; et j'enrage que mon
père et ma mère ne m'aient pas fait bien étudier dans toutes les sciences quand j'étais jeune.
4. Ne m'en parlez point. Write this clause in the affirm. voice, and show how the positiou of the object. pron. is affected thereby; in what other case is this part of speech similarly affected? Give an ex. Establish the difference between : Vous ne vous amusez pas; ne vous amusez-vous pas, and ne vous amusez pas.
5. Sait recevoir les choses comme il faut. Supply the terms wanting in this elliptical clause, and parse sait and faut, giving principal parts. Change the gallicisme comme il faut into a regular grammatical term.
6. Paye mieux. Parse mieux. Which term, analogous to mieux, is used before a substantive. How do you translate betler in the sentences: It is better to suffer wrong (le mal) than to do wrong. The patient is better. The better a man is, the more he is loved. Here is a better work.

## II.

1. Write down short ex., illustrating some of the leading points in which the French and English languages differ.
2. Explain the use of the following characters : ${ }^{\prime} ; \wedge$; ${ }_{0} ;-$ t-. Distinguish between : $a$ and $\grave{a}$; ça and çà ; $d u$ and $d \hat{u}$; sur and sûr. The sign " $\wedge$ " occurs in certain persons of every verb; take for ex. menacer, and write down the pres. Indic. and the impft. Subj. of this verb.
3. Ancient and Modern languages are studied everywhere. Translate, and explain the agreement and position of the adjs. in this sent. Illustrate two cases differing from the one in question. State the difference between: Un brave homme and un homme brave. Write the fem. of : muet, sage, mou, faux, doux ; bref, tompeur, traître, protecteur; and the mascul. of : blanche, vive, folle, béniqne, pécheresse, basse, expresse.
4. When do you render: more than by plus que, and when by plus de; write two exs. Give the comparat. and superlat. of bien, mauvais, mal, bon, peu. Turn into French : He speaks most. Most men are ambitious. Always do your best. Tell me more of it. The house was more than half burned [down].
5. Write sents.on dont, qui est-ce que, qu'est-ce qui, ce à quoi, ce dont. Translate : The gentleman with whose son you were abroad, is a friend of mine. Whose house was sold to-day.
6. Can you tell the difference between: Il le fera à deux heuresdans deux heures-en deux heures. De bien tristes (and bien de tristes) nouvelles; de plus tristes (des plus tristes, plus de tristes) nouvelles. Il faut plus qu'un homme-plus d'un homme-un homme de plus-de plus, un homme.
7. W'e must study. If must is expressed by an impers. verb, the sent. may be written in two ways; with a pers. verb only one form is possible. Illustrate. What idiomatic use is made of venir? mention two exs. and translate : The lady happened to be in the room when I entered.
8. A certain class of verbs (two excepted) does not admit of the passive voice. Name the class and illustrate the exceptions. Translate : A work, published by a Nova Scotian, is much spoken of. Many things that are said, ought not to be said (two forms).
9. Ne . . pas. In certain negative sents. you may suppress ne, in others pas. Explain as fully as you can. Write in French: He cannot speak English. This is more difficult than I thought. Is it one o'clock? Not yet. Has the ship ever been heard of? Never.
10. Parse, and give principal parts of: reçut, pouvait, fut, (A); paye, faut, enrage, (B). Write the 2nd p. s., Indic. present, and the 3rd p. pl. Subj. impft. of these verbs. Mention irregularities in the construction of : lever, appeler, and hair.

Translate into French :-(a) What are those people speaking of ? He wants (veut) me to succeed. Do tell me the news. How do you do? What time is it ? It is 12 o'clock (M). We were in Europe a year ago. How far is it from here to .... . It is not far. It is cold to-day. It is well! I beg your pardon, you are wrong. We must obey the laws of the country. Nova Scotia is my native country. John Bright, the English statesmen, was 78 (letters) years old. How old are you? To-day is the 4th of April, 1889 (letters).
(b) For a considerable time already, the Holy Land had been attractfng large numbers of pilgrims, and from all sides, great and small, young and old, rich and poor, were setting out on this distant journey. In 1034, Duke Robert, inflamed with a pious zeal, resolved to undertake the Journey to Jerusalem barefooted, and staff in hand.

## SECOND FRENCH CLASS.

## Time: Three Hours.

## I.

A. Traduisez:-Racine : Athalie.

Josabeth.-Grand Dien, que mon amour ne lui soit point funeste?
Du fidèle David c'est le précieux reste : Nourri dans ta maison, en l'amour de ta loi, Il ne connaît encor d'autre père que toi. Sur le point d'attaquer une reine homicide, A l'aspect du péril si ma foi s'intimide, Si la chair et le sang, se troublant aujourd'hui, Ont trop de part aux pleurs que je répands pour lui.
9. Conserve l'héritier de tes saintes promesses, Et ne punis que moi de tontes mes faiblesses?
Mathan.--Vaincu par lui, j'entrai dans une autre carrière, Et mon âme à la conr s'attacha tout entière. J'approchai par degrés de l'oreille des rois ; Et bientôt en oracle on érigea ma voix. J'étudiai leur coeur, je flattai leurs caprices, Je leur semai de fleurs le bord des précipices : Près de leurs passions rien ne me fut sacré ; De mesure et de poids je changeais à leur gré.
19. Autant que de Joad 1 'inflexible cudesse De leur superbe oreille offensait la mollesse; Autant je les charmais par ma dextérité, Dérobant à leurs yeux la triste vérité, Prêtant à leur fureur des couleurs favorables, Et prodigue surtout du sang des misérables.

1. Quelle sorte de vers, Racine emploie-t-il dans sa tragédie. Expliquez la manière de scander les vers, prenant pour exs. les vers 9 et 19 ; dites ce que vous savez de la césure et de la rime.
2. Il ne connaît encor. To know se traduit par connaître et par savoir; to want, par vouloir et par manquer ; to succeed, par succeder
et par reussir. Donnez des exs. à l'appui. Quelle nuance entre : Il a bien fallu chanter et il a fallu bien chanter; faites le bien et faites-le bien.
3. Expliquez l'accord du participe passé suivi d'un infinitif. Prenez pour exs : Young and inexperienced, that lady allowed herself to be guided by her friends. How many ills my enemies have made me suffer! I have heard them applaud their friends.
B. Traduisez:-Molière. Valère.-La manière dont on les (les hommes) joue a beau être visible, les plus fins toujours sont de grandes dupes du côté de la flatterie; et il n'y a rien de si impertinent et de si ridicule qu'on ne fasse avaler, lorsqu'on l'assaisonne en louanges. La sincérité souffre un peu au métier que je fais ; mais quand on a besoin des hommes, il faut bien s'ajuster à eux ; et, puisqu'on ne saurait les gagner que par là, ce n'est pas la faute do ceux qui flattent, mais de ceux qui veulent être flattés.-Cléante.-Quelle grande dépense est-ce que je fais? Harpayon.-Quelle? Est-il rien de plus scandaleux que ce somptueux équipage que vous promenez par la ville?.Je querellais hier votre soeur; mais c'est encore pis. Voilà qui crie vengeance au ciel; et, à vous prendre depuis les pieds jusqu'à la tête, il y aurait là de quoi faire une boune constitution. Je vous $l^{\prime}$ ai dit ringt fois, mon fils, toutes vos manières me dèplaisent fort; vous donnez furieusement dans le marquis: et, pour aller ainsi vêtu, if fant bien que vous me dérobiez.
4. Qu'on ne fasse avaler. Donnez les dérivés français de passus, punctum, mica, gutta, nemo, rem, nihil. Dans quels cas la particule ne s'emploie-t-elle sans pas? Citez quelques exs. Traduisez: There is nobody but knows it. It is a fortnight since I last spoke to him. No smoke without fire. He acts differently from what he says.
5. Il faut bien que vous me derohiez. Ecrivez cette phrase de manière de substituer un verbe personnel au verbe il faut. Montrez par deux exs. que la forme du verbe change selon qu'il est régi par avant que ou par avant de.

## II.

1. Quel mot puissant et magique que celui de la patrie. Que ne se corrige-t-il? Traduisez, et expliquez l'emploi idiomatique du que dans ces phrases. (itez d'antres cas en prenant pour exs. : Scarcely had they retired, when the fire broke out. If he makes the slightest effort, he feels faint. Draw near, that I may speak to you.
2. Expliquez la règle concernant le mot quelque, selon qu'il est suivi d'un substantif, d'un verbe, ou d'un adjectif; citez des exs. de chaque cas. Traduisez: Whatever you may do, do it well. Whoever they (fem.) may be, they shall be welome.
3. Vous $y$ êtes. Il y va de la vie C'en est fait de lui. Il pleut. Il fait froid. Ne m'en veuillez pas. Ils en sont venus aux mains. Traduisez ces gallicismes et écrivez-les dans une forme grammaticale régulière. Mettez en français idiomatique: I shall not be at home to anybody. He makes it a point of honor to .... It is all over with that man. The witness sticks to his words.
4. Faites 1 'analyse, et nommez les temps primitifs des verbes : coure, meuve, vaille, boive, couds, crûs, meurs, assieds.

## Traduisez en Français:-Merchant of Venice.

Portia.-But let me bear the letter of your friend. Bassanio.(Reads) "Sweet Bassanio, my ships have all miscarried, my creditors grow cruel, my estate is very low, my bond to the Jew is forfeit ; and
since, in paying it, it is impossible I shall live, all debts are cleared between you and I, if I might see you at my death.

Love and Happiness. - A crust of bread, a pitcher of water, a thatched roof, and love, there is happiness [for you], whether the day be rainy or sunny. It is the heart that makes the home, whether the eye rests on a potato-patch or on a flower garden. The heart makes the home precious, and it is the only thing that can.

## (Additional for a First Class.)

Traduisez: Molière: Le Misanthrope.
Alceste.-Non, je ne puis souffrir cette lâche méthode,
2. Qu'affectent la plupart de vos gens à la mode:

Et je ne hais rien tant que les contorsions
De tous ces grands faiseurs de protestations, Ces affables donneurs d'embrassades frivoles, Ces obligeants diseurs d/inutiles paroles, Qui de civilités avec tous font combat, Et traitent du même air l'honnête homme et le fat.
Quel avantage a-t-ou qu'un homme vous caresse,
Vous jure amitié, foi, zèle, estime, tendresse, Et vous fasse de vous un éloge éclatant,
Lorsqu'au premier faquin il court en faire autant ?
Clitandre.-Timante encor, madame, est un bon caractère.
Célimène.-C'est de la tête aux pieds, un homme tout mystère,
Qui vous jette, en passant, un coup d'oeil égaré, Et, sans ancune affaire, est toujours affairé. Tont ce qu'il vous débite en grimaces abonde ; A force de façons, il assomme le monde ; Sans cesse il a tout bas, pour rompre, l'entretien, Un secret à vous dire, et ce secret n'est rien ; De la moindre vétille il fait une merveille, Et, jusques au bonjour, il dit tout à l'oreille.

1. Il y a inversion dans le vers 2. Faites-en les explications nécessaires.
2. Trouvez quelques expressions idiomatiques dans l'extrait ci-dessus, et mettez l'équivalent de chacune en forme régulière.
3. Donnez le résumé (en français) du II. Acte du Misanthrope, et mettez en parallèle les deux caractères Alceste et Célimène.

## THIRD FRENCH CLASS.

## Time: Three Hours

## 1.

A. Traduire :-Molière: Les femmes savantes.

Ariste.-Allez, c'est se moquer. Votre femme, entre nous, Est, par vos lâchetés, souveraine sur vous.
Son pouvoir n'est fondé que sur votre faiblesse ; C'est de vous qu'elle prend le titre de maîtresse, Vous-même à ses hauteurs vous vous abandonnez, Et vous faites mener, en bête, par le nez Quoi! vous ne pouvez pas, voyant comme on vous nomme,
8. Vous résoudre une fois à vouloir être un homme, A faire condescendre une femme à vos voeux, Et prendre assez de coeur pour dire un Je le veux!

## EXAMINATION PAPERS.

Vous laisserez, sans honte, immoler votre fille Aux foiles visions qui tiennent la famille, Et de tout votre bien revêtir un nigaud, Pour six mots de latins qu'il leur fait sonner haut; Un pédant qu'à tous coups votre femme apostrophe Du nom de bel esprit et de grand philosophe, D'homme qu'en vers galants jamais on n'égala, Et qui n'est, comme on sait, rien moins que tout cela! Allez, encore un coup, c'est une moquerne, Et votre lâcheté mérite qu'on en rie.

1. Qu'est-ce que le vers alexandrin? Expliquez brièvement la manière de scander, la césure, la rime et l'élision. Prenez pour exs. les vers 8 (A), 3, 7, 19 (Tartufe). Faites quatre vers alexandrins du passage suivant: Bon Dieu! qu'est-ce qui frappe l'air de ces cris lugubres? Est-ce qu'on se couche donc à Paris pour veiller ? et quel fâcheux démon rassemble ici durant les entières nuits les chats de toutes les gouttières.-(Boileau.)
2. La conjonction que s'emploie souvent d'une manière idiomatique. Citez au moins trois exemples à l'appui.
3. Donnez un précis, en prose française, du discours d'Ariste.

## B. Traduisez :-Corneille : Horace.

Camille.-Le combat général aujourd'bui se hasarde ;
J'en sus hier la nouvelle, et je n'y pris pas garde;
Mon esprit rejetait ces funestes objets, Charmé des doux pensers d'hymen et de la paix. La nuit a dissipé des erreurs si charmantes : Mille songes affreux, mille images sanglantes, Ou plutôt mille amas de carnage et d'horreur, M'ont arraché ma joie et rendu ma terreur.
J'ai vu du sang, des morts, et n'ai rien vu de suite; Un spectre en paraissant prenait soudain la fuite, Ils s'effaçaient l'un l'autre, et chaque illusion Redoublait mon effroi par sa confusion.
Fulie.-Que vouliez-vous qu'il fit contre trois?
Lie Vieil Horace -
Qu’il mourât,
Ou qu'un beau désespuir alors le secourat.
N'eût-il que d'un moment reculé sa défaite,
Rome eût été du moins un peu plus tard sujette,
Il eût avec honneur laissé mes cheveux gris,
Et c'était de sa vie un assez digne prix.
Il est de tout sun sang comptable à sa patrie ;
Chaque goutte épargnée a sa gloire fétrie ;
Chaque instant de sa vie, après ce làche tour, Met d'autant plus ma honte avec la sienne au jour.
I. Qu'il mourrût ou .... secourât. Complétez ces deux phrases elliptiques. Traduisez, et expliquez l'emploi du verbe dans les phrases suivs. : We do not always like to be told the truth. You look uneasy; are you afraid lest some accident has happened? I am sorry you have not informed me (que et de ce que). He was well nigh killed.
2. Expliquez la nuance entre les phrases: Savez-vous qu'il pleut et savez-vous qu'il pleuve? Il n'y a personne qui le sache et il n'y a personne qui ne le sache. Traduire: I am aftraid it is-I am afraid it is not-I am not afraid it is going to rain.
3. Nommez les verbes qui demandent le subjonctif avec la particule $n e$, et citez des exemples. Le verbe d'une phrase principale peut-il se trouver au subionctif?

## II.

I. Par quel autre temps du même mode, le present perfect anglais se rend-il après les termes: il y a $\ldots$ que, voilà . .. que, depuis (que)? Prenez pour exs. : It is now three weeks that this law-suit has been going on. For the last three days (that) I have been in this city, it has done nothing but rain. There now, if it has'nt commenced again !
2. Montrez que l'infinitif, complément des verbes laisser et faire, tient lieu à la fois de l'infinif anglais passif et de l'actif. Citez deux exs. Traduisez: 1 confess I am wrong. They don't know what to do.
3. The righteous man is slow to punish. I long to be abroad. There is a lady who resembles the Queen to a T. It is impossible to say what she will do. This is impossible to decipher. Posez les règles sur l'emploi de l'infinitif dans ces phrases.
4. Expliquez la différence entre : La bride et the bride. Le physiczen et the physician. F'ai perdu ma balance et I have lost my balance. Dresser un enfant et to dress a child. Il est altéré et he is altered.
5. Trouvez au moins trois gallicismes dans les extraits différents, et donnez-en l'équivalent sous une forme grammaticale régulière.

Traduisez en Français:-Le Marchand de Vénise.-Portia.-Tarry, Jew ; the law hath yet another hold on you. It is enacted in the laws of Venice, if it be proved against an alien, that by direct or indirect attempts he seeks the life of any citizen, the party against the which he doth contrive shall seize one-half his goods ; the other half comes to the privy coffer of the state ; and the offender's life lies in the mercy of the Duke only.

## (Additional for a First Class.)

Traduire:-Molière : Le Tartuffe.
Dorine.-Mais il est devenu comme un homme hébété, Depuis que de Tartufe on le voit entêté :
3. Il l'appelle son frère, et l'aime dans son âme Cent fois plus qu'il ne fait mère, fils, fille, et femme. C'est de tous ses secrets l'unique confident, Et de ses actions le directeur prudent ;
7. Il le choie, il l'embrasse ; et pour une maîtresse On ne saurait, je pense, avoir plus de tendresse : A table, au plus haut bout il veut qu'il soit assis ; Avec joie il l'y voit manger autant que six ; Les bons morceaux de tout, il faut qu'on les lui cède ; Et, s'il vient à roter, il lui dit: Dieu vous aide ! Enfin, il en est fou, c'est son tout, son héros; Il l'admire à tous coups, le cite à tous propos; Les moindres actions lui semblent des miracles, Et tous les mots qu'il dit sont pour lui des oracles. Lui, qui connaît sa dupe, et qui veut en jouir, Par cent dehors fardés a l'art de l'éblouir ;
19. Son égotisme en tire à toute heure des sommes, Et prend droit de gloser sur tous tant que nous sommes.
I. Qu'il ne fuit mère. Rendez raison de la particule ne dans cette phrase. Il y a d'autres cas où ce mot s'emploie sans la negation pas. Mettez trois exs. à l'appui. Dites dans quels cas vous faites suivre la locution il s'en faut que de la particule ne?
2. S'il vient à roter. Quelle distinction taites vous entre: Il vint me parler. Il vint pour me parler. Il venait de me parler. Il vint à me parler.
3. Faites le portrait d'Orgon.

## GERMAN.

Examiner
Professor J. Liechti, M. A.

## FIRST GERMAN CLASS.

Time: Three Hours.
Answer two questions only of passages $A, B$ and $C$ respectivsly.

## I.

Translate: A. Göthe: Reineke Fuchs.
Endlich rief er und sprach: Herr Neffe, seid ihr zu Hause?
Braun, der Bär, ist gekommen, des Königs gerichtlicher Bote.
Denn es hat der König geschworen, ihr sollet bei Hofe
Vor Gericht euch stellen ; ich soll euch holen, damit ihr Recht zu nehmen und Recht zu geben Keinem verweigert, Oder es soll euch das Leben kosten; denn bleibt ihr dahinten, Ist mit Galgen und Rad euch gedroht. Drum wählet das Beste, Kommt und folget mir nach, sonst möcht' es euch übel bekommen!

Jakob: Gastfreundschaft.-Ich wurde auf's Freundlichste begrüsst, in das Haus geführt, mit Speis' und Trank reichlich bewirthet und endlich in ein Bett gebracht, hoch wie ein Berg und geräumig genug, um noch drei Andere, wär' es nöthig gewesen, anfzunehmen. Da war es mir fürwahr sls wär' ich in die Zeit entrückt, wo die Hausväter an der Strasse sassen, und wenn ein Wanderer vorüberzog, oft wetteifernd mit einander ihn unter ihr Dach einluden und an ihrem Herde bewirtheten, ohne auch nur zu fragen wo er herkäme, was er für Geschäfte treibe und wie lange er zu weilen gedenke.

1. Endlich rief er. Wär' es nöthig gewesen. Comment on the construction of these clauses, and write them in natural order. Translate : When I had written the letter, I sent it to the post office; state in what particulars this sentence deviates from its original.
2. Und endlich in ein Bett gebracht. Write this clause in the active voice. When do you express the German passive by sein, when by werden? illustrate by short exs., giving their English equivalents. Parse gebracht, and name all the verbs of this class.
3. Folget mir nach. Parse nach, and explain the position of such words in a clause. Write this clause in a subordinate form with the conjunction als. Classify and parse the verbs: verweigert, aufzunehmen, varüberzog, herkäme, bewirtheten.
B. Schiller: Wilhelm Tell.

Gertrude :- Vom Kaiser selbst und Reich
Trägst du dies Haus zu Lehn; du darfst est zeigen, So gut der Reichsfürst seine Länder zeigt ; Denn über dir erkennst du keinen Herrn, Als nur den Höchsten in der Christenheit. Er ist ein jüngrer Sohn nur seines Hanses; Nichts nennt er sein, als seinen Rittermantel ; Drum sieht er jedes Biedermannes Gluick Mit scheelen Augen gift'ger Missgunst an. Dir hat er längst den Untergang geschworenNoch stehst du unversehrt. Willst du erwarten, Bis er die böse Lust an dir gebüsst?
Der kluge Mann baut vor.

Stauffacher:-Leb' wohl-und weil ich fern bin, führe du Mit klugem Sinn das Regiment des Hauses-
3. Dem Pilger, der zum Gotteshause wallt,
4. Dem frommen Mönch, der für scin Kloster sammelt, Gib reichlich und entlass inn wohlgepflegt. Stauffachers Haus verbirgt sich nicht. $\mathrm{Z}_{11}$ äusserst Am offnen Heerweg steht's, ein wirthlich Dech Für alle Wanderer, die des Weges fahren.

1. Denn . . . Keinen Herrn. Of what class of words is denn a specimen; give full information. With which German word does then correspond? Translate: Now and then. Now he cries then he laughs. If this is true, then he must be better than I thought.
2. Keinen Herrn. Illustrate the use of kein, nein, nicht and nichts. Adjectives, used substantively, assume the neuter gender after certain words. Name these words, and translate - I have not heard anything new to-day. Add a few similar examples.
3. Change the compd. sentences in lines 3 and 4, including: gib reichlich, into simple principal clauses (by contraction of the accessory clauses.) Explan etymologically the terms: Rittermantel, Biedermann, Untergang, wohlyepflegt.
C. Schiller: Wallenstein's Absetzung.-Cavaliere aus den edelsten Häusern wetteiferten um die Ehre, ihn zu bedienen, und man sah kaiserliche Kammerherren den goldenen Schlüssel zurückgeben, um bei Wallenstein eben dieses Amt zu bekleiden. Er hielt sechzig Pagen, die von den trefflichsten Meistern unterrichtet wurden; sein Vorzimmer wurde stets durch fünfzig Trabanten bewacht. Seine gewöhnliche Tafel war nie unter hundert Gängen, sein Haushofmeister eine vornehme Standesperson. Reis'te er über Land, so wurde ihm Geräthe und Gefolge auf hundert sechs = und vierspännigen Wagen nachgefahren; in sechzig Carossen mit fünfzig Handpferden folgte ihm sein Hof. Die Pracht der Livereien, der Glanz der Equipage und der Schmuck der Zimmer war dem übrigen Aufwande gemäss. Sechs Barone und eben so viele Ritter mussten beständig seine Person umgeben, um jeden Wink zu vollziehen, zwölf Patrouillen die Runde um seinen Palast machen, um jeden Lärm abzuhalten.
4. Die von den trefflichsten . . . wurden. Mention the synonyme of unterrichtet in this clause, and show that it can be used in the active voice only, take for éx.: He is heing taught to write by a celebrated master. When do you use cm trefflichsten, and when auf's Trefflichste. Give two exs. Write down the comp. and superl., and the meaning of: gern bald, viel, hoch, todt.
5. Reis'te er über Land . . . nachgefahren. The ellipsis in the first part of this hypothetical sent. causes inversion. Explain. Write the same sentence: (1) supplying the term left out; (2) placing the principal clause (the apodosis) first. What changes of construction occur in each of these two forms?
6. Thn zu bedienen. State, and illustrate by short exs. the influence the prefix be has on transitive and on intransitive verbs. Decline: ihn, es, sie.

## II.

1. Parse, and give principal parts of the following verbs: darfst, erkennst, baut vor (B); wetteiferten, unterrichtet, war (C). Certain verbs reject the ge in the past part. ?
2. Bismark, der nun 74 Jahre alt ist, ist an seinem Jubelfeste, das er am 1ten. April feierte, von allen Seiten her beglückwünscht worden. Write this sent. in a contracted form. Enlarge the following: Ich bin glücklich,
den für das Wohl seines Vaterlandes arbeitenden, von allen seinen Mitbürgern hochgeachteten Mann kennen gelernt zu haben. Translate.
3. Distinguish between: begehen, entgehen, ergehen, vergehen, and zergehen. The prefix ver admits of various interpretations; give illustrations. The regul. fem. of Mann occurs in one word only? Write the plural of : Tod, Ehre, Vorsicht, Rath.
4. The German adjective remains uninflected in two cases. Prove the assertion. Distinguish between: Ein gut deutsch sprechender $=$ ein guter, deutsch sprechender = ein guter, deutscher, sprechender Jüngling.
5. Was für ein? Welche? Illustrate the use of these terms. Translate : Which are your friends? What peculiar form does which in such sents. assume?
6. Decline in the 4 cases singular and plural: Ein edler Mensch.
7. Es wird gegenwärtig überall viel gebaut. Es wird diesen Sommer viel gebaut werden. Wann war-wann wurde dieser Brief geschrieben? er wird eben geschrieben. Turn these sents. into idiomatic English. A certain class of verbs does not admit of the passive voice. Explain and translate: A new English dictionary is much talked of. This man's noble deed is no longer thought of.

Translate into German :-Göthe was born in the year 1749 and died in 1832. Some of the country people who arrived in the steamer to-day, are countrymen of mine. Be not childish but child-like. The sooner you come, the better it is. Am I right? No, I beg your pardon, you are wrong. What has become of your friend ? He has gone abroad. Many perished (ūmkommen) during the dreadful storm.

As Socrates was about to drink the cup of poison, one of his disciples exclaimed weeping: "Alas! that thou shouldst die thus innocent!" The noble man replied : "Wouldst thou that I were guilty?"

## SECOND GERMAN CLASS.

## Time: Three Hours.

## I.

Translate: A. Göthe: Egmont.
Fetter.-Es ist sehr fatal. Wenn's den lieben Leuten einfällt, in mein Haus zu stïrmen, und ich sitz' an meiner Arbeit, und summe just einen französischen Psalm, und denke nichts dabei, weder Gutes noch Böses, ich summe ihn aber, weil er mir in der Kehle ist - gleich bin ich ein Ketzer, und werde eingesteckt. Oder ich gehe über Land und bleibe bei einem Haufen Volks stehen, das einem neuen Prediger zuhbört, einem von denen, die aus Deutschland gekommen sind-auf der Stelle heiss' ich ein Rebell, und komme in Gefahr meinen Kopf zu verlieren. Habt Ihr je einen predigen hören?

Machiavell.-Ich weiss wohl ; der König befiehlt, er lässt Euch seine Absichten wissen. Ihr sollt Ruhe und Friede wieder herstellen durch ein Mittel, das die Gemüther noch mehr erbittert, das den Krieg unvermeidlich an allen Enden anblasen wird. Bedenkt, was Ihr thut. Die grössten Kaufleute sind angesteckt, der Adel, das Volk, die Soldaten. Was hilft es auf seinen Gedanken beharren, wenn sich um uns Alles ändert? Möchte doch ein guter Geist Philippen eingeben, dass es einem Könige anständiger ist Bürger zweierlei Glaubens zu regieren, als sie durch einander aufzureiben

1. Wenn's den lieben Leuten einfällt. Parse einfällt, and give its principal parts. Write the same sent. with the verb in the subjunctive, and comment on its construction in that form. Three different German words correspond to the English conj. when; illustrate with an example for each.
2. Und bleibe bei einem Haufen Volks stehen. Write this sent. with the verb bleibe in a compound tense, and explain in what respect it differs from other verbs used as auxil's. Mention other expressions of the same class. Translate : The rooms were so crowded, I got tired to death with standing. The whole scene was so amusing, I nearly made myself ill with laughing.
3. Bedenkt was thr thut. When may the dependent relative clause precede the principal? Write down two exs. in illustration.
B. Schiller: Maria Stuart.

Paulet.- Kein Eisengitter schützt vor ihrer List.
Weiss ich, ob diese Stäbe nicht durchfeilt,
Nicht dieses Zimmers Boden, diese Wände,
Von aussen fest, nicht hohl von innen sind
Und den Verrath einlassen, wenn ich schlafe?
(6). Fluchvolles Amt, das mir geworden ist,
(7). Die unheilbrütend Listige zu hüten.

Vom Schlummer jagt die Furcht mich auf, ich gehe
Nachts um, wie ein gequälter Geist, erprobe
Des Schlosses Riegel und der Wächter Treu
Und sehe zitternd jeden Morgen kommen,
Der meine Furcht wahr machen kann.
Maria.-Ich bin die Schwache, sie die Mächt'ge - Wohl!
Sie brauche die Gewalt, sie tödte mich,
Sie bringe ihrer Sicherheit das Opfer.
(16). Doch sie gestehe dann, dass sie die Macht
(17). Allein, nicht die Gerechtigkeit geübt.

Nicht vom Gesetz borge sie das Schwert,
Sich der verhassten Feindin zu entladen,
Und kleide nicht in heiliges Gewand
Der rohen Stärke blutiges Erkühnen.
Solch Gaukelspiel betrüge nicht die Welt !
Ermorden lassen kann sie mich, nicht richten!

1. In line (6) both the principal and the accessory clauses are eliptical. Give the Prose construction of lines (6) and (7), supplying the terms suppressed. Contract the accessory clause.
2. Write lines (16) and (17) in a contracted form. Parse allein, and mention its synonyme. Illustrate its use as an adversative conjunction. What distinction is to be made between: gestehen, bestehen, erstehen, entstehen and versteken ; write a short sentence with each.
3. Ermorden lassen . . . richten. Explain any peculiarity in the construction of this sentence. Translate: I know (that) she (has) wanted to have me murdered; and comment on the position of the verbs in the dependent clause.

## II.

1. Idiomatic expressions:-Es geht ihm an's Leben. Sein Leben in die Schanze schlagen. Meine Uhr ist stehen geblieben. Er lässt sich keine grauen Haare wachsen. Geben Sie uns etwas zum Besten. Dieser Mann hat das Pulver nicht erfunden. Das Gras wachsen hören. Die Zeitung ist eingegangen.
2. Illustrate, with two exs., the use of the adversative conjunction sondern; state its real meaning. Doch, $j a$ and schon are frequently used expletively; write short sentences.
3. The English to be is differently rendered in the following sents. : The work is to be published in a fortnight. Bismark is known to be the first statesman in Europe. He happened to be present, when the matter was talked about. To be contented is to be happy.
4. Coordination of principal clauses may be effected in four differeut ways. Explain and illustrate with short examples.
5. Translate into German :-The execution of the two noble mar tyrs (Horn and Egmont) took place on the following day, the 5th of June, about noon, on the Great Square at Brussels. The impression produced in the Netherlands was indescribable; and it was this intense feeling of indignation at home and abroad which enabled William of Orange, to wage, for sixteen years, a successful war with the greatest monarch of the world ; until he, one of the noblest human beings that ever breathed, fell by the hands of an assassin. After the death of William of Orange the warfare against Spain was continued until, finally, the unhappy union between the two countries was broken forever.

## (Additional for a First Cluss.)

## Translate:-Schiller: Geschichte des dreissigg̈̈hrigen Kriegs.

Deutschlands schlimmer Genius war es, der ihin gerade in dieser bedenklichen Epoche, wo nur eine geschmeidige Klugheit und ein mächtiger Arm den Frieden des Reichs retten konnte, einen Rudolph zum Kaiser gab. In einem ruhigern Zeitpunkt hätte der deutsche Staatskörper sich selbst geholfen, und in einer mystischen Dunkelheit hätte Rudolph, wie so viele Andere seines Ranges, seine Blössen versteckt. Das dringende Bedürfuiss der Tugenden, die ihm fehlten, riss seine Unfähigkeit ans Licht. Deutschlands Lage torderte einen Kaiser, der durch eigene Hülfsmittel seinen Entscheidungen Gewicht geben konnte, und die Erbstaaten Rudolphs, so ansehnlich sie auch waren, befanden sich in einer Lage, die den Regenten in die äusserste Verlegenheit setzten.

Die österreichischen Prinzen waren zwar katholische Fürsten, und noch dazu Stützen des Papstthums : aber es fehlte viel, dass ihre Länder katholische Länder gewesen wären. Auch in diese Gegenden waren die neuen Meinungen eingedrungen, und begünstigt von Ferdinands Bedrängnissen nnd Maximilians Güte, hatten sie sich mit schnellem Glücke in denselben verbreitet.

1. Analyze the first sentence of the extract. How do you effect contraction of adjectival clauses; take for an ex. the sentence above: Das dringcnde $\qquad$
2. What form does the predicate of a dependent substantive, adjective, or adverbial clause in a contracted form, assume ? Translate and write the following sents., both in a contracted and in an enlarged form: The king did not permit his subjects to leave the country. Being abandoned by all his friends, he took his own life in a fit (Anfall) of despair. The strong is mightiest (when) alone. A workman, the father of a large family, was killed.
3. There are cases where the contraction of the substantive clause is impossible. Explain, point out an example from the passage above and translate: I know that earthly things change. It has been reported that three German men of war were wrecked (scheitern. reg). We are glad he has succeeded.

## THIRD GERMAN CLASS.

Time: Three Hours.

## I.

Uebersetzen: A. Schiller: Fungfrau von Orleans.
Fohanna (in Begeisterung).
Nichts von Verträgen! Nichts von Uebergabe!
Der Retter naht, er rüstet sich zum Kampf Vor Orleans soll das Gluick des Feindes scheitern! Sein Mass ist voll, er ist zur Ernte reif. Mit ihrer Sichel wird die Jungfrau kommen Und seines Stolzes Saaten niedermähn ; Herab vom Himmel reisst sie seinen Ruhm, Den er hoch an den Sternen aufgehangen. Verzagt nicht! Fliehet nicht! denn eh der Roggen Gelb wird, eh sich die Mondesscheibe fuilt, Wird kein engländisch Ross mehr aus den Wellen Der prächtigströmenden Loire trinken.
Sorel.-Verblendet ist das Volk, ein Wahn betäubt es, Doch dieser Taumel wird vorübergehn; Erwachen wird, nicht fern mehr ist der Tag, Die Liebe zu dem angestammten König, Die tief gepflanzt ist in des Franken Brust, Der alte Hass, die Eifersucht erwachen, Die beide Vōlker ewig feindlich trennt ; Den stolzen Sieger stuirzt sein eignes Glück. Darum verlasse nicht mit Uebereilung Den Kampfplatz, ring' um jeden Fussbreit Erde, Wie deine eigne Brust vertheidige Dies Orleans.

1. Denn eh der Roggen grelb wird. Erläutert durch Beispiele den Unterschied zwischen : denn und then; dann und than; wann und when. Das englische as wird durch $d a$ und durch als übersetzt ?
2. Reisst, aufgehangen, trinken, vorübergehen, verlasse. Schreibt die Grundformen dieser Zeitwörter nieder. Welche verba regieren den Nominativ? Zeitwörter, wie nennen und heissen regieren verschiedene Fälle, je nachdem sie im passivum oder im activum gebraucht werden? Als Beispiel diene: She called him her deliverer.

## B. Lessing: Minna von Barnhelm.

Fust.-Machen Sie mich so schlimm wie Sie wollen, ich will darum doch nicht schlechter von mir denken als von meinem Hunde. Vorigen Winter ging ich in der Dämmerung an dem Kanale und hörte etwas winseln. Ich stieg herab und griff nach der Stimme, und glaubte ein Kind zu retten und zog einen Pudel aus dem Wasser. Auch gut, dachte ich. Der Pudel kam mir nach, aber ich bin kein Liebhaber von Pudeln. Ich jagte ibn fort, umsonst ; ich prügelte ihn von mir, umsonst. Noch hat er keinen Bissen Brot aus meiner Hand bekommen, und doch bin ich der einzige, dem er hört und der ihn anrühren darf.

Das Fräulein (die ihre Hand zurückzieht). Nicht so, mein Herr !Wie auf einmal so verändert? Ist dieser schmeichelnde, stuirmische Liebhaber der kalte Tellheim? Konnte rur sein wiederkehrendes Gluick ihn in dieses Feuer setzen? Er erlaube mir, dass ich bei seiner fliegenden Hitze für uns beide Ueberlegung behalte. Als er selbst überlegen konnte, hörte ich ihn sagen, es sei eme nichtswürdige Liebe, die kein Bedenken trage, ihren Gegenstand der Verachtung auszusetzen. Jetzt,
da ihn die Ehre ruft, da sich ein grosser Monarch um ihn bewirbt, sollte ich zugeben, dass er sich verliebten Träumereien mit mir überliesse? dass der ruhmvolle Krieger in einen tändelnden Schäfer ausarte ?

1. Der ihn anrühren darf. Was für Adjectivsätze können verkürzt werden ? Gebt einige Beispiele an. Das englische may wird auf verschiedene Weise übersetzt: May I offer you my congratulations? May you be happy. Such a thing may possibly occur. You may now go. I may not tell you.

Es sei eine nichtswürdige Liebe. Warum steht das Zeitwort im Konjunctiv? wann wird diese Zeitform durch den Indicativ ersetzt.
3. Führt einige elliptische Sätze im Auszuge B an, und ergänzt dieselben.
II.

1. The well equipped (ausrïsten) ships, laden with quantities of Californian gold, were wrecked on a coast in a storm that broke out soon after their departure. Uebersetzt diesen Satz, und schreibt denselben : (a) als einen einfuchen Satz; (b) als einen zusammengesetzten Satz; analysirt die einzelnen Satztheile des Letztern.
2. Wann haben the Adverbien der Frage den "Werth relativer Koniunctionen, und welchen Einfluss üben dieselben auf das Zeitwort aus? Z. B : Pray let me know, when you will return. Tell me what has happened. We have not been told, how long the session is to last.
3. Der Nebensatz hann entweder vor oder nach dem Hauptsatze, oder in demselben eingeschaltet stehen. Nehmt als Beispiele: God helps (then) alone, when men help no longer. Only when it is ripe, the fruit of fate falls. And kindly, as he had never done before, he took the servant's hand.
4. Themata zu einem kurzen deutschen Aufsatz :-
(1.) Vaterlandsliebe.
(2.) Der rechte Weg den Armen zu helfen.
(3.) Der Werth der Zeit.

Uebersetzen ins Deutsche:-But what principally attracted the attention of Nicholas, was the old gentleman's eye,-never was such a clear, twinkling, honest, merry, happy eye, as that. And there he stood, looking a little upward, with one hand thrust into the breast of his coat, and the other playing with his old fashioned gold watchchain; his head thrown a little on one side, and his hat a little more on one side than his head, (but that was evidently accident; not his ordinary way of wearing it,) with such a pleasant smile playing about his mouth, that Nicholas would have been content to have stood there and looked at him until evening.-(Dickens.)

## (Additional for a First Class.)

Uebersetzen:-Schiller: Wallerstein's Tod.
Wallenstein.-Mich schuf aus gröberm Stoffe die Natur, Und zu der Erde zieht mich die Begierde. Dem bösen Geist gehört die Erde, nicht Dem guten. Was die Göttlichen uns senden Von oben, sind nur allgemeine Güter;
(6). Ihr Licht erfreut, doch macht es Keinen reich, In ihrem Staat erringt sich kein Besitz.
(9). Den Edelstein, das allgeschätzte Gold, Muss man den falschen Mächten abgewinnen,
(11). Die unterm Tage schlimmgeartet hausen.

> Nicht ohne Opfer macht man sie geneigt, Und Keiner lebet der aus ihrem Dienst Die Seele hätte rein zuricickgezogen.
> Max.-Weh mir! Ich habe die Natur verändert.
> Wie kommt der Argwohn in die freie Seele ?
> Vertrauen, Glaube, Hoffnung ist dahin,
> Denn alles $\log$ mir, was ich hochgeachtet.
> Nein! nein! nicht alles! Sie ja lebt mir noch, Und sie ist wahr und lauter, wie der Himmel. Betrug ist überall und Heuchelschein, Und Mord und Gift und Meineid und Verrath ; Der einzig reine Ort ist unsre Liebe, Der unentweihte, in der Menschlichkeit.

1. Worauf beziehen sich die obigen Worte Wallensteins und Maxens, und an wen sind sie gerichtet?
2. Zieht die drei Verse $9,10,11$, zu einem einfachen Satze zusammen, und erklärt etymologisch die Ausdriicke: allgeschätzte, schlimmgeartet, Heuchelschein, Meineia, unentweihte.
3. Analysirt den zusammengesetzten Satz des Verses (6), und erweitert die einzelnen Glieder desselben durch Hinzufügung von Adjectivsützen.

## ENGLISH LANGUAGE AND LITERATURE.

Examiner W. J. Alexander, Рf. D.

## FIRST YEAR.

## Time: Three Hourg.

(The whole paper will be regarded as a test of the candidate's skill in composition, and marks assigned accordingly.)

1. Reproduce the following accurately in simple prose :-

Spontaneous joys, when Nature has its play,
The soul adopts, and owns their first-born sway ; Lightly they frolic o'er the vacant mind Unenvied, unmolested, unconfined, But the long pomp, the midnight masquerade, With all the freaks of wanton wealth arrayedIn these, ere triflers half their wish obtain, The toiling pleasure sickens into pain; And, e'en while fashion's brightest arts decoy, The heart distrusting asks if this be joy.
2. Give an abstract of the Vanity of Human Wishes.
3. Indicate in detail how the following paragraph differs from prose, (a) in diction, (b) in its figures, (c) in the ideas expressed:

> "Nor you, ye Proud, impute to these the fault If mem'ry o'er their tomb no trophies raise, Where thro' the long-drawn isle and frett d vault The pealing anthem swells the note of praise.
Can storied urn, or animated bust, Back to its mansion call the fleeting breath ?
Can Honour's voice provoke the silent dust Or flattery soothe the dull cold ear of death?"
4. Give an accurate definition of the meaning of the italicised words as employed in the following passages:-

To quench the blushes of ingenuons shame. And pore upon the brook that babbles by. Tomes of casuistry. Some pleasing bank where verdant osiers play. The plundered palace or sequestered rent, Sequacious of the lyre. Ostentation with tawdry art. As ocean sweeps the laboured mole away. The naked negro panting at the line. As monarch oaks supinely reign.
5. Give the substance of Johnson's description of Pope's character, and of the comparison which he institutes between Pope and Dryden.
6. Explain the meaning of the following passages :--
(a) Great Fletcher never treads in buskins here, Nor greater Jonson dares in socks appear.
(b) Let old Timotheus yield the prize Or both divide the crown : He raised a mortal to the skies : She drew an angel down.
(c) This Partrilge soon shall view in cloudless skies, When next he looks through Galilæo's eyes.
(d) Fate wing'd with every wish th' afflictive dart, Each gift of nature and each gift of art.
(e) Pour forth thy fervours For love, which scarce collective man can fill; For patience, sov'reign o'er transmuted ill.
( $f$ ) Let school-taught pride dissemble all it can, These little things are great to little man.
(g) Those fenceless fields the sons of wealth divide And even the base-worn common is denied.
(h) Ev'n from the tomb the voice of Nature cries, Ev'n in our ashes live their wonted fires.
7. Determine on grounds of style the author of each of the following extracts, assigning your reasons in each case:-
(a) Plantation is naturally the employment of a mind unburdened with care, and vacant to futurity, saturated with present good, and at leisure to derive gratification from the prospect of posterity. He that pines with hunger, is in little care how others shall be fed. The poor man is seldom studious to make his grandson rich. It may be soon discovered, why in a place which hardly supplies the cravings of necessity, there has been little attention to the delights of fancy, and why distant convenience is unregarded, when the thoughts are turned with incessant solicitude upon every possibility of immediate advantage.
(b) There is not, and there never was on the earth a work of human policy so well deserving of examination as the Roman Catholic Church. The history of that church joins together the two great ages of human civilization. No other institutution is left standing which carries the mind back to the times when the smoke of sacrifice rose from the Pantheon, and when camelopards and tigers bounded on the Flavian ampitheatre. The proudest royal houses are but of yesterday, when compared with the line of the supreme Pontiffs.
(c) One of his innumerable whims was an extreme unwillingness to be considered a man of letters. Not that he was indifferent to literary fame. Far from it. Scarcely any writer has ever troubled himself so much about the appearance which his works were to make before posterity. But he had set his heart on incompatible objects. He wished to be a celebrated author, and yet to be a mere idle gentleman, one of those Epicurean gods of the earth who do nothing at all, and who pass their existence in the contemplation of their own perfections. He did not like to have anything in common with the wretches who lodged in the little courts behind St. Martin's Church, and stole out on Sundays to dine with their bookseller.
(d) The cheerfulness of the heart which springs up in us from the survey of nature's works, is an admirable preparation for gratitude. The mind has gone a great way towards the praise and thanksgiving, that is filled with such secret gladness. A grateful reflection on the supreme canse who produces it, sanctifies it in the soul, and gives it its proper value. Such an habitual disposition of mind consecrates every field and wood, turns an ordinary walk into a morning or evening sacrifice, and will improve those transient gleams of joy which naturally brighten up and refresh the soul on such occasions, into an inviolable and perpetual state of bliss and happiness.

> (Additional for First Class.)

Goldsmith's Select Essays; Johnson's Lives of Dryden, Addison, and Gray; Dryden's Stanzas on Oliver Cromwell, Astrfa Redux, Annus Mirabilis, Absalom and Achitophel.

Time: Two Hours.
(Only four of the following to be answered.)
8. Specify, as minutely as you can, the points of excellence in Absalom and Achitophel. Contrast the pleasure it affords with that afforded by Gray's Elegy.
9. Give an account of Addison's literary activity.
10. What is Johnson's criticism of Annus Mirabilis? Do you take exception to any of his remarks?
11. Keproduce Goldsmith's Essay entitled "Fashion Fuir" or "English and French Politeness." Note any characteristics of his prose, and any points in which his Essays differ from those of Addison.
12. Give a concise statement of the facts with regard to the life and works of Dryden, Gray, Goldsmith.
13. What are the sources respectively of Johnson's and Goldsmith's power as writers of prose and poetry?

## SECOND YEAR.


#### Abstract

L'Allegro: Il Penseroso; Paradise Lost, Bks. IV, VII-IX; Richard II; Midsummfr-Night's Dream; Julius Caesar; Lear.


Tmb: Three Hours.

1. Addison says of Paradise Lost: "Milton seems to have known, perfectly well, wherein his strength lay, and has therefore chosen a subject entirely conformable to those talents, of which he was a master." Discuss this statement. Does this remark apply to L'Allegro and Il Penseroso, and in how far is Milton's success in these two poems affected by the nature of the subject?
2. Show how the character of Richard II. is gradually unfolded, and developed by Shakespeare.
3. Give a critical description of Julius Ccesar, Act III., Sc. 1, (the scene in which Cæsar is assassinated).
4. Discuss the character of Julius Cæsar as presented in the play named after him, In how far may it be defended as regards historic truth?
5. Briefly characterize Cordelia, Albany, Bottom.
6. State concisely the external evidence as to the date of Lear, and the probable sources of the play.
7. Discuss exhaustively the interpretation of the following passages :-
(a) Old fools are babes again, and must be used With checks as flatteries, when they are seen abused,
(b) If wolves had at thy gate howled that stern time, Thou shouldst have said: Good porter, turn the key, All cruels else subscribe.
(c)

- Full oft 'tis seen,

Our means secure us, and our mere defects Prove our commodities.
(d) Thou changed and self-covered thing, for shame, Bemonster not thy feature.
8. Annotate words italicised in four passages of the following groups :-
(a) It must be great that can inherit us so much as of a thought of ill in him. The fly-slow hours shall not determinate the doubtless limit of my dear exile. This tongue runs so roundly in thy head. Imp out our broken country's drooping wing. And that small model of the barren earth which serves as paste and cover to our bones. Thou sheer, immaculate and shining fountain.-Richard II.
(b) Brief as the lightning in the collied night By Cupid's strongest bow, by his best arrow with the golden head. And on her withered dewlap pour the ale. And here am I, and wode within this wood. By'r lakin a parlous fear. My hounds are bred out of the Spartan kind, so flew'd.
(c) Cæsar doth bear me hard. But 'tis a common proof, that lowliness is young ambition's ladder. With untired spirits and formal constancy. Let no man abide this deed but we the doers. With respect enough, but not with such familiar instances as he hath used of olu. That every like is not the same, the heart of Brutus yearns to think upon.

# (Additional for First Class.) <br> Henry IV. Pts. I and II, Merchant of Venice, Antony and Cleopatra. 

## Time: Threr Hours.

9. Point out with as much definiteness as possible in what respects the play of Henry IV is an advance upon Richard II. Is the latter superior in any point to the former?
10. What may have led Shakespeare to introduce and give such prominence to the comic part of Henry IV?
11. Describe the character of Cleopatra.
12. Discuss the structure of the Merchant of Venice.
13. Describe, with critical comments, either the scene in Henry IV where the partition of the kingdom is discussed by Percy, Glendower and Mortimer, who towards the close of the scene are joined by Lady Percy and Glendower's daughter ; or the banqueting scene on board the Galley (Ant. and Cleop. I, 7).
14. In what sense are the following words employed in the plays specified:-Sophy, gaberdine, Rialto, fill-horse, excrement balked, biggen, rigol, tester, bezonian, burgonet, foison, pleached.

## HISTORY.

Examiner..........................................esident Forpest.

## THIRD YEAR.

## Time: Three Hours.

1. Write brief notes on the extent and prosperity of the Empire in the age of the Antonines.
2. "Amidst the decay of military spirit her armies were commanded by two Generals, Aëtius and Boniface, who may deservedly be named as the last of the Romans." Write brief notes. Show their influence on destinies of the Empire.
3. "The career of Attila divides itself into two parts. The first (A.D. 441-450) consists of the ravage of the Fastern Empire between the Euxine and the Adriatic, and of the negotiations with Theodosius. The second (A. D. 450-453) consists of the invasion of the Western Empire." Give leading events narrated by Gibbon.
4. When the Western Empire was overthrown in 476 what Teutonic tribes had formed settlements in its territory? Give their location.
5. What influences were at work in later years of the Empire preparing the way for the fusion of the Tutons with the Latins?
6. When Christianity became the religion of the Roman Empire it occupied a somewhat different relation to the state than that of the old religion. State the difference and show how it affected the after history of Europe.
7. "The establishment of the Normans in the kingdoms of Naples ane Sicily is an event most romantic in its origin and in its consequences most important both to Italy and the Eastern Empire." Give brief account.
8. Gibbon says, "After a diligent enquiry I can discern four different causes of the ruin of Rome which continued to operate in a period of more than a thousand years." What were these causes ?
9. "Gregory VII., as soon as he became Pope, set about two important reforms." What were they, and what were the results of his efforts?
10. Give a short account of Feudalism, its character, inflence and overthrow.
11. What changes did the Norman Conquest make in the constitudion of England?
12. How did the Netherlands come into the possession of Spain?
13. What effect had the Crusades upon the Church?
14. When did the Turks gain a footing in Europe? What kinddom did they overthrow? In whose reign did the Ottoman Empire reach its greatest extent?
15. In what way did the fall of Constantinople affect Western Europe ?
16. The reformation was brought about by a combination of influences, religious, literary and political. Trace briefly.

## FOURTH YEAR.

Time : Three Hours.

1. What were the causes which led to the Thirty Years' War ? What was the immediate cause of its outbreak?
2. Give the leading events of the Swedish Period of the Thirty Years ${ }^{\circ}$ War.
3. Give a few of the most important events of the reign of Louis XIV. What were the effects of his reign upon France?
4. Write a brief description of the character and reign of Peter the Great.
5. Briefly describe the origin of the Prussian Kingdom.
6. What Emperor succeeded Charles VI. on the imperial throne? What claim did he set up to the Austrian States? What was the attitude of France toward him?
7. Write a brief outline of the history of the Second Silesian War.
8. What effect had the peace of Aix-la-Chappelle (1748) on Austria ?
9. At the commencement of the Seven Years' War how were the nations of Europe ranged ?
10. Who fought the battles of Rossbach, Leuthen and Zorndorf and what were the results ?
11. England largely increased her national debt during the Seven + Years' War. What did she get in return for the expenditure?
12. What sovereigns ruled Russia during the reign of Frederick the Great ?
13. On the Declaration of Independence, United States called on France for aid. A year passed without any decisive resolution in response. What was the cause of this?
14. What led to the calling of the States General of France 1789? How was it composed What was the first dispute? How did it end ?
15. Write notes on significance of the peace of Luneville.
16. Write a short account of Napoleon's designs on India. What was his plan of attack? How far was he able to carry it out?

## POLITICAL ECONOMY.

Examiner.................................... President Ferrest.
Time : Three Hours.

1. "The greater part in value of the wealth now existing in England was produced by human hands within the last twelve months." Explain.
2. France raised a loan of about $5,000,000,000$ francs from her own people to pay the indemnity to Germany. What difference would it have made to the country if the whole amount had been raised by direct taxation and the debt paid at once?
3. If the trade returns show a large increase in consumption of sugar, tea and other necessaries, or if in another case they show a large increase in the consumption of expensive luxuries, what would each seem to indicate in the condition of the population?
4. What is the difference between the system of land-tenure which prevails in England and that which prevails in Treland? What is the Italian system?
5. "It is at once evident that rent is the effect of monopoly." Explain.
6. What is Henry C. Carey's theory of Rent, and what is Mill's criticism of it?
7. "All commodities may rise in their money price, but there cannot be a general rise of values." Explain.
8. "The principal element in the cost of production is the labour." If every man in the community had his wages or salary doubled what would the effect be?
9. "There cannot, in short, be intrinsically a more insignificant thing in the economy of society than money, except in the character of a contrivance for sparing time and labour." Explain.
10. "The value of money is inversely as general prices, falling as they rise and rising as they fall." Explain.
11. "Althongh therefore the productive funds of the country are not increased by credit, they are called into a more complete state of productive activity. Credit is therefore indispensable for rendering the whole capital of the country productive." Explain.
12. A vessel sails from Halifax to Cuba with a cargo of fish and brings back the price in sugar. If successful, would the transaction show an adverse or favorable balance of trade?
13. A. offers to reduce the price of commodities in the community by importing products of foreign pauper labour. B. offers to do the same by introduction of improved machinery. Both will throw a large number of men out of employment. Should government permit it? Is there any difference in the two cases? Give reasnns.
14. Write a short article on "Private property in land."

## ETHICS.

Examiner.................................. Professor Seth.
AFRIL 5 TH. -10 A. M. To 1 P. M.
[Only nine questions to be answered]

1. Explain the Socratic position that "Virtue is Knowledge ;" and indicate its development by Plato and Aristotle.
2. Consider the relation of Socrates $(a)$ to the Sophists, (b) to Plato.
3. Compare and contrast the Idealism of Plato with that of Aristotle.
4. Compare Plato's account of the human "constitution" with Butler's.
5. "The Virtues come neither by nature, nor against nature." Explain Aristotle's meaning, and state his own position.
6. Give Aristotle's doctrine of the Mean, and consider its relation to his general theory of virtue.
7. Sketch the history of Stoicism, and indicate its main positions.
8. State briefly the theories of Society held by Hobbes, I. S. Mill, and Leslie Stephen respectively ; and consider their adequacy.
9. Indicate the two answers to Hobbes, and Butler's relation to the question.
10. Consider the evidence for and against the original character of morality.
11. State and estimate Mill's " proof" of Utilitarianism.
12. "Is a Natural Science of Morals possible?" Discuss this question in the light of recent works.

## METAPHYSICS.

Examiner . ................................................fessor Seth.
APRIL 12Th, 3-6 p. m.
[Only six questions to be answered.]-

1. Compare and contrast Descartes' "Doubt" with Hume's "Universal Scepticism." Can Descartes' fundamental certainty resist the latter?
2. How far is the method of (a) the Cartesians, (b) Locke "dogmatic"?
3. Compare and contrast Spinoza's and Locke's views of Sub. stance.
4. Consider the bearing of the Nominalism of (a) Spinoza, (b) Berkeley, upon their general metaphysical position.
5. How far is Locke's method (a) psychological, (b) epistemological ? Consider the bearing of this question upon the interpretation of the Essay.
6. How does Berkeley account for (a) the externality, (b) the permanence, $(c)$ the reality, of the material world ?
7. Consider the following objections to Berkeley's philosophy :-
(a) It is a Petitio Principii.
(b) It leads to absolute Egoism or Solipsism.
(c) It contradicts Common Sense.
8. Give Hume's account of Causality, and explain the importance attached by him to this element in knowledge.
9. "Nihil est in intellectu quod non prius fuerit in sensu." Explain and consider.

## LOGIC AND PSYCHOLOGY.

Examiner. . . . . . . . . . . . . . . . . . . . . . . . . . . Prof. Lyall, L.L.D.
PSYCHOLOGY.
Wednesday, 28th November, 1888.
Time: Two Hours.

1. Specify the Practical Processes, and state what is meant by them. Distinguish between Classification simply, and Generalization, giving examples of each.
2. What is Mill's, and what Dr. Brown's, view of the Reasoning Process? What are the objections to these views? What is the view taken in the class? What do you understand by Perception? Give the theories of Perception.
3. What account was given of Memory? How may this view be vindicated, or justified, and to what practical uses may it be turned ?
4. What classifications have been given of the Laws of Association, and what other view may be taken of these Laws? What do you understand by the Secondary Laws?
5. What is the higher and Poetic Imagination, as distinguished from the view more commonly taken of this state?

Thursday, November 29th, 1888.
Time: Two Hours.

1. How have the Emotions been classified? On what principle should a classification of these states proceed; and what classification accordingly have we proposed?
2. Specify the Emotions under the first two classes of these states.
3. Give the Theories on the subject of Beauty and Sublimity.
4. What are the Conations or Active Powers? What different parts do they perform in action?
5. What view may be taken on the subject of the Freedom of the Will?

## LOGIC.

Tuesday, 9 Til April, $10 \mathrm{~A} . \mathrm{m}$. to $1 \mathrm{p} . \mathrm{M}$.

## 1. What place do Concepts hold in Logic ?

Distinguish between Concepts and Judgments. In what respects may they be said to be identical ? Under what relation of quantity-of containing and contained -may they be considered? Which of these quantities constitutes the Depth - which the Breadth of a Concept? Find Aristotle's Predicables in these.
2. Define a Proposition by its constituent parts. How are Propositions divided with reference to their quantity, how with reference to their quality? What is the Conversion of Propositions? How is A converted? Show why E and I are converted simply? How are Propositions characterized according to the relation subsisting between the Subject and Predicate ?
3. Give the rules of the Extensive Categorical Syllogism, with those of the Intensive, showing why they differ ; and what fallacies result from a violation of the former.
4. State the laws of the Disjunctive and Hypothetical Syllogisms, respectively-in " modo ponente" and " modo tollente."
5. What do you understannd by the Moods and Figures of the Syllogism? Why is it better to retain a Syllogism in the 2nd and 3rd Figures than to reduce it to one in the 1st? What is the object of the 2nd and 3rd Figures respectively ?

Give a scheme of the Fallacies. Give the laws of Definition, Division and Probation.

MATHEMATICS.
Examiner. ............................. C. Macdonald, M. A.
GEOMETRY.--FIRST YEAR.
APRIL 8. -10 A. M. TO 1 P. M.

1. Prove either the 12 th or 13 th proposition of Euclid's Second Book, and give an enunciation that shall include both propositions.
2. "The straight line drawn from the end of the diameter of a circle at right angles to it falls without the circle." Prove this, and give the enunciations of other two propositions that repeat this fundamental idea of tangency.
3. "If two chords in a circle cut one another, the rectangle contained by the segments of the one is equal to the rectangle contained by the segments of the other." Prove this in the common way (one figure); or, better still, recast the enunciation so as to include this and the succeeding proposition, and then proceed to prove.
4. Describe a circle about a given triangle and make any obvious deduction from your figure.
5. (Euclid IV. 10). "To describe a triangle, having each of the angles at the base double the vertical angle." Assuming that the chord of the greater circle has been shown to be a tangent to the less, continue the proof to the end.
6. If a straight line be drawn pa:allel to one side of a triangle entting the other two, shew that it cuts them proportionately. (Draw only one figure).
7. Find a mean proportional between two given straight lines.
8. BD is a straight line bisected in Q ; from Q as centre, with any radius, a circle is described; shew that, if P be any point in its circumference, $\mathrm{PB}^{2}+\mathrm{PD}^{2}$ is constant.
9. If either the interior or exterior angles (formed by producing the sides) of any quadrilateral be bisected by straight lines that meet, the angles of the quadrilateral thus formed are in the circumference of a circle.
10. If the base and vertical angle of a triangle are given, (1) the locus of the centre of the inscribed circle is a circle; (2) the locus of the centre of the escribed circle touching the base, is the same circle; (3) OQ, the distance of their centres, is constant ; (4) OQ passes through a fixed point,
11. Any two of the following:-
(a.) Two variable circles touch each other, and also a given line in two given points P and Q . Find the locus of their point of contact.
(b.) P is a given point in a given line: describe a circle with a given centre, not in the line, cutting it in $F$ and $G$ so that the rectangle PF. PG may be equal to a given space.
(c.) BC is the diameter of a circle and X the tangent at C ; from B any straight lines BH and BK are drawn to meet the tangent, cutting the circle in $F$ and $G$ respectively. Prove that the angle $B F G$ is equal to the angle at $K$, (withont using the sixth book, if you can).

## GEOMETRY AND MENSURATION.-SECOND YEAR.

$$
\text { APRIL } 8-10 \text { A. M. Tо } 1 \text { P. M. }
$$

1. What do you consider the most important corollary of the 20 th proposition of the Sixth Book of Euclid? Illustrate its use. Give an analogous statement respecting perimeters of polygons, with proof.
2. Prove Euc. VI. 7, writing out the enunciation. Shew why the limitation regarding the third angles is necessary.
3. If similar rectilineal figures be described on the three sides of a right-angled triangle, one of these is equal to the sum of the other two.
4. Either of the following :- (So also in the next three questions.)
(a.) In a parabola the subnormal is constant, and equal to half the latus rectum.
(b.) If from the point of concourse of two tangents to a parabola a line be drawn parallel to the axis, it bisects the chord of contact.
5. (a.) The tangent to an ellipse at any point makes equal angles with the focal distances of the point.
(b.) C is the centre, AA , the major axis, $\mathrm{BB}_{/}$the minor axis of an ellipse, and PN is any ordinate. Prove $\mathrm{PN}^{2}: A N . N A /:: \mathrm{BC}^{2}: \mathrm{AC}^{2}$.
6. (a). Define "anharmonic ratio," and shew that if a pencil of four rays be cut by two transversals, any of the anharmonic ratios for the one is equal to the corresponding one for the other.
(b.) The lines drawn from the angles of a triangle to the points where the escribed circles touch the opposite sides are concurrent.
7. (a.) Define "radical axis." Shew also that if from C, the centre of a circle, a perpendicular CN be let fall on a line without the circle, and $Q$ be any other point in that line, $Q N^{2}=$ the difference of the squares of the tangents from $Q$ and $N$.
(b.) From the property that the nine-point circle of a triangle bisects its sides, deduce that its radius $=\frac{1}{2}$ the radius of the circumscribed circle of the triangle.
8. The adjacent sides of a parallelogram are 30 and 40 ft ., and its area is 848.5 sq . ft. Prove that its angles are $45^{\circ}$ and $135^{\circ}$, nearly.
9. Supposing the distance of the sun from the earth 23125 times the earth's radius, and his diameter subtends to us an angle of ( $\left.30 \frac{1}{2}\right)^{\prime}$ find the radius of the sun in terms of the radius of the earth.
10. There are two right cones agreeing in shape, the first of cork, the second of iron. The heights are 6 and 5 inches respectively. Compare their weights, the specific gravity of cork being ' 25 , and that of iron being about $7 \cdot 2$.

## ALCEBRA.-FIRST YEAR.

## Time: Three Hours.

1. Solve any two of the following groups of equations :-

$$
\text { (a) } \left.\begin{array}{rl}
\begin{array}{l}
x \\
2
\end{array}+\frac{2}{x}=\frac{x}{3}+\frac{3}{x} \\
\sqrt{16-\left(x^{2}+7 x\right)}=x^{2}+7 x-\frac{1}{4}
\end{array}\right\} \begin{aligned}
& \text { (b) } \left.\begin{array}{l}
x+2 y=13 \\
\frac{x^{2}-y^{2}=9}{x^{2}+x y=12} \\
x y-2 y^{2}=1
\end{array}\right\} \\
& \left.\qquad \begin{array}{l}
\text { (c) } x^{2}+x y+y^{2}=133 \\
\\
\frac{x+\sqrt{x y}+y=19}{\frac{1}{x^{2}}+\frac{1}{x y}=\frac{1}{u^{2}}} \\
\frac{1}{y^{2}}+\frac{1}{x y}=\frac{1}{b^{2}}
\end{array}\right\}
\end{aligned}
$$

2. The equation, $x^{2}+p x+q=0$, can be represented in the form $(x-\alpha)(x-\beta)=0$. Shew why? Can you make any use of this property in solving easy quadratics? Illustrate.
3. Find positive integer values of $x$ and $y$ in the equation $5 x+7 y$ $=87$ : and shew that the number of such values is limited.
4. Shew that the Determinant $\left|\begin{array}{ccc}b+c, & c, & b \\ c, c+a, & a \\ b, & a, & a+b\end{array}\right|=4 a b c$.
5. Shew that if any two rows or two columns of a determinant change places, the sign of the determinant changes.
6. Assuming the usual notation, sum a Geometrical series to $n$ terms; shew also that, if the successive terms be bracketed up in pairs, each pair being a term of a new series, this series also is a Geometrical Progression.
7. Shew that the Arithmetical, Geometrical and Harmonic means between $a$ and $b$, are in a descending order of magnitude.
8. If $a>b$, then $\frac{a}{b}>\frac{a+x}{b+x}$ : but if $a<b$, then the latter is the less. Give verbal expression to these two statements, after proving them.
9. If there are $n$ algebraical quantities, $a, b, c, \ldots \ldots \ldots k$, prove that $a+b+c+\ldots \ldots+k>n$. $(a . b . c \ldots . k)^{\frac{1}{n}}$
10. Given $x^{2}-2 p x+q$, the roots being $a$ and $\beta$. Find the equation whose roots are the Arithmetic and Geometric means between $\alpha$ and $\beta$.
11. Shew that, if any equation be represented by $f(x)=0$, and if $f(a)$ and $f(b)$ yield opposite signs, or the same sign, an important inference may in each case be made. State the inference, with proof.
12. Find the situation of a negative root of the equation, $x^{3}-5 x^{2}$ $+3 x+48=0$ : and proceed to find the root to two decimal places.
13. If the roots of the equation, $x^{8}+p x^{2}+q x+r=0$, are to each other as $1,2,3$; prove $p q=11 r$.

## TRIGONOMETRY AND ALGEBRA.-SECOND YEAR.

## Time: Three Hours.

1. By considering the Trigonometrical Functions of an angle, illustrate the general principle that when a quantity which varies continuously passes through the extreme values, 0 and $\infty$, it changes its sign.
2. Given $\operatorname{cosec} \mathrm{A}=\frac{17}{8}$ : find the other 5 functions, and determine whether $\operatorname{cosec} \mathrm{A}=\frac{2 \sqrt{a b}}{a+b}$ is possible.
3. Find, by diagram, the fundamental expression for $\cos (A-B)$, and prove $\frac{\tan \mathrm{A}+\tan \mathrm{B}}{\cot \mathrm{A}+\cot \mathrm{B}}=\tan \mathrm{A} \tan \mathrm{B}$.
4. If $\mathrm{A}, \mathrm{B}, \mathrm{C}$ are the half angles of a triangle, prove that the sum of the tangents, two and two, $=1$.
5. A smooth slope, of known gradient, leads up towards a lofty object, which is however inaccessible. Given a measuring line and a theodolite, how would you proceed to find the height of the top of the object above the bottom of the slope ?
6. In any triangle, adopting the usual notation, prove that

$$
\begin{gathered}
\frac{\sin ^{2} \frac{\mathrm{~A}}{2}}{\sin ^{2} \frac{\mathrm{~B}}{2}}=\frac{a(a+c-b)}{b(b+c-a)} ; r=\frac{1}{2}(a+b+c) \tan \frac{\mathrm{A}}{2} \tan \frac{\mathrm{~B}}{2} \tan \frac{\mathrm{C}}{2}: \\
\mathrm{R}=\frac{\mathrm{A}}{4 \cos \frac{\mathrm{~A}}{2} \cos \frac{\mathrm{~B}}{2} \cos \frac{\mathrm{C}}{2}} .
\end{gathered}
$$

7. Give a sketch of the mode of constructing a Table of Log arithmic sines, cosines, \&c., giving reasons for what you say.
8. What is meant by the "Modulus" of a system of Logarithms? For example: the modulus of the common system is $43429+$. Explain fully.
9. There are $m$ and $n$ persons, with the same opportunities of knowing the truth and equally truthful : $m$ of them declare a certain event has happened : this the others deny. What is the Mathematical result of this conflct of testimony? Prove what you say.
10. A person, at a certain age, "insures his life," for the annual premium $A$, the amount, $M$, being payable at the end of the year in which he shall die. Find after how many years, if he live, he will have paid a sum equivalent to M .

$$
\left\{n=\frac{\log \left(1+\frac{\mathrm{M} r}{\mathrm{AR}}\right)}{\log \mathrm{R}}\right\} \text { (usual notation.) }
$$

$\frac{7}{3}$
11. Expand $(a+x)$ as far as, and inclusively of, the first negative term.
12. If from any number in the Decimal scale the sum of its digits be subtracted, the remainder is divided by 9 . Also, generalize the theorem.

## ADDITIONAL MATHEMATICS. - SECOND YEAR.

## Time: Three Hours.

1. If a solid angle be contained by three plane angles, any two of these are together greater than the third.
2. Draw a quadrilateral with its three diagonals, and point out the Harmonic pencils connected with your diagram. State also, without taking time to prove, the fundamental propositions on which the proof of these harmonic properties depends.
3. If $p, p_{i}, p_{l}$, be the distances of the orthocentre of a triangle from the angles $\mathrm{A}, \mathrm{B}, \mathrm{C}:$ prove $p p_{,} p_{11}=a b c$ cot. A cot. B cot. C.
4. Shew that the expression $(\cos . \theta+\sqrt{-1} \sin \theta)^{\frac{1}{n}}$ has $n$ different values, and no more : and show how to find them.
5. Prove Demoivre's Theorem when the index is a negative integer : $(\cos \theta+\sqrt{-1} \sin \theta)$.
6. Find the three values of $(1+\sqrt{ }-3)^{\frac{1}{5}}$.
7. Find the value of the fraction $\frac{x-x+2}{\sin x \log (1+x)}$, when $x=0$.
8. If $a=\tan ^{-1} \frac{1}{5}$, shew that $4 a$ does not differ much from $\frac{\pi}{4}$. Thereafter show that $\frac{\pi}{4}=4 a+\tan ^{-1} \frac{1}{99}-\tan ^{-1} \frac{1}{70} \ldots \ldots$ (1.) And compare the advantage of computing $\pi$ from Machin's series with the method that could be applied to equation (1).
9. A pack of 52 cards contains 16 court cards (honours). A undertakes that in four cuts he will cut at least one honour. B pledges himself to do the same in three cuts. Shew that, before cutting, the odds in favour of A are about $3 \frac{1}{2}: 1$, and in favour of B about $2: 1$.
10. A right cylinder whose axis is $\frac{4}{5}$ ths of the diameter of the sphere from which it is cut, has its volume to that of the sphere as $54: 125$.

## PHYSICS.

Examiner................ .........J. G. MacGregor, D. Sc.
THIRD YEAR CLASS.
April 8th, 10 A.M. -1 P.M.
N. B.-Answer only ten questions. Those indicated by an asterisk have the higher values.

* (1.) "The rate of change of either the magnitude or the direction of velocity is called acceleration." Criticise this statement.
(2.) What initial velocity is necessary to make a rifle bullet strike an object placed 300 feet vertically above the gun, with a velocity of 600 feet per second, the resistance of the air being neglected and the acceleration of a falling body being taken as 32 feet per sec. per sec. ?-If the bullet's mass is 1 oz ., find its energy just before striking the object.
* (3.) Resolve a force 20 into two forces, $(a)$ in the same direction, (b) in opposite directions, one of them in both cases being three times as far from the given force as the other.
* (4.) What are the conditions of equilibrium of a particle?-Forces $\mathrm{P}, \mathrm{Q}$ and R act on a particle. Their magnitudes are 3, 4 and 5 respectively. The angle between P and Q is $90^{\circ}$, between Q and $\mathrm{R} 120^{\circ}$, and between $R$ and $\mathrm{P} 150^{\circ}$. Is the particle in equilibrium?
(5.) What are (a) elastic bodies, (b) perfectly elastic bodies, (c) brittle bodies? State Hooke's Law and describe the experiments you would perform to test its truth in the case of the elongation of a wire.
* (6.) Assuming that the pressure of a liquid at rest is always normal to the surface pressed, show that in vessels which communicate with one another, the upper surfaces of any liquid which they contain must be in the same horizontal plane.
(7.) Describe carefully the structure and mode of action of any apparatus by which the pressure of air in a vessel may be reduced.
*(8.) Describe any method of determiring the specific heat of a metal, stating what observations you would make, and how you would make the necessary calcuiation.
* (9.) How would you show by experiment that the pressure of a vapour at a given temperature cannot exceed a certain value? - How does the maximum value of the pressure vary with the temperature? And what account does the kinetic theory of heat give of this phenomenon?
(10.) Describe experiments shewing that when a piece of iron is brought into a magnetic field it becomes itself a magnet.-And show how it is that iron filings may be used to map out a magnetic field.
(11.) How would you show by experiment that when two bodies are rubbed together they acquire electrical charges of the same quantity but of different sign?
* (12.) Describe any form of electrical machine and explain fully its mode of working.
* (13.) Give a general statement of the phenomena and the laws of electrolysis.
* (14.) Why is it that notes of two musical instruments can be distinguished though they may be of the same pitch and loudness?-Sketch the evidence on which your answer is based.
* (15.) The spectrum of ordinary gas-light is continuous, that of a certain nebula is discontinuous. Explain these statements, and shew what conclusions may be drawn from them.

> (Additional for First Class.)

April IETH, $10-11.30$ A. m.

## N. B.-Answer only four questions.

1. Shew that the acceleration of a body moving with uniform speed in a circle is directed towards the centre and is equal to the quotient of the square of the speed by the radius.
2. A ladder is to rest with its lower end on a smooth pavement, and its upper end against a smooth vertical wall. Shew that it cannot rest in such a position unless some force is exerted upon it ; and find what that foree must be, if it be applied horizontally at the lower end of the ladder, it being given that the ladder weighs 100 lbs ., is 50 ft . long, has its centre of gravity midway between its ends and is to rest with its upper end 25 feet from the pavement.
3. A uniform tube whose internal section is 1 sq . in. is fitted at one end into a bulb whose capacity is $15 \mathrm{cu} . \mathrm{in}$. The tube is provided with a piston frictionless and airtight. The bulb contains air ; and I find that with the barometer at 30 in . and the whole apparatus at $12^{\circ} \mathrm{C}, 1$ must pull the piston outwards with a force equal to the weight of 2 cu . in. of Mercury in order to keep it 3 in . from the bulb end of the tube. What force must I exert to keep it 4 inches from the end, if the Barometer falls to 29 in . and the temperature rises to $40^{\circ} \mathrm{C}$ ?
4. Prove that if an electrical current is flowing in a uniform wire, the difference between the potentials of any two points of the wire is proportional to the length of the wire between them; and describe a method of comparing the resistances of two wires, based on this result.
5. Describe the character of the magnetic field in the neighbourhood of any circuit in which an electrical current is flowing; and deduce therefrom the laws of the action of one current on another.

## FOURTH YEAR CLASS.

Afril 5Th. -10 A. M. To 1 p. M.

N. B. Answer any ten questions. Those indicated by an asterisk have the higher values.

1. What observations would you make to determine the obliquity of the ecliptic? Obtain an expression for the obliquity in terms of the quantities obssrved.
*2. Shew how the distance of one of the superior planets from the sun is determined.
2. Enunciate Kepler's Laws, and shew that it follows from one of them that the force exerted by the sun on a planet is directed towards the sun.
*4. How is the mass determined (a) of a planet which has a satellite, (b) of the moon ?
*5. Draw roughly (so as to indicate their general relations,) the isothermals and adiabatics of a substance which contracts as its temperature rises ; and determine the effect of an adiabatic compression of such a snbstance, on its temperature.
*6. Explain the term entropy; and shew that the entropy of a system of bodies at different temperatures tends to increase.
*7. Prove that the ratio of the elasticity at constant entropy to the elasticity at constant temperature is equal to the ratio of the specific heat at constant pressure to the specific heat at constant volume.
3. Describe Thomson and Joule's experiments on the flow of gases through narrow tubes under pressure, and state the general results of these experiments.
4. Shew that at any point inside a freely electrified sphere the potential is equal to the ratio of the charge to the radius.
*10. Shew that the capacity of a condenser consisting of two concentric spherical conductors of very nearly the same radius is equal to the quotient of the area of either conductor by $4 \pi$ times the difference of their radii.
*11. Prove that if a bar magnet (moment of inertia $=I$, magnetic moment $=M$ ) be mounted on a frictionless pivot and made to oscillate in a horizontal plane in the earth's magnetic field, the horizontal intensity of the field will be equal to $\frac{4 \pi^{2} \mathrm{I}}{t^{2} \mathrm{M}}$, where $t$ is the time of a complete oscillation.
*12. Describe the Sine Galvanometer and the mode of using it ; and shew that currents sent through it are proportional to the sines of the deflections of the needle.
*13. Shew that the work done in moving either of two circuits out of the field of the other is Mi$i i^{\prime}$, where $i$ and $i^{\prime}$ are the currents in the circuits, and $M$ their coefficient of mutual induction, in their initial positions.

## (Additional for First Class.)

April $16 \mathrm{Th}-10$ to 11.30 A. M.

## N B. Answer only four questions.

1. Shew that it follows from Kepler's Laws that the force exerted by the sun on a planet is inversely proportional to the square of the distance between them.
2. What is Thomson's absolute scale of temperature? Shew that the numerical value of a temperature on this scale is the reciprocal of the quantity known as Carnot's function.
3. To determine the thermal conductivity of a substance by Forbes' bar method, what observations would you make and how would you treat them?
4. Shew that the potential of a conductor $A$, due to unit charge on a conductor $B$, is equal to the potential of $B$ due to unit charge on $A$.
5. Find the potential and the strength of field at the centre of a circular wire in which a current is flowing.

## DYNAMICS.

APRIL $15 \mathrm{TH}, 10$ A. M. -1 P. M.
N. B.--Answer only ten questions. Those indicated by an asterisk have the higher values.

1. Two travellers, starting from the same point, go, A 10 miles northwards, and B 8 miles north-eastwards. Find B's displacement relative to $A$.
2. Obtain an expression for the magnitude of the resultant of two velocities in terms of their magnitudes and their inclination, and shew what forms it takes in important special cases.
*3. A point moves in a parabola under an acceleration directed towards the vertex. Shew that the time required to move from any point to the vertex will vary as the cube of the distance of the point from the axis.
3. Shew that the resultant of two component simple harmonic motions in different directions, but of the same period and phase, is a simple harmonic motion with period and phase the same as those of the components.
*5. Shew that any displacement of a rigid plane system in its own plane may be produced by rotation about some point in its plane ; and shew how to determine the instantaneous centre of the system when the velocities of two of its points are known.
*6. The resultant of a rotation about a given axis and a translation in a direction perpendicular to the given axis is an equal rotation about a parallel axis.
*7. A writer states that he employed as unit of velocity a velocity of 20 cm . per sec. and as unit of mass the mass of 15 grm ., and that his derived unit of force is equal to the weight of a kilogramme ; but he does not state what unit of time he employed. Find it. ( $g=9.81 \mathrm{~m} .-\mathrm{sec}$. units.)
*8. A ball weighing 5 oz . is falling vertically with a velocity of 150 ft . per sec . Find the impulse of the blow by which it may be made to move in an upward direction, inclined $30^{\circ}$ to the horizon, with twice its initial momentum.
*9. Prove that the horizontal force which will just sustain a heavy particle on a rough inclined plane, will sustain the particle on a smooth inclined plane, provided its inclination is less than that of the rough plane by the augle of repose.
*10. Shew that the work done in moving a particle, which is acted upon by a central force, from any one position to any other, is independent of the path.
*11. A particle of mass $m$ slides down a smooth inclined plane of inclination $i$ and draws another particle by an inextensible string along a smooth table level with the top of the inclined plane. In $t$ seconds from rest it traverses $s$ feet. Find the mass of the second particle.
*12. Shew that the component acceleration, in any given direction, of the centre of mass of a system of particles, is the same as the acceleration of a particle which has a mass equal to the mass of the system and is acted upon by a force in the given direction equal to the sum of the components in that direction of the external forces acting on the particles of the system.
*13. A uniform circular dise whose plane is vertical rolls without sliding down an inclined plane. Determine its motion. (The moment of inertia of such a dise about an axis normal to its plane through its centre is half the product of its mass into the square of its radius.)

## (Additional for First Class.)

APRIL $16 \mathrm{TH}, 11.30$ A. M. -1 P. M.

## N. B.-Answer only four questions.

1. A particle of mass $m$ has a simple harmonic motion with a period $t$ and an amplitude s. Shew that its energy is the same at all points of its path.
2. The homogeneous strain being defined to be such that the distances of pairs of points, so placed in the unstrained system that the lines joining them have the same direction, are increased or diminished in length in the same ratio, prove that points which lie in straight lines before such a strain, lie also in straight lines after it, and that lines which are parallel before such a strain are parallel also after it.
3. Shew that if a cylinder of length $l$ is twisted through an angle $\vartheta$, any small portion of it distant $r$ from the axis undergoes a shear of amount $\vartheta r / l$. Determine also the plane and direction of the shear.
4. Obtain the equations of motion of a flexible inextensible string, all of its parts and the external forces acting on it being in one plane. -Apply them to prove that if a heavy string is hanging in equilibrium with one point fixed, it must be straight, and the stresses at any two points must differ by the weight of the portion of the string between them.
5. Shew that the horizontal component of the tension at any point of a flexible string, which has two points fixed and is hanging in equilibrium, is equal to the tension at the lowest point, and that the vertical component is equal to the weight of the portion of string between the given point and the lowest point.

## CHEMISTRY.

Examiner................ .......... ............. Professor Lawson.

## INORGANIC CHEMISTRY.

Friday, April $12 \mathrm{th}, 10 \mathrm{~A}, \mathrm{M}$. to $1 \mathrm{p} . \mathrm{m}$.

## Five questions only to be answered. All are of equal value.

1. Define the object of chemical study, more especially, (1) the kind of actions of bodies upon each other which come within the range of chemistry, (2) the nature of those changes in the properties of bodies so acting that are called chemical. What is affinity? and wherein does it differ from cohesion? Cite examples of chemical action, or experiments, in illustration of your explanations. Give examples of the effects of heat, and of electricity, in determining respectively combination and decomposition.
2. The relative weights acconding to which bodies combine are invariable for each combination. Explain what is meant by this law of definite proportions, and illustrate by examples. What is understood by the terms combining weights or equivalents? What are the equivalent weights of chlorine, oxygen, hydrogen? What is meant by the law of multiple proportions? (Quotations from class books will not be accepted as answers, unless accompanied by explanations, or independent examples.) What difference is there between the idea of equivalents and the more modern one of atomic proportions?
3. Put the following statements of re-actions into the form of chemical equations :-
(1) One molecule of Sodium Sulphate, one molecule of Calcium Carbonate, and four atoms of Carbon,-yield one molecule of Sodium Carbonate, one molecule of Calcium Sulphide, and four molecules of Carbon Monoxide.
(2) Six atoms of Chlorine, and six molecules of Potassium Hydrate, yield one molecule of Potassium Chlorate, five molecules of Potassium Chloride, and three molecules of Water.
(3) One molecule of Sulphuric Acid and two molecules of Nitrate of Soda, -yield one molecule of Sodium Sulphate and two molecules of Nitric Acid.
(4) One molecule of Calcium Fluoride and one molecule of Sulphuric Acid,-yield one molecule of Calcium Sulphate and two molecules of Hydrofluoric Acid.
4. Describe two separate processes for preparing Hydrogen, enumerate the materials used, explain fully the nature of the re-action, or chemical changes that take place in these materials, and then express the changes by chemical equations. Give an account of Hydrogen, as regards, (1) its history, (2) its physical properties, (3) its chemical properties. What special precaution is necessary in preparing, storing, and experimenting with hydrogen?
5. What is the composition of Water, as regards the ratio of its constituents in volume and in weight. What is its molecular weight, and what is meant by that term? What are the physcal properties of Water; its chemical properties? What are the ordinary impurities of lake, river, spring and well waters, and in what way may the more common impurities be detected? What is the readiest test for ascertaining the absence or probable presence of sewage or drainage in a well water?
6. Give an account of Oxygen, as regards its History, Mode of Preparation, Physical Properties, Chemical Properties, and the general character of the compounds which it forms by direct union with other elements. Explain the chemical nature of the phenomenon of Combustion. What is the general composition of Atmospheric Air, and what impurities are added to it by animal respiration and ordinary processes of combustion.
7. How is Nitrogen prepared, and what are its properties. Explain method of preparing Ammonia. What is its composition, and what are its principal properties. What is Ammonium? How is Nitric Acid prepared ; what are its general properties and in what way does it act upon metals, as silver and tin? Give explanations of re-action in these cases, with special regard to the compounds produced.
8. In what form or forms does the metal Potassium occur in nature, (1) in rocks, (2) in the soil, (3) in the tissues of the plant, (4) in plant ash? What kinds of soils are most likely to contain potash ? How is caustic potash prepared, and purified?
9. Arrange the more important metals into groups according to the forms (or combinations) in which they occur in nature, and the solubility or insolubility of their compounds. Show the general method, founded upon such facts, by which metallic oxides (bases) may be detected and separated in laboratory operations. Give examples (not lists) of metals, (1) whose oxides, phosphates and sulphides are soluble; (2) whose phosphates are insoluble and sulphides soluble; (3) whose sulphides are insoluble in alkaline solutions ; (4) whose sulphides are insoluble in acid solutions ; (5) whose chlorides are insoluble.

## ORGANIC CHEMISTRY.

Tumsday, April 9th, 3 то 6 p. M.

## Five qaestions to be answered.

1. In what way would you recognize an organic as distinguished from an inorganic substance? What is the purpose of an elementary analysis in its relation to organic chemistry? What kinds of organic substances are subjected to such analysis? What apparatus is necessary, and what is the general method of conducting the process ? Make a diagram illustrating your description, so as to show the exact position of the several parts of the apparatus when put together for the combustion.
2. Show the chemical constitution of Marsh Gas by reference to the substitution compounds which it forms, giving examples of the substitution of Hydrogen in the hydrocarbon by Chlorine, by Oxygen, and by Nitrogen. Compare the conslitution of the three bodies $\mathrm{CH}_{3} \mathrm{Cl}$, $\mathrm{CHI}, \mathrm{CH}_{3}(\mathrm{OH})$. What is the group $\mathrm{CH}_{3}$ called, and what are the facts that lead to its being regarded as a "radical"?
3. Show the mode of generation of Hydrocarbons containing more than one atom of Carbon. Compare Methyl Hydrate, Methylamine, and Dimethyl or Ethyl Hydride. Why are certain hydrocarbons spoken of as homologous compounds, and as forming a homologous series? What is meant by these terms, and what is the general formula of the series?

## EXAMINATION PAPERS.

4. What is the radical of ordinary Alcohol? What is the hydride of that radical? From what compounds, and by what chemical changes is Alcohol produced? What are its chemical and physical properties? What is the constitutional relation of common Ether (sulphuric, so-called,) to Alcohol, and what are its principal physical and chemical properties?
5. What is Formic Acid, and how does it occur in nature, or can be produced artificially? What is its relation, in origin and constitution, to an Alcohol? What are its properties? Describe Acetic Acid, with respect to its own properties in the separate state, and the salts which it forms. How is Acetic Ether produced, and what is its constitution? What is its relation to Aldehyde?
6. Give a full account, so far as they show the chemical constitution of fats, of the processes of manufacture of common soap and palmitin candles, including the action of acids upon soaps. What is Glycerin? Nitroglycerine? Dynamite?
7. The chemical bodies known as hydrocarbons, alcohols, acids, and related compounds are referred to two great divisions, viz., the Fatty, and the Aromatic, compounds. Point out the principal differences in composition that separate the compounds of the one division from those of the other, and explain why the compounds of the one are spoken of as fatty and of the other as aromatic? Describe Benzole as regards its constitution and principal derivatives. What is common Turpentine, and to what other compounds is it chemically related?

## PRACTICAL CHEMISTRY.

Friday, 12 th April. -3 p. m. to 6 p. m.

The first question to be answered, and eight determinations of Acids and eight of Base smade; or, in lieu of the first question, two additional determinations of Bases and two of Acids may be made. To attain first class, a clear exposition of the first question must be given.

1. Explain what ehanges take place upon salts in solution when they are so acted upon by the following bodies as to disturb their solubility :-Hydric Chloride, Hydric Sulphide, Ammonic Sulphide, Ammonia, Potash, Disodic, Phosphate, Baric Nitrate.
2. The solutions assigned to you from the series of bottles labelled $\frac{x}{1}, \frac{x}{2}$, \&c., to $\ldots \ldots \frac{x}{48}$, are to be tested in a systematic manner, for Metallic Oxides or Bases and for Acids, -one metallic oxide or base, and one acid in each solution. Note results clearly, giving composition of the principal precipitates obtained, and the final determinations which you make for each number. In case of failure to find base or acid, cite results which prove their absence. (No books, tables or notes to be used.)
[The solutions submitted for testing (except those consisting of distilled water only) contained one each of the following Bases and Acids, viz. : -(1.) Metallic Oxides or Bases: $\mathrm{Na}_{2} \mathrm{O} ; \mathrm{K}_{2} \mathrm{O}$; $\left(\mathrm{NH}_{4}\right)_{2} \mathrm{O}$; $\mathrm{BaO} ; \mathrm{CaO} ; \mathrm{SrO} ; \mathrm{MgO} ; \mathrm{Cr}_{2} \mathrm{O}_{3} ; \mathrm{CoO} ; \mathrm{FeO} ; \mathrm{ZnO} ; \mathrm{Al}_{2} \mathrm{O}_{3} ; \mathrm{CuO} ;$ $\mathrm{Sb}_{2} \mathrm{O}_{8} ; \mathrm{PbO} ; \mathrm{BiO} ; \mathrm{Hg}_{2} \mathrm{O} ; \mathrm{HgO} ; \mathrm{CdO} ; \mathrm{As}_{2} \mathrm{O}_{3} ; \mathrm{Ag}_{2} \mathrm{O} ; \mathrm{Pt} \mathrm{Cl}_{4}$. Inorganic Acids: $\mathrm{H}_{2} \mathrm{SO}_{4} ; \mathrm{HNO}_{3} ; \mathrm{HPO}_{4} ; \mathrm{HCl} ; \mathrm{HBr}$; HI ; $\mathrm{H}_{2} \mathrm{CrO}_{4}$. Oroanic Acids : $\mathrm{H}_{2}\left(=\overline{\mathrm{T}} \mathrm{H}_{2} \mathrm{C}_{4} \mathrm{H}_{4} \mathrm{O}_{6}\right)$; $\mathrm{H} \overline{\mathrm{A}}\left(=\mathrm{HC}_{2} \mathrm{H}_{3} \mathrm{O}_{2}\right)$.]

BOTANY.
Examiner .....................................Prof. Lawson.
Thursday, April 4 th, 3 to 6 p. m.

## Five questions to be answered.

1. Explain what is meant by the "Cell" as the unit in vegetable anatomy, and give a general description of its form and the nature of its parts. What are the principal "modifications" of the cell wall, and what purposes do they serve? What is the chemical nature of protoplasm, what is its general appearance in an active cell, and upon what does its consistence depend ? What are Plastids ; specify the three types to which the different kinds of plastids are referred, and indicate their relations to active processes in the cell.
2. Give an account of Starch as a reserve form of elaborated food in the plant. Notice the principal modifications of the starch granule. What is Inuline? What other soluble carbohydrates occur in the cell sap ?
3. Give a classification of Plant-cells, indicating the principal kinds, not by technical names only, but by brief descriptions shewing essential differences.
4. Give a concise account of the general structure of a plant, as regards its different organs, and the way in which tissue elements are so arranged or combined as to produce them. Describe the several modifications of the stem in woody plants, and the modes of increase of such stems.
5. Describe the phenomenon known as the "Circulation" of protoplasm in active cells; "Rotation"; the "Amœboid Movement." In what way are these movements affected by temperature, (give definite results of experiments or observations); what is meant by the terms " maximum," "optimum," and " minimum." as regards temperatures in relation to protoplasmic activity? Give a statement of what is known in regard to the so-called Continuity of Protoplasm in plants.
6. Give a brief description of a plant root, with respect only to the point of growth and the parts chiefly concerned in absorption Explain the nature of the action of the root-cell as an osmotic apparatus. What are the materials taken up by the root from the soil. What are the principal constituents of the ash of plants ?
7. What are the offices respectively of the different ash constituents in influencing the formation of the several organic compounds produced in the plant cell? What elements can replace each other, and are any special forms of metallic salts influential in promoting, or necessary for, the transfer of carbohydrates after they are produced in the plant?
8. Through what tissues is water principally transferred in woody plants ; in what way may the path and rate of transfer be experimentally shown? Explain the difference between Evaporation and Transpiration? What provision is there in the plant structure for Transpiration? Explain the mode in which the quantity of water transpired is ascertained experimentally; also the manner in which the extent of transpiring surface, and the number of stomata, are ascertained.
9. What is meant by the term Assimilation? What cells or tissues are concerned in this process? Explain the nature and structure of the chlorophyll granule, and indicate the mode of occurrence of these granules in different tissues or parts of the plant.

## EXAMINATIONS FOR HONOURS.

## I. -HONOURS IN CLASSICS.

Examiner $\qquad$ John Johnson, M. A.

## I.

PLAUTUS: Miles Gloriosus. TERENCE: Adelphi. VIRGIL: Georgics I, IV. Horace : Epistles, Ars Poetica.
A. 1. Translate : Miles Gl., vss. 689-693. Translate the last line also with the reading, quae supercilia auspicat. Write notes on "kalendis," "quinquatribus."
2. Me sibi habeto, egomet ei me mancupio dabo.

Nisi unum : epityrum illi estur insanum bene.
Translate and explain forms and syntax. Derive mancupio, epityrum.
3. Scan these lines.
4. Translate : M. G., vss. 881-884. Derive morium, deasciari, potesset. Ritschl reads loream for morium, translate accordingly.
5. a. Numquid videtur demutare atque ut quidem

Dixi esse nobis dudum hunc moechum militem?
b. Nil tu amassis : mi haec desponsast.
c. Si ego me sciente paterer vicino meo Eam fieri apud me tam insignite injuriam,

Translate and write notes on some points of syntax.
6. Show how accent has influenced Plautine prosody.
B. Translate: Ter. Adelphi, vss. 210-216. Explain the syntax of "quid facerem?" "Adulescente morem gestum oportuit." "Scis quid loquar." What is the Greek for "in loco "?
2. a. Hocine illo dignumst? hocine incipere Aeschinum? Per oppressionem ut hanc mi eripere postulat?
b. Et tibi ob eam rem, siquid usus venerit, Lubens bene faxim.
c. Ita vitast hominum, quasi quom ludas tesseris, Si illud quod maxume opus est jactu non cadit, Illud quod ceeidit forte, id arte ut corrigas.
d. Quid hoc, malum, infelicitatis?

Translate and explain syntax.
3 a. Sy. Hem tibi autem. Ct. Quidnam est? Sy. Lupus in fabula.
b. Mi. Quor duxit alienam? Ae. An sedere oportuit Domi virginem tam grandem, dum cognatus hinc, Illine veniret expectantem?
c. Tu inter eas restim ductans saltabis.

Translate and write explanatory notes.
4. Quote unusual verbal forms used in this play.
5. How is the date of the composition of this play fixed ?
C. 1. Translate : Virg. Georg. I. 183-186. Explain "inopi senectae." Distinguish other constructions used with metuen.
2. Translate : Georg. IV. 229-230. Explain the force of "relines." What is the meaning with the reading ore fave?
3. Translate : Georg. IV. 116-120. Explain use of tenses.
4. $a$. Nee Pelusiacae curam aspernabere lentis.
h. Arctos Oceani metuentes aequore tingui.
c. Et pro purpureo poenas dat Scylla capillo.
d. Et gemina auratos taurino cornua voltu Eridanus.

Translate and write explanatory notes.
5. How is the date of the Georgics fixed by internal evidence? What authorities did Virgil follow?
C. 1. Translate : Hor. Epp. I, 7, vss. 22-27. In what connection are the first three lines written? The third line is variously translated. Write notes on poetical constructions found herein.
2. Translate Hor. A. P. vss. 42-50. Vs. 43 is sometimes punctuated ut jam nunc dicat, jam nunc debentia dici Pleraque. Translate and criticize the change. Explain hoc amet, hoc spernat. What restriction does $\mathbf{H}$. put on the licentia? H. took this license himself.
3. Quote some renderings of Greek proverbs, giving the originals.
4. $a$. What opinions does Horace express about Homer? Quote as far as you can.
b. What reference does Horace make, in the Epistles, to his education after leaving the country for Rome?

## II.

JuVenal: Satires, VII, VIII, XIV. CICERO: De Oratore, I, II. LIVY : BooksXXI, XXII, TACITUS: Germania ;

## Annals: Book II.

Time : Three Hours.
A. Translate : Juven. VII, vss. 166-177.

1 a. "Haec alii sex...." Translate with the reading ast alii sex....
b. "Artem scindens Theodori." Mayor reads scindes: how does he translate it?
2. Write explanatory notes on vss. $169,170,171,174$.
3. Quid enim Verginius armis Debuit ulscisci magis, aut cum Vindice Galba ? Quid Nero tam saeva crudaque tyrannide fecit?

Translate and explain what is referred to. Mayor suggests a different reading and translation of this passage.
4. a. Hospite venturo nemo cessabit tuorum.
b. Gratum est quod patriae civem populoque dedisti Si facis ut patriae sit idoneus, utilis agris.
c. Sed quo divitias haec per tormenta coactas, Quum furor hand dubius, quum sit manifesta phrenesis Ut locuples moriaris egentis vivere fato.

Explain some points of syntax.
5. Discuss the question of Juvenal's banishment.
B. 1. Translate : De Orat. I, 112.
2. a. "Cum peterem magistratum." To what occasion has this been supposed to refer? What is the objection to this view?
b. "Ineptum esse me minime vellem." When are acc. and infin. used after volo?
c. "Quum ipsum dicere numquam sit non ineptum." Explain the use of ipsum dicere.
3. Movent illa etiam quae conjectura explanantur longe aliter atque sunt, sed acute atque concinne; ut cum Scaurus accusaret Rutilium ambitus, cum ipse consul esset factus, ille repulsam tulisset, et in ejus tabulis ostenderet litteras A. F. P. R. idque diceret esse.... ; Rutilius autem, ante factum, post relatum; C. Canius, eques Romanus cum Rufo adesset, exclamat, neutrum illis litteris declarari; 'quid ergo 'inquit Scaurus, 'Aemilius fecit,......' Fill up the gaps and translate.
4. Duo sunt enim genera facetiarum. Name these and quote an example of each.
5. Cicero describes the circumstances that led to the invention of the ars memoriae.
C. 1. Translate : Liv. XXI., Ch. 42.
2. a. "Ubi vero dimicarent, is habitus...."
b. Non vereor ne quis me haec vestri adhortandi causa magnifice loqui existimet.
c. (Placuit) mitti legatos in Hispaniam... quibus si videretur digna causa, et Hannibali denuntiarent ut ab Saguntinis abstineret, et Carthaginem in Africam trajicerent.
Write notes on points of syntax that may seem to require explanation.
3. a. Nova de integro exorta pugna est non illa ordinata per principes hastatosque ac triarios.
b. Rettulerunt patribus .... supplicationem lectisterniumque habendum et ver sacrum vovendum.
c. Si antidea, ac senatus populusque jusserit fieri, faxitur, eo populus solutus liber esto.
d. Qui si Carthaginiensium ductor fuisset, nihil recusandum supplicii foret.
e. Ibi quum sententiis variaretur, et alii redimendos de publico, alii nullam publice impensam faciendam nec prohibendos ex privato redimi; si quibus argentum in praesentia deesset, dandam ex aerario pecuniam mutuam prædibusque ac prædus cavendum populo censerent, tum $T$. Manlius \& c .
Translate and write explanatory notes.
4. Livy mentions some of his anthorities in these books and points out discrepancies or difficulties in their statements.
D. 1. Translate: Ger., Ch. 26.
2. a. "Fœnus agitari et in usuras extendere ignotum." Explain the meaning. The remark seems unnecessary.
b. "Ideoque magis servatur quam si vetitum esset." What is the subject of servatur ?
c. "Agri pro numero....." Explain this passage. Another reading has been suggested for in vices.
d. "Nec enim cum ubertate et amplitudine soli labore contendunt." This sentence has been translated in two ways.
3. a. Ita nationis nomen non gentis evaluisse paulatim, ut omnes primum a victore ob metum, mox a seipsis invento nomine, Germani vocarentur.
-b. Ipsum quin etiam Oceanum illa tentavimus : et superesse adhuc Herculis columnas fama vulgavit. Translate and write explanatory notes.
4. Translate : Ann. II., Ch. 33.
5. Explain unusual constructions in this extract.
6. What place in order of time does the Germania occupy among the works of Tacitus ?

## III.

AESCHYLUS : Eumenides. SOPHOCLES . Oedrpus Rex. ARISTOPHANES: The Knights. HOMER: Odyssey, V.--VIII.
A. 1. Translate : Eum. vss. 360-380, beginning atevסófevą $\delta^{\prime}$

2. a. Write a note on the syntax of the first sentence.

This line is translated in different ways. Translate also with the reading $\mu \varepsilon \lambda \varepsilon$ ќтals.

 $\pi \rho о \delta \tilde{\omega} \sigma \phi^{\prime} \dot{\varepsilon} \kappa \omega ́ \nu$ v.
c. $\pi \bar{\omega} \varsigma ~ \gamma \grave{a} \rho$ тò $\phi \varepsilon \dot{v} \gamma \varepsilon \iota \nu \tau o v ̃ \delta^{\prime} \dot{v} \pi \varepsilon \rho \delta \iota \kappa \varepsilon i \varsigma ~ o ̋ \rho a . ~$

Translate and explain the syntax where necessary.
4. a. ह́ $\gamma \grave{\omega}$ үà $\rho$ v́ $\mu \ddot{v} \pi a v \delta i ́ \kappa \omega s$ vi $\pi i \sigma \chi о \mu a \iota$

$\lambda \iota \pi a \rho \circ \theta \rho o ́ v o \iota \sigma \iota \dot{\eta} \mu \varepsilon ́ v a \varsigma ~ \varepsilon ̇ \pi ’$ ह́б $\chi a ́ \rho a \iota \varsigma$
$\dot{\varepsilon} \xi \varepsilon \iota v, \dot{v} \pi^{\prime}$ à $\sigma \tau \tilde{\omega} \nu \tau \bar{\omega} \nu \delta \varepsilon \tau \tau \mu a \lambda \phi о \nu \mu \varepsilon ́ v a \zeta$.

c. вітє Флєүраíav тスáка,

Translate and write explanatory notes.
5. Scan vss. $361,364,365$.

## EXAMINATION PAPERS

B. 1. Translate: Oed. R. vss. 1337-1356, beginning OI. Ti $\delta \tilde{\eta} \tau^{\prime}$

2. a. $\dot{\iota} \sigma^{\prime} \dot{\eta} \theta \varepsilon ́ \lambda \eta \sigma \alpha \mu \dot{\eta} \delta^{\prime} \dot{a} v a \gamma \nu \omega ̃ \nu a i ́ \pi o \tau \varepsilon$.

This line admits of two translations. How is the following reading translated: $\dot{\omega} \dot{\eta} \theta \dot{\varepsilon} \lambda \eta \sigma a \mu \eta \eta^{\prime} \delta \varepsilon \sigma^{\prime}$ âv $\gamma \nu \omega ̃ v a i ́ ~ \pi о \tau \varepsilon ?$
b. vouádos $\dot{\varepsilon} \pi \iota \pi o d i a s$. Translate the other reading $\dot{\varepsilon} \pi i ̀ \pi o a ̃ s$.

3. $a$.

$$
\pi a ́ \lambda a \iota ~ \delta \varepsilon ̀ ~ \mu \eta ̀ ~ \pi a \rho \grave{\nu} \nu ~ \theta a v \mu a ́ \zeta \varepsilon \tau \tau a \iota .
$$

b. $\tau \grave{\eta} v$ үoṽv $\pi$ ávта ßóбкоvбav $\phi \lambda o ́ \gamma a$



c.

тi $\mu^{\prime}$ ỏ $\lambda a \beta \omega \nu$

$\dot{\varepsilon} \mu a v \tau \grave{\nu} \nu \dot{a} \nu \theta \rho \omega \pi \sigma \iota \sigma \iota \varepsilon ้ v \theta \varepsilon \nu \dot{\eta} \gamma \varepsilon \gamma \dot{\omega} \varsigma$;

e.
ơ $\gamma$ à $\stackrel{̊}{a} v$ رакрàv

Translate, and explain syntax, where necessary, and use of negatives.

b, бтєркто́v, ì $\pi \rho о \sigma \not \emptyset \gamma о \rho о \nu$.
c. тóтє $\gamma \grave{a} \rho$ ảv $\theta a v \dot{\omega} v$.
C. 1. Translate : Aristoph.: Eq. vss. 258-272, beginning, $\dot{\varepsilon} v$ ঠíк $\eta$

2. кฑ้้ $\tau \iota \nu^{\prime} a \dot{v} \tau \omega \tilde{\nu} \gamma \nu \tilde{\varphi} \varsigma$ à $\pi \rho a ́ \gamma \mu o v^{\prime} \kappa$. т. $\lambda$.
$a$. This sentence with the reading $\delta \iota a \beta a \lambda \omega \nu$ admits of two translations.
b. A different metaphor is introduced by a suggested change for $\Phi \mu o v$.


b. $\dot{\varepsilon} \chi \varepsilon \nu \tilde{v} \nu, a ̈ \lambda \varepsilon \iota \psi o v ~ \tau o ̀ v ~ \tau \rho a ́ \chi \eta \lambda o v ~ \tau о v \tau ~ ఢ \iota t, ~$

c.

фaनì $\gamma$ àp avitòv oi $\pi a i ̃ \delta \varepsilon \varsigma, ~ o ̂ ̂ ~ \xi v \nu \varepsilon ф о i ́ t \omega \nu . ~$
$\tau \grave{\eta} \nu \delta \omega \rho \iota \sigma \tau i ̀ \mu \sigma \nu \eta v$ âv $\dot{\alpha} \rho \mu o ́ \tau \tau \varepsilon \sigma \theta a \iota ~ \theta a \mu a ̀ ~ \tau \eta ̀ v ~ \lambda u ́ p a \nu . ~$
 $\kappa \varepsilon ́ \chi \eta \nu \varepsilon v, \omega ̈ \sigma \pi \varepsilon \rho \dot{\varepsilon} \mu \pi \sigma \delta i \zeta \omega \nu$ i $\sigma \chi a ́ \delta a \varsigma$.
Translate and explain the jests.
 каì $\mu \grave{~ \lambda \eta \rho \varepsilon і ̈ \nu, ~ a ́ \lambda \lambda a ̀ ~} \theta \varepsilon a ̃ \sigma \theta a \iota ~ \lambda \iota \pi a \rho o ̀ \nu ~ \pi a \rho a ̀ ~ \tau ̣ ̆ ~ \Delta \iota o v i ́ \sigma \varphi . ~$
 $\delta \varepsilon \lambda \phi i \nu \omega \nu \mu \varepsilon \delta \varepsilon ́ \omega \nu$ इovviápate.


 Translate and explain.
5. Scan lines $3 a, 3 d, 4 a, 4 b$.
D. 1. Translate: Odyssey, V., vss. 276-281.
2. $\quad a$. What does $\tau \dot{\eta} \nu$ refer to ?
b. Write grammatical and explanatory notes on : $\dot{\varepsilon} \pi$ ' ápıotepà $\chi \varepsilon \iota \rho o ́ s, ~ a n d ~ \dot{\omega} \varsigma ~ o ̈ \tau \varepsilon \dot{\rho}<\nu o ́ v$.



4. $\dot{\omega}, \omega \varsigma$ : What is the distinction between?






Translate and parse the words underlined.



## IV.

THUCYDIDES: Book II. PLATO : Phakdo. DEMOSTHENES : De Corona. ARISTOTLE: Poetics.
A. 1. Translate: Thuc. II. 42, § 3, beginning, $\tau \eta ̀ \nu ~ đ \grave{\varepsilon} \tau \tilde{\omega} \nu \dot{\varepsilon} v a v$ ríwv $\tau \iota \mu \omega$ piav to end ot chapter.
2. a. This sentence illustrates the use of a favorite phrase of Thuc.
$b$. The last clause admits of various combinations of words and therefore of translations.
c. What difference will be made by reading (1) T $\tilde{\varphi} \dot{a} \mu v ́ v \varepsilon \sigma \theta a \iota$






 тарабквvaбӨテ̃. Thucyd. II. 7.
Translate this passage, point out its difficulties, grammatical and otherwise, and mention proposed amendments.
4. Translate Th. II.. 89, § 3, 4, beginning $\mu \grave{\eta} \delta \grave{\eta}$ aí $\tau \tilde{\omega} \nu \tau \eta े \nu \tau o ́ \lambda \mu a \nu$ $\delta \varepsilon i \sigma \eta \tau \varepsilon$.
5. a. $\tau o \tilde{v} \pi a \rho \grave{a} \pi \delta \dot{\partial} v$ is explained variously and $\tau o v$ is also read for т 0 ข̃.
b. The order of words in the clause öт ov́к ầ к. $\tau . \lambda$. is to be noticed.
c. ávтimaio兀 $\mu \grave{\varepsilon} \nu$ үà $\rho \kappa, \tau$. $\lambda$. has been interpreted in different ways.
d. Supply the ellipsis in the last sentence.
6. What references are found in the Second Book to events later than the close of the Peloponnesian war?
B. 1. Translate Pnaedo, Ch 47 , beginning, $\tau \grave{o} \gamma \grave{a} \rho \mu \grave{~} \delta \iota \varepsilon \lambda \varepsilon ́ \sigma \theta a \iota$ к.т. $\lambda$.


## Who are meant


 infinitives.
 explanatory note.

 бкєєข $\tau \varepsilon \kappa \alpha \iota \tau \varepsilon \theta$ vávaı. Translate. How does P. show this?


 and write a note on syntax of last sentence.




Translate and explain the argument.
C. 1. Translate: De Corona, $\S \S 102,103$. ßoúiouat toívvv . . . $\pi \rho o ̀ \varsigma ~ i ́ \mu a ̃ ̧ ~ \varepsilon i \pi \varepsilon i v . ~$
2. غ̀ $\theta \eta к а$ vó $\mu о v$.


Explain.


 фи́ф८б $\mu$.
Translate. On what grounds did Aeschines maintain that the $\psi \dot{\eta} \phi \iota \sigma \mu a$ was $\pi$ aрávouov? What force attached to each of them?

What day is meant? To which of our months would uauuкктךptóv roughly correspond? How were the days of the Attic month computed ?
5. Explain what is meant by the following terms : $\kappa \lambda \eta \tau \tilde{\eta} \rho \varepsilon \varsigma, \pi \rho \dot{\sigma} \sigma-$ $\kappa \lambda \eta \sigma \iota \varsigma, a ̉ \nu a ́ \kappa \rho \iota \sigma \iota \varsigma, a ̉ v \tau \omega \mu \sigma \sigma i a l, \dot{v} \mu \omega \mu \sigma \sigma i a, a ̉ \gamma \grave{\omega} \nu \tau \mu \eta \tau o ́ s, a ̉ \gamma \grave{\omega} \nu \dot{a} \tau \dot{\prime} \mu \eta \tau \sigma \varsigma$. Was this trial $\tau \iota \mu \eta \tau o ́ s$ or áтí $\eta \eta$ тos?
D. 1. Translate: Poetics, Chap. XXIII. down to токклía. Explain the construction of the last line.


 ঠраиатотоєі̀бац.
Translate and account for case of $\tau \grave{a} ~ \sigma \pi o v \delta a i a . ~ T o ~ w h a t ~ w o r k ~$ does Aristotle here make reference ?



Translate. What objection is there to this reading, and what has been suggested instead?

 $\qquad$
Translate, and complete the last sentence. Which of these $\mu \varepsilon ́ \rho \eta$ is the most important?
5. What is Aristotle's definition of $\tau \grave{o} \gamma \varepsilon \lambda o \tilde{o} \nu$ and of $\dot{\eta} \tau \rho a \gamma \varphi \delta i a$ ?
6. Carmine qui tragico vilem certavit ob hircum, mox etiam agrestes satyros nudavit. (Horace : A. P.) How does this agree with what Aristotle says?

## v.

## Latin Composition; Philology.

Time: Three Hours.

## A. Translate into Latin :

He felt that it would be madness in him to imitate previous pretenders, to cross the sea with a few British adventurers, or to trust to a general rising of the population. It was necessary, or it was pronounced necessary by all those who invited him over that he should carry an army with him. Yet who could answer for the effect which the appearance of an army might produce? The government was indeed justly odious. But would the English people, altogether unacustomed to the interference of continental powers in English disputes, be inclined to look with favour on a deliverer who was surrounded with foreign soldiers ? If any part of the royal forces resolutely withstood the invaders, would not that part soon have on its side the patriotic sympathy of millions? A defeat would be fatal to the whole undertaking.

## (N. B.-Six questions only to be answered.)

B. 1. "Neither similarity of sounds, nor identity of meaning, alone is sufficient to prove identity of words in different languages." Illustrate this statement.
2. The syllable $y a$ serves different purposes in the Greek and Latin verb.
3. What words in Latin and English are akin to $\dot{i \delta \varepsilon i v, ~} \dot{\delta} \rho \tilde{\nu}$, бкот $\varepsilon \tilde{\nu} \nu$, $\lambda \varepsilon \dot{\sigma} \sigma \sigma \iota v$ ?
4. Show how the root US is found in very dissimilar words in Greek, Latin, and English
5. Latin E represents different original sounds.
6. The digamma assumes various forms in Greek.
7. Give examples of Labialism.
8. How is the existence of such similar words as ávttá $\omega$, ávtáá ${ }^{\circ} \omega$ accounted for ?
(A B.-Six questions only to be answercd.
C. 1. Explain the different forms of the nom. pl. of the 2nd declension as found in inscriptions and MSS.
2. The original comparative suffixes are both found in Greek and Latin.
3. Compare the reflexive pronoun in Sanskrit, Greek, and Latin, and account for the forms $\mu i \nu$, $v i v$.
4. Different origins are assigned to the augment. Where is it omitted ? Explain the form $\dot{\eta} \varepsilon i \delta \eta$.
5. What is the real difference between verbs in- $\omega$ and in- $\mu$ ? ? By what name are they now usually distinguished ?
6. Compare the various terminations of the 2nd sing. in Greek and Latin and show that they are derivable from one original.
7. Explain the double form of the 3 rd pl . imperative active in Greek.
8. Account for the infinitival forms $\varepsilon$ है $\mu \mu \varepsilon v a \iota$, $\varepsilon i v a \iota, ~ ф \varepsilon ́ p \varepsilon \imath v, ~ a m a r e, ~$ velle.

## VI.

## Roman Literature.-Greek Literature.-Theatre of the Greeks.

## Time: Three Hours.

> (N. B.-Only five questions in each part to be answered.)
A. 1. Roman literature is divisible into three periods. Describe the general characteristics of each.
2. On what ground has it been supposed there was an early Roman epos analogous to the Homeric poems ?
3. Aristophanes would seem to be a more suitable model for Roman comic poets than those they adopted.
4. What are the earliest specimens of Roman epigram that are extant? Aulus Gellius names the most distinguished writers of such. Can you quote an example ?
5. What materials for writing a national history did the Romans possess? One of these was discovered in the sixteenth century.
6. The cause of Cato's dislike of culture. What was the object of his History and what were the divisions thereof? Quote, or give the substance of Plutarch's epigram on him.
7. An account of Hortensius.
8. Epic poetry may be divided into two classes. Discuss Virgil's position as an Epic poet. What modern Epic poets may be classed with him ?
B. 1. What facts are there for fixing the date of the introduction of writing among the Greeks? Who was the first writer of prose literature?
2. A description of the Sophists.

3 What facts in the life of Thucydides are known on his own authority? Different opinions are held about the style of the speeches in his work. How is the omission of them in the eighth book explained?
4. A short account of Plato. How may his works be roughly classed ? What does modern literature owe to him ?
5. How may the dates assigned to Homer by ancient conjecture or tradition be accounted for? What references to his works are found in classical writers? What are the differences between the Odyssey and the Iliad and how have they been explained ?
6. The Eumenides has many curious characteristics ? What Satyric drama accompanied the trilogy of which it formed a part?
7. Name the parts of a Greek play, one of them in Euripides differs in subject from that in previcus dramatists. Where may we look for the expression of Euripides' own opinions?
8. What is known about Aristophanes? Which is the most important parabasis in his plays, and why?
C. 1. Where are the earliest descriptions of a chorus found? To what race is attributed the introduction of choral poetry into Greece and why ?
2. Describe the different styles of choral dancing.
3. Distinguish the Prean and the Dithyramb. To whom is the invention of the Cyclic chorus attributed?
4. Give an account of Thespis and the changes in Tragedy made by him. Quote and explain Horace's reference to him.
5. Contemporary subjects were twice chosen by tragedians, with disastrous result in one case.
6. What remarkable circcimstance attencled the first appearance of Sophocles as a tragedian?
7. How are the plays of Cratinus referred to by Aristophanes ?
8. Describe the usual positions of actors and chorus performing in a Greek play. It is doubtful whether such positions were possible in the Dionysiac theatre at Athens.
9. How does Horace describe the duties of the chorus. Quote the Latin as far as you can.

## II.-HONOURS IN MATHEMATICS AND MATHEMATICAL PHYSICS.

## MATHEMATICS.

Examiner
C. Macdonald, M. A.

## I.

## TRIGONOMETRY AND ANALYTICAL GEOMETRY.

## Time: Three Hours.

1. If $x$ be put for $\left.\varepsilon \begin{array}{r}\theta \sqrt{-1} \text {, shew that } 2 \cos \theta=x+x^{-1} \\ 2 \sqrt{-1} \sin \theta=x-x^{-1}\end{array}\right\}$ and if $y=\varepsilon^{\phi} \sqrt{-1}$, prove $2 \cos (m \theta-n \phi)=x \quad \begin{gathered}m-n-m n \\ y+x \quad y .\end{gathered}$
2. Expand $(2 \sqrt{-1} \sin \theta)^{m}=\left(x-x^{-1}\right)^{m}$, so as to express $\sin ^{m} \theta$ in a series of sines or cosines of descending multiples of $\theta, m$ odd, and write the last term.
3. Resolve $x^{2 n}-1$ into its Quadratic factors, and deduce from the result $\sqrt{ } \bar{n}=2_{2}^{n-1} \sin \frac{\pi}{2 n} \sin \frac{2 \pi}{2 n} \ldots \sin \left(\frac{n-1}{2 n}\right) \pi$.

In what Integrational formula is this sort of resolution necessary ?
4. From the factorials of $\sin \theta$, viz. $\theta\left(1-\frac{\theta^{2}}{\pi^{2}}\right)\left(1-\frac{\theta^{2}}{2^{2} \pi^{2}}\right) \ldots$ and the common series for $\sin \theta$, deduce $\frac{\pi}{2}=\frac{2^{2}}{1.3} \cdot \frac{4^{2}}{3.5} \ldots \ldots$.
5. The sum to infinity of the series, $\tan x+\frac{1}{2} \tan \frac{x}{2}+\frac{1}{2^{2}} \tan \frac{x}{2^{2}}+\& c$. being known equal to $\frac{1}{x}-$ $\cot 2 x$, shew by integration $\cos \theta \cos \frac{\theta}{2} \cos \frac{\theta}{2^{2}} \ldots=\frac{\sin 2 \theta}{2 \theta}$.
6. Use the short notation to sum $\cos x+\frac{1}{2} \cos 2 x+\frac{1}{3} \cos 3 x+\& c$, ad inf.
7. What is the meaning of $m$ in the equation, $y=m x,+c$, oblique coördinates? and if $m$ be given, find $\theta$, the angle which the line makes with the axis of X .
8. Shew that the locus $a x^{3}+3 b x^{2} y+3 c x y^{2}+d y^{3}=0$, represents 3 straight lines : and if two are at right angles, prove $a^{2}+3 a c+3 b d$ $+d^{2}=0$.
9. Find in rectangular coördinates the equation corresponding to $l a \pm m \beta=0$. Find also the acute angle between the following lines $\left.\begin{array}{l}3 y=4 x-1 \\ 8 y=15 x+2\end{array}\right\}$ and also the line that divides it so that the sines of the parts are in the ratio of $2: 3$.
10. Shew that the curves of the 2nd degree intersect in four points, and generalize the theorem for two curves of the $m^{\text {th }}$ and $n^{\text {th }}$ degrees respectively.
11. Shew from the equation of the normal to a parabola, that from a given point three normals may be drawn to the curve, one of which must be real: and that if they are all real any two of the angles they make with the axis of $X$ are such that the sum of their trigonometrical tangents is equal to the tangent of the supplement of the third: also, that the product of the three trigonometrical tangents is proportional to the o: dinate of the point from which the normals are drawn.
12. A circle of radius $c$, is included in a concentric ellipse, axes $a$ and $b$ : and from any point in the ellipse tangents are drawn to the circlel The chord of contact cuts the axes, X and Y , in the points $h$ and $k$ respectively. Prove $\frac{1}{(a h)^{2}}+\frac{1}{(b k)^{2}}=\frac{1}{c^{4}}$.

## II.

## ANALYTICAL GEOMETRY AND DIFFERENTIAL CALCULUS.

## Time: Three Hours.

1. "If two chords of a circle cut one another, the rectangles of their segments are equal." State and prove the analogous property in reference to the Ellipse or hyperbola.
2. Hence show that, if a rectangular hyperbola be cut by two chords at right angles, $P p, Q q$, intersecting in $R$, the points $Q$ and $q$, being on opposite sides of $K, P$ and $p$ must be on the same side. Alsn the circle passing through $Q P q$ cuts $P R$ in a point $p_{l}$, such that $R p_{1}=R p$; also $p$ is the orthocentre of the triangle $Q P q$.
3. Find the condition that the general equation of the second degree : viz., $a x^{2}+2 h x y+b y^{2}+2 g x+2 j y+c=0$, may represent two straight lines.
4. Give a sketch of the method by which the term involving $x y$ is got rid of in the reduction of the general equation.
5. What is the meaning of $\sqrt{-} l u+\sqrt{m v}+\sqrt{n w}=o, u=0, v=0$, $u=o$, being the equations of three straight lines not passing through the same paint? Find also the equation to the Ellipse which touches the three sides of the triangle thus defined, at the ends of the perpendiculars.

6 Two hyperbolas have the same asymptotes and from any point in one tangents are drawn to the other ; prove that the area included between the chord of contract aud the asymptotes is constant.
7. The variable Ellipse $\frac{x^{2}}{a^{2}}+\frac{y^{2}}{\beta^{2}}=1$, has its axes connected by the equation $a^{2}+\beta^{2}=c^{2}$, a constant. Prove that it always touches the straight line, $x+y=c$.
8. Prove, by using indeterminate co-efficients and by differentation that $\tan ^{-1} x=x-\frac{x^{3}}{3}+\frac{x^{5}}{5}-\& c$
9. State and prove, for a homogeneous function of two variables, Euler's Theorem with respect to the total first Differential Coefficient and if $y=e^{a x} \sin b x$, prove $\frac{d^{2} y}{d x^{2}}-2 a \frac{d y}{d x}\left(a^{2}+b^{2}\right) y=0$.
10. Explain what is meant by pedal curves, positive ; and show that the first positive pedal of the Cardioid, $r=a(1-\cos \vartheta)$, is $p^{2}=\frac{2 r^{3}}{a}$.
11. The rectangle of greatest perimeter that can be inscribed in an Ellipse has its perimeter equal to that of the parallelogram formed by joining the extremities of the axes.
12. State Problem 7th as one in the theory of Envelopes, and solve it, thus proving the statement in that problem.

## III.

## DIFFERENTIAL AND INTEGRAL CALCULUS.

## Time: Thres Hours.

1. Using the common notation, shew $\cos \phi=\frac{d x}{d s}, \sin \phi=\frac{d y}{d s}$, and thence prove $\frac{1}{\rho^{2}}=\left(\frac{d^{2} x}{d s^{2}}\right)^{2}+\left(\frac{d^{2} y}{d s^{2}}\right)^{2}$. How do you investigate the radius of curvature in polar coördinates?
2. If a circle, radius $a$, roll along a straight line, show that the radius of curvature of tle cycloid generated by a point in it is equal to twice the chord of a circle drawn from the point where it touches the line to the corresponding point of the cycloid.
3. If $u_{n}+u_{n-2}+\cdots u_{0}=o$ be the equation to a curve, according to the usual meaning of $u$, prove that generally the $n$ lines represented by $u_{n}=o$, are asymptotes to the curve.
4. The curve, $r=\frac{a \vartheta}{\vartheta+\sin \vartheta}$ has a circular asymptote ; and $x^{3}+$ $a b y+a x y=o$ has a parabolic asymptote.
5. "Shew that, at a point of inflexion of a curve, the angle which its direction makes with the axis of $X$ passes through a maximum or minimum value. The curve $a x y+a^{3}=x^{3}$ has a point of inflexion where it cuts the axis of $X$, and the angle at this point is $\tan ^{-1} 3$.
6. Integrate any three of the following forms:
$\frac{x-2}{x^{3}+x-2 x} d x, \frac{x^{4}+x^{2}+2 x}{x^{3}+1} d x, \frac{x d x}{\sqrt{x^{2}+2 b x}}, \frac{d x}{x \sqrt{a^{2}-x^{2}}},\left(a^{2}-x^{2}\right)^{\frac{3}{2}} d x ;$ also find the value of either $\int_{0}^{1} \frac{x d x}{\sqrt{1-x^{2}}}$, or $\int_{0}^{\pi} \sin ^{2 m+1} \theta \cos ^{2 n} \theta \cdot d \theta$.
7. Find the area of that part of the curve $y\left(x^{2}-a^{2}\right)=x^{3}$, which is included between the axis of $Y$ and the line $x=\frac{a}{2}$.

Find also the area of the inverse of the Ellipse, (focus, the centre of inversion) $r=\frac{l}{1+e \cos \vartheta}$.
8. Find expressions for the centre of gravity (mass) of a body, in rectangular coordinates, the body being homogeneous, and defined by
the equation, $f(x, y, z)=0$; and describe how you would treat the integration.
9. Shew that if $M d x+N d y=0$, be an exact differential equation, $\frac{d M}{d y}=\frac{d N}{d x}$. Also integrate the homogeneous equation $\left(x^{2}-y^{2}\right) \frac{d y}{d x}-$ $2 x y=o$.

## MATHEMATICAL PHYSICS.

Examiner. ................................ G. MacGregor, D. Sc.
APRIL $18 \mathrm{TH}-3-6 \mathrm{P} . \mathrm{M}$.
N. B.-Answer only ten questions, preferably those indicated by an asterisk. No questions are set in Thernodynamics, that subject not being professed by the candidate.

## A. At least three of the following:-

(1.) Give an analytical proof of the properties of the Hodograph.
(2.) Express in noler co-ordinates the transversal components of $(a)$ the velocity and (b) the acceleration, of a point moving in a plane curve.

* (3.) Determine the motion of a point P . whose acceleration is directed towards a given point Q, and is directly proportional to P's distance from $\mathrm{Q},(a)$ relative to Q and $(b)$ relative to the centre of a circle in which $Q$ moves with uniform speed.
* (4.) Discuss the vertical fall of a raindrop (neglecting fluid friction) after its velocity has become so great that the resistance of the air is proportional to the square of the velocity.
* (5.) Shew that the result of the superposition of two pure strains is a rotational strain, unless certain relations hold among the coefficients of the component strains.-What are these relations ?-If they do not hold, how do you determine the rotation ?


## B. At least three of the following :-

* (6.) A heavy bead slides on a smooth wire, which is parabolic in shape, is in a vertical plane and has its axis vertical and vertex downwards. Find the force exerted on it by the wire in any position.
(7.) Find the value of the potential at any point of a field of gravitational force, and show that this value is continuous throughout the field.
* (8.) Find the attraction, both at internal and external points, due to a uniform straight cylindrical wire of attracting matter, of infinite length, and having at any point a density directly proportional to the distance of that point from the axis.
* (9. A uniform flexible chain, of length $2 a$, hangs over a small smooth pulley. At the instant at which the length of chain on one side is $a+b$, it is moving with a velocity V. After what time will it leave the pulley?
* (ro.) Obtain the general equations of motion of a rigid body about a fixed point, and put them into as tractable a form as possible consistent with generality, assuming any useful kinematical result.


## C. At least one of the following :-

* (11.) In the case of fluids which are acted upon by natural forces and whose motion has originated from rest under those forces, combine Euler's equations of motion into one.
* (12. Obtain an expression determining the variation from point to point of the pressure of a fluid at rest; and apply it to determine the law of the variation of the pressure with the depth beneath any level surface of (a) a heavy incompressible liquid, and (b) a heavy gas following Boyle's Law, temperature being supposed constant.


## III.-HONOURS IN MENTAL AND MORAL PHILOSOPHY.

## LOGIC

Examiner Professor Lyall, LL. D.

Wednesday, 17 TH April, 10 A. M. to 1 p. M.

1. Give the rules of the Extensive, with those of the Intensive, Categorical Syllogism.
2. What Syllogisms belong to the External, or accidental, form of reasoning? Explain them.

Give an example of the Sorites by symbols or otherwise, and show how the Sorites more naturally falls into a syllogism in the Intensive form of reasoning than into one in the Extensive.

Is the Regressive Intensive Sorites, as Sir Wm. Hamilton maintains, a Progressive Extensive, or rather just the Progressive Intensive stated regressively? Show this.
3. Resolve the Syllogism: "Enoch had this testimony that he pleased Gcd. But without faith it is impossible to please him ; for he that cometh to God must believe that he is, and that he is the rewarder of them that diligently seek him."

What two syllogisms are virtually involved in Paul's apology for himself before the Jewish council: "I wist not, brethren, that he was the High Priest, for it is written: thou shall not speak evil of the ruler of thy people?"

What kind of syllogism is the following: "If the dead rise not, then is not Christ raised. But now is Christ risen from the dead, \&c.?"
4. Give a scheme of the Fallacies, noting those that are more incident to extended P'robation.
5. Is there such a thing as Inductive Reasoning? Why not? In the Inductive Process show where Deductive Reasoning comes in.

How does Descartes' theory of Vortices fail, while Newton's theory of Gravitation is successful, in accounting for the motion of the Planets?

What is the use of Experiment in the Inductive Process? Give some of the rules to be observed in Experimenting.

What Fallacies are to be carefully guarded against in Inductive reasoning, or rather the Inductive Process?

## ETHICS.

Examiner.................................. PROFESSOR SETH.
I.

APRIL 5TH. -10 A. M. TO 1 P. M.

1. Trace the tendency in Greek Philosophy to identify the intellectual and the moral, and consider its effect upon Ethical Theory.
2. Give an account of Plato's Idealism in its earlier and later forms, and consider the corresponding modification in his view of God.
3. Sketch Plato's theory of Education in its relation to his moral theory.

Give Aristotle's account of the place of Pleasure in moral life, comparing it with other Greek views on the subject.
5. Explain Aristotle's doctrine of the Mean, and consider its relation to his general theory of Virtue, and to Greek thought. Illustrate by reference to particular virtues.
6. Sketch Aristotle's account of Friendship.
7. State and discuss Sidgwick's Ethical position.
8. "Psychological Hedonism is incompatible with ethical Hedonism." Explain and discuss.
9. "The definition of the moral ideal is necessarily tautological." How far is this true ( $a$ ) of the Intuitional, $(b)$ of Green's position?

## II.

APRIL 5TH. -3 то 6 p. M.
Write short papers on the following subjects :-
(1) Kant's Ethical Theory.
(2) Evolutional Utilitarianism ; with special reference to Spencer.

## METAPHYSICS.

Examiner..... ..........................PRofessor Seth.
I.

## APRIL 9TH. -10 A. M. TO 3 P. M.

1. (a) Trace parallels of modern philosophical thought in the Theactetus. (b) State Plato's view, in this Dialogue, of the distinction between Knowledge and Opinion, and compare it with that given in the Republic.
2. Compare critically the views of Locke and Kant as to the relations of Knowledge and Reality.
3. Give Hume's account of Personal Identity, and compare it with those of Descartes and Kant.
4. Trace non-empirical elements in the Philosophy (a) of Locke, (b) of Berkeley.
5. State and consider (a) Kant's distinction between the Mathematical and Dynamical Categories; (b) his proof of the Analogies of Experience.
6. Explain and illustrate by historical references, Dialectic and Deduction ; and consider their comparative value as philosophical methods.
7. "The same principles which, at first view, lead to Scepticism, pursued to a certain point, bring men back to Common Sense." Explain and discuss.
II.

April 18 TH -10 A. M. TO 1 P. M.
Write an Essay on the following subject:-
"Idealism - psychological and transcendental: a critical comparison."

## IV.-HONOURS IN ENGLISH LITERATURE AND HISTORY.

## ENGLISH LITERATURE.

Examiner......................... W. J. Alexander, Ph. D.
APRIL 4TH. - 3 TO 6 P. M.
I.

1. Re-write in Modern English :-
(a) Monige sint swā swā wē ær cuædon the mon sceal wærlice licettan ond thēahwethre eft cy than, for thæm thæt hīe ongieten thet hīe mon tæle, ond thæt eathmōdlice gethafigen, ond thonne thā scylda the hīe diogollice on him selfum forberath hīe geornlice on hiera āgnum inngethonce scēawigen, ond on him selfum dēmen ond wrecen, on hīe forscanige thæt hīe, eft suā dón; thonne bith hē self gelādod with hine selfne mid his ăgenre scame ond mid his gethylde, on ēac mid his recceres.
(b) On callum thām hē geornlice gȳmde thæt hē menn atuge fram synna lufan and mándæda, and tō lufan and tō geornfullnesse āwehte gōdra dæda; for thon hē wæs se mon swithe æfæest, and regollicum thēodscypum ēathmōdlice underthēoded; and with thām thā the on $\bar{o}$ thre wīsan dōn woldon, hē wæs mid wylme micelre ellenwōdnesse onbærned, and hē for thon fægere ende his lif betynde and greendade.
(c) Vor hwat maketh ūs strōng vor te driēn derf in Godes servise and ine rōndunges to wrastlen stalewardliche agein thes dēofles, swenges? Hwat, būte hope of hēih mēde? Hope halt the heorte ihōl, hwat sie thet vlēschs driē ōther tholie ; ase me seith gif hope nēre, heorte tōbrēki. A, Jēsu thīn, ōre! Hū stont ham thet bēoth there ase all wō and weane is, withūten hope of ūtecume, and heorte mei berstan ?
2. Write for the following words in (c) the corresponding classic West Saxon forms:-Diien, derf, weith, stont, mei. Give principle parts of--curedon, ongieten ; hrëosan (to fall), bīdan (to wait), berstan (to burst). Decline thrī (three), burg (city), bōc (book), sunu (son).
(Only FIVE of the following questions to be answered.)
3. How is vowel modification (umlaut) physiologically accounted for? Give the principal cases of this pheromenon in West Saxon.
4. Account historically for the following grammatical forms:'Twenty sheep,' mice, ours, children, its, s of the 3rd person sing., 'he need not do it'?
5. Give the main classes of vowel change between classic West Saxon and the language of the Ancren Riwle.
6. In Chaucer we find long vowel in $n \bar{a} m e, b \bar{y} n d$, where the vowel is short in West Saxon. Give the general laws of this change.
7. Give briefly the facts of Chaucer's life, the titles of his principal works, and the time they are supposed to have been written.
8. What various forms do the genitive case and nominative plural assume in Chaucer ?
9. How are inflections supposed to originate in language? What are the causes of their decay? Illustrate in as far as you can by examples in English.

## II.

## APRIL 9TH. - 3 то 6.

1. In how far had Chaucer dramatic power? Contrast his characterization with that of Shakespeare and of Browning. Describe Chaucer as a story-teller, and illustrate from the Knight's Tale and the Nonne Preste's Tale.
2. Describe the character of Lear.
3. Compare the two plays, Edward II. and Henry VI., Pt. III.
4. Write a critical analysis of Romeo and Juliet.
5. In the case of eight of the following extracts, name the play, the speaker, and the circumstances:-
(a) The crow doth sing as sweetly as the lark When neither is attended, and I think The nightingale, it she should sing by day, When every goose is cackling, would be thought No better a musician than the wren. How many things by season, seasoned are To their right praise and true perfection.
(b) I had rather be a kitten, and cry mew, Than one of these same metre ballad mongers ; I had rather hear a brazen caustick turned Or a dry wheel grate on the axle-tree ; And that would set my teeth nothing on edge, Nothing so much as mincing poetry.
(c) The labour we delight in physies pain,
(d) In the most high and palmy state of Rome, A little ere the mightiest Julius fell, The graves stood tenantless, and the sheeted dead Did squeak and gibber in the Roman streets.
(e) Sometimes a thousand twangling instruments Will hum about mine ears, and sometimes voices That, if I had then waked after long sleep, Will make me sleep again.
(f) The world is still deceived with ornament. In law, what plea so tainted and corrupt But, being seasoned with a gracious voice, Obscures the show of evil. In religion, What damned error, but some sober brow Will bless it, and approve it with a text.
(g) The lunatic, the lover, and the poet, Are of imagination all compact.
(h) As in a theatre the cyes of men, After a well-graced actor leaves the stage, Are idly bent on him that enters next Thinking his prattle to be tedious.
(i) Thou hast seen a farmer's dog bark at a beggar? And the creature run from a cur ? There thou might'st behold the great image of authority ; a dog's oheyed in office.
(j) The gods are just and of our pleasant vices make instruments to plague us.
(k) Can such things be, And overcome us like a summer's cloud, Without our special wonder?
(l) Consideration, like an angel, came And whipped th' offending Adam out of him.
6. Point out in detail indications that one of the following passages from Henry VIII. was written by Shakespeare, and the other by a different hand.
(a) If I am

Traduc'd by ignorant tongues, which neither know
My faculties nor person, yet will be
The chronicles of my doing, let me say
'Tis but the fate of place and the rough brake
That virtue must go through. We must not stint
Our necessary actions, in the fear
To cope malicious censurers ; which ever
As ravenous fishes, do a vessel follow
That is new trimmed, but benefit no further
Than vainly longing. What we oft do best,
By sick interpreters-once weak ones-is
Not ours, or not allowed; what worst, as oft
Hitting a grosser quality. is cried up
For our best act. If we shall stand still,
In fear our motion will be mock'd or carp'd at,
We should take root here where we sit, or sit
State statues only.
(b)

All good people,
You that thus far have come to pity me,
Hear what I say, and then go home and lose me.
I have this day received a traitor's judgment,
And by that name must die ; yet, heaven bear witness,
And, if I have a conscience, let it sink me,
Even as the axe falls, if I be not faithful!

The law I bear no malice for my death,
Thas done upon the premises but justice; But those that sought it I could wish more Christians; Be what they will, I heartily forgive 'em ; Yet let 'em look they glory not in mischief, Nor build their evils on the graves of great men ;
For then my guiltless blood must cry against 'em.
For further life in this world I ne'er hope,
Nor will I sue, although the king have mercies
More than I dare make faults. You few that loved nie, And dare be bold to weep tor Buckingham,
His noble friends and fellows, whom to leave Is only bitter to him only dying,
Go with me like good angels, to my end;
And, as the long divorce of steel falls on me,
Make of your prayers one sweet sacrifice,
And lift my soul to heaven-Lead on, o'God's name.
7. Tell what you know of Beaumont, Fletcher, and Webster as dramatists.

## III.

APRIL 16.-3 TO 6 P . M.

1. Tell what you know of the history of the Sounet durinng the period, and of two or three of the most important collections of Sonnets.
2. Give concisely, the author, date, subject, and a characterization of the following poems:-Hero and Leander, Shepherd's Calendar, Lucrece. Tell what you know of the poetical works of Donne, and of Drayton.
3. What are the nature and import of Lyly's work in prose?
4. Show how Bacon's personal character is manifested in the Essays.
5. Give a description with quotations of the final canto of the Fcerie Queen, Book II.
6. What light is thrown on Bacon's views of Physical Science in the 2nd Book of the Advancement.
7. Give a critical account and interpretation of Browning's $A b t$ Vogler and Amphibian.

## ENGLISH HISTORY.

Examiner
Professor Forrest.
I.

## Timr: Threbe Hours.

1. Discuss title of James I. to Crown of England.
2. What is Hallam's view of the Millenary Petition, and James' action regarding it?
3. "This originated in the practice of feoffments to uses, by which the feofee who had legal seisin of the land stood bound by private engagement to suffer another called the Cestui que use to enjoy its use and possession." Explain.
4. Give a few instances illustrating the tyranny of the Court of Star Chamber, and its contempt for law and liberty in time of Jas 1.
5. Sir Walter Raleigh's execution was another stain upon the reputation of James I. What legal principles were violated in his case?
6. 1627, Forced loan demanded by King: five gentlemen refuse; are committed; sue for Habeas Corpus. Give arguments and decision.
7. Schism in Constitutional Party. What led to it?
8. What was meant by the power of the Militia? What was the exact ground of dispute in this respect between Charles and Parliament? Trace bricfly Hallam's account.
9. It is a remarkable fact that almost every reform proposed by Barebones' Parliament has since been approved of or adopted by British people. What are some of them?
10. 1660 , Briefly describe difficulties in arranging terms of Restoration.
11. Write notes on impeachment of Danby.
12. Impeachment of Fitzharris brought into discussion a considerable question in Constitutional Law.

## II.

Time: Three Hours.

1. What were the relations between James and the Parliament of 1604?
2. "In the spring of 1605 the whole State of England showed a tendency to clemency and conciliation. In the early part of 1606 the opposite tendency had completely obtained the upper hand." What led to the change ?
3. "Among the grievances that which concerned the Court of Wards is the most important historically." Explain.
4. " Parliament demanded the policy of Queen Elizabeth; King James demanded her rights." Explain.
5. In May 1636 Marquess of Hamilton set ort for Scotland. In July he made made public the Royal declaration. What did it contain?
6. Give a brief account of the Assembly which met in Glasgow, 1638,
7. Write notes on the Impeachment of Strafford.
8. "A direct and typical conflict between the views of Parliament and of the King in relation to military authority took place at Hull." Explain.
III.

Time: Three Hours.

1. What were Robert Cecil's views of the relations of England and Spain, and of the marriage of the Prince of Wales to the Spanish Infanta?
2. 1613, Princess Elizabeth married to the Elector Palatine. By what influence was the marriage brought about?
3. What was there in the condition of the various countries of Europe and the views of their rulers that made it possible for James I. to carry out a peace policy during the first half of his reign?
4. In 1617 and 1618 complications arose on the continent which greatly embarrassed James.
5. Give Ranke's view of the conflicting motives which influenced James in coming to a decision in the Bohemia question. How did he decide :
6. In 1626 Marshall Bassompierre was sent from France to England. What was the object of his mission?
7. What part did England take in the war in Germany in 1631 ?
8. 'In the summer of 1633 there was much talk of invoking the sympathies of the English nation in behalf of the widowed Queen Elizabeth and her children." What came of it?
9. What were the relations between England and Spain from 1631-1635.
10. Write a short article on the relations of the English Court with the Court and Policy of France from 1637-1639.
11. 1639, The Spanish fleet sought refuge in the Downs near Dover. This placed Charles in a most embarassing position. Ranke thinks it one of the most important moments in the life of Charles. Explain.
12. Describe the condition of affairs in Ireland in 1645-6.
13. General condition of the Prolectorate at home and abroad in 1657-8.
14. Give a brief outline of the relations of England and France during the reign of Chas. II.

## SESSIONAL EXAMINATIONS.

## FACULTY OF LAW. <br> CONSTITUTIONAL LAW.

Examiner................................... Professor Weldon.

## SECOND YEAR.

Time: Three Hours.

1. State the Provisions of the B. N. A. Act, 1867, respecting the Disallowance of Provincial Bills by Federal authority.

Show that the American cases are sometimes unsafe guides to Canadian lawyers - because the United States Constitution has not similar provisions. Give illustrations of this. State the reasons given by the Minister of Justice for recommending the disallowance of the District Magistrates Act of Quebec last summer, and also the reasons given by Hon. Mr. Mercier in favor of the constitutionality of the Acts
2. Name some powers which under the Constitution of the United States neither the Congress nor the State Legislature may exercise. Under the Canadian Constitution what powers are reserved to the people-so that neither the Imperial Parliament, the Canadian Parliament, nor the Provincial Legislature may competently exercise them?
3. Give, with illustrations, some general canons for construing the B. N. A. Act. Name any authorities you may remember.
4. State and discuss the doctrine of the Temporary Jurisdiction of the Provincial Legislature. Has the Constitution of the United States any such doctrine? Is the doctrine now well established in Canada?
5. In 1883 the Parliament of Canada declared that, among other railways, all branch lines or railways connecting with or crossing the Intercolonial Railway are works for the general advantage of Canada.

If the Parliament of Canada should in 1889 repeal the said Act of 1883 would the Provinces recover their former legislative control over such branch lines? Give reasons.

Cite the provisions of the B. N. A. Act which authorized the Act of 1883 .
6. Name the Provisions of the Constitution which determine the amount of subsidy your Province shall receive from the Dominion.

Where do you find authority for the Parliament of Canada to alter the financial terms of the union?
7. Give those sections of the Constitutional Act which determine the respective powers of the Parliament of Canada and the Provincial Legislature as to
(a) Defining crimes.
(b) Affixing penalties to crime.
(c) Creating a criminal procedure.
(d) Constituting a criminal court.

Discuss any cases which attempt to draw the line between criminal procedure and the constitution of a criminal court.

Are breaches of Provincial Law crimes? Give reasons.
9. Is a Nova Scotia Statute which taxes the salary of a Canadian civil servant in Halifax ultra vires? Give reasons.
10. Argue for or against the constitutionality of the Two-Thirds Clause in the Nova Scotia Liquor License Act as applied to applicants for a retail license.

## CONSTITUTIONAL HISTORY OF ENGLAND.

Examiner
Professor Weldon. Time: Three Hours.

1. Define the terms :-Tenants in Capite, Socage Tenure, Homage, Relief, Scutage, Aids, Escheat, Livery of Seisin.
2. Give a detailed account of the articles of the Great Charter, which contain the most important constitutional provisions, viz., 12 and 14 , and 39 and 40.
3. What Anglo-Norman Council was the parent of the Judicial Committee of the Privy Council, the Star Chamber and the Ministry ?
4. Describe the Constitution of the House of Lords.
5. Write short notes upon-
(a) Bates' Case (Impositions).
(b) Hampden's Case (Ship-money).
(c) Ashby $v$. White (Right to vote).
6. Argue for or against a Federal Union of England, Ireland, Scotland and Wales.
7. Give a detailed history of the Parliamentary Privileges, Freedom of Elections, -after A.D. 1760.
8. Give a brief history of the legislation of the Long Parliament during the first session.
9. Give an account of the expulsion of Lord Palmerston from the Ministry in 1851.
10. Give the history of the rule of the Constitution that a M. ऐ. who accepts effice in a Government merely vacates his seat. Discuss the policy of the rule.

## CONFLICT OF LAWS.

Examiner............................................fessor Weldon.

## Time: Two Hours.

1. Define domicil. Name some important indicia of the animus manendi. Show that in Canada a man may have two domicils.
2. State the rules of Canadian law as to jurisdiction to dissolve foreign marriages.

State the rules of our law which determine the validity of foreign divorces.

Discuss the case of Susan Ash, 1887.
3. "A foreign judgment founded on an incorrect view of the English law is not conclusive." Criticize this rule.

Upon what grounds can a foreign judgment in personam be impeached?
4. Is a bill drawn in Halifax, payable in Toronto, a foreign bill?

A bill is drawn in Halifax by B upon A in Rio Janeiro payable in Rio to B's order. B endorses in Halifax to C. A refuses to accept. C gives immediate notice to B of dishonor by non-acceptance. Can C recover from B interest at the rate prevailing in Rio, or must he be satisfied with the rate in Halifax?

Give reasons and authority.
A bill is drawn by B in Halifax upon A in Rio, payable in Rio and accepted there. B endorses it to C in Halifax who endorses to D in Rio. At maturity the bill is disdonored :--

What notice must the holder in Brazil give to preserve his right of recourse against all antecedent parties, the notice prescribed by the law of Brazil or that by the lex loci contractus in each case?

Assuming that the notice given by the holder to C was sufficient by the law of Brazil, but that such notice was not sufficient by the law of Nova Scotia, as applied to transactions purely Nova Scotian, and assuming that the holder gave no notice to B , but that C , upon receiving notice, promptly gave notice to B ; in an action in Halifax, C $v . \mathrm{B}$, can plaintiff recover? Give full reasons.
5. "Capacity to contract is governed by the law of the domicil of the parties."

Discuss fully this doctrine.
6. Is a contract, marle in France, where the plaintif knew that the goods which he sold the defendent were to be smuggled into England, but where the plaintiff, by no act of his, contributed to aid the smuggling, enforceable in England?

Illustrate the rule that contracts good by the lex loci contractus are unenforceable in England if in conflict with a stringent rule of public policy.

## INTERNATIONAL LAW.

Examiner............................ Professor Weldon.

## Time: Three Hours.

1. Name the more important rights of Ambassadors. Give an account of the Lord Sackville incident, 1888. Were international usages observed in his dismissal from Washington ?
2. Name the more important rules in the Declaration of Paris, 1856. Under thase rules, is all private property at sea during war secure? Is it in the interests of civilization that private belligerent property at sea should not be liable to capture? Give full reasons.
3. Is a neutral state bound to suppress contraband trade by its merchants? State the Alabama case and give a brief history of the Genera Arbitration.

Is England bound to all States to observe the "three rules" as to neutral duties in the Washington Treaty, 1871.
4. State President Cleveland's contention that the articles of the Washington Treaty, 1871, securing the right to Canadians to transship
in bond, across United States territory were abrogated by the notice in 1883 which terminated the Fishery Articles of the treaty. Argue the question.
5. Is there a duty to surrender fugitive criminals-in the absence of treaty?

What are the provisions of the law of Canada to prevent the surrender of political offenders. What are political offences?
6. The United States surrendered to the Canadian authorities Acharged with forgery. Can he be tried in Canada for embezzlement alleged to have been committed before the surrender?
7. Give an account of the Samoan difficulty, 1888.
8. What was decided in the case of the Franconia, 1877?

Give the substance of the Territorial Waters Act, 1878, Imperial,

## SALES



## Time: Three Hours.

1. Give a concise rule for determining whether a contract is for work and labor or for the sale of goods, and so within the Statute of Frauds. Compare Grafton v. Armitage (tubing for life buoy) with Lee v. Griffin (artificial teeth). "In such cases it seems to me the true test is whether the work is the essence of the contract or whether it is the materials supplied."-Pollock, C. B. Discuss this view.
2. When is a contract relating to the sale of growing trees a contract for an interest in lands, and when is it a contract for the sale of goods within the meaning of the 4 th and 17 th sections of the Statute of Frauds respectively? Criticise Marshall v. Green (sale of standing timber).
3. Explain the meaning of the terms "accept and actually receive," and trace the fluctuations of opinion as to their import. Discuss the difference of opinion between Benjamin and Campbell as to whether delivery to a common carrier constitutes actual receipt by the purchaser.
4. What are the requisites of a memorandum in writing to satisfy the Statute of Frands? A letter from a mother to ber son at college is tendered by the latter as a memorandum of a contract required by the statute to be evidenced by writing. The only signature it bears is, "your affectionate mother." Discuss whether this is sufficient. A memo. is produced in the form of a letter commencing, "The Minister of Justice presents his compliments, \&c. It is in his handwriting, but it is not subscribed at all. Can he be charged on this ?
5. Explain the difference between an executory agreement and a bargain and sale of goods. How does the distinction become important? Where the agreement relates to specific goods, what is the general rule as to the passing of the property? State the exceptions, as given by Lord Blackburn. Can you offer any criticism or qualification of Lord Blackburn's rules ?
6. What method is adopted by the vendor, on shipment of goods, to secure the payment of the price by means of the bill of lading? What-name does Mr. Benjamin give to this expedient? State the propositions respecting it that he deduces from the decided cases. At
whose risk are the goods while in transit when the jus disponendi is reserved?
7. State the various uses of the term delivery. "If there be any difference between the delivery sufficient to sustain an action for goods sold and delivered, and delivery sufficient to pass the property and risk from the seller to the buyer, the former is of a slightly higher grade and requires more distinctive acts on the part of the seller."-Bennett. Discuss this statement.
8. State in general terms the rights of an unpaid vendor. What is the position of an unpaid vendor of goods in the possession of his bailee where the purchaser has a delivery order from the vendor addressed to the bailee. Under what circumstances will a vendor be precluded from setting up his lien against a sub-vendee?
9. Discuss the right of an unpaid rendor to re-sell the goods. When does the re-sale effect a rescission of the original sale? What is the measure of damages in an action of trover by a buyer not in default where the goods have been re-sold ?
10. Where a contract is made for the sale of goods to be delivered in instalments, and paid for as delivered, discuss the right of the purchaser who has failed to pay for one of the instalments as delivered, to demand the delivery of subsequent instalments. What was Lord Coleridge's ruling in Mersey Steel Co. v. Naylor?

## CONTRACTS.

Examiner ................................. Professur Russell.

## Time: Three Hours.

1. "A contract formed by letter is complete when the letter of acceptance is mailed." * * "It may be that a course of adjudication will take place which will place the telegraph upon the same footing as the mail. * * Such is not our own opinion at present." Discuss this opinion. Where the letter of acceptance has miscarried, and the offeror has no knowledge of its contents, or of its having been sent, is the contract binding upon the sender of the letter of acceptance?
2. A. advertizes for tenders for supply of iron for a twelve month. B. offers to supply such quantities as called for, from time to time, at scheduled rates. A. accepts his tender, and orders a lot. At the end of three months B. refuses to supply any more iron. Discuss A's. right to hold him to bis engagement.
3. Under what circumstances will the conipromise of an invalid claim be good consideration for a promise by defendant to the claimant? "In Cook v. Wright notes were given in compromise of an untenable claim. "There is no doubt that such notes are valid, but there is aso no doubt that an ordinary promise to the same effect, and under the same circumstances, would be without consideration." Discuss this view.
4. Explain the meaning of the statement, that "consideration must move from the plaintiff." What exceptions to this rule have in former times been allowed?
5. "A past consideration will support a subsequent promise if the consideration was given at the request of the promisor." Discuss this doctrine, in connection with the cases of Lampleyh v. Brathwait, and Bradford v. Roulston.
6. A contract is made in which one of the parties agrees that upon breach of its terms he shall forfeit to the other a stipulated amount, to be paid not as penalty but as liquidated damages. What equitable doctrine is this intended to exclude? Will the intention of the parties be carried out by the courts?
7. Explain Anson's distinction between contingent and conditional promises. Explain or illustrate the terms, absolute promise, independent promise, divisible promises, subsidiary momise, concurrent conditions, warranty. In what various senses is the latter term used?
8. What is the legal position of the holder of a note given upon illegal consideration ?
9. Where one of the parties to a contract notifies the other before the time for performance, that he will not perform his part of the contract, what rights has the other party? In what position will the latter be if he refuses to accept the renunciation, and before the time for performance arrives circumstances occur that furnish a legal excuse for non-performance?
10. Explain the principle upon which on breach of a contract by one of the parties to it, the other acquires a right to recover on a quantum meruit for work done under the contract. A, agrees to build a stemmer for B . for $\$ 10,000$. When she is half completed B. notifies A. that he will not accept or pay for her. A. brings action against him, claiming $\$ 6,000$ for work done. B. defends on the grounds, first, that A. should have completed and tendered the steamer ; secondly, that he lost nothing by the rescission of the contract, as the construction of the steamer would have cost $\$ 20,000$. Discuss the validity of these defences.

## EQUITY.

Examiner................................. Justice Townshend.

## Time : Two Hours.

1. Describe briefly the origin and growth of the Court of Chancery with special reference to the causes which led to its successful development.
2. Mention some of the leading maxims on which Courts of Equity invariably act, giving brief illustrations.
3. Give an historical sketch of Trusts, pointing out the causes of equitable jurisdiction over them.
4. Define Trusts and classify them under their leading divisions.
5. Explain resulting Trusts and give an illustration.
6. Describe the various kinds and the relative positions of Mortgagor and Mortgagee in Equity.
7. What is meant by Conversion, and what is its effect?
8. What is the characteristic of the doctrine of Election?
9. On what Equitable Maxim is the doctrine of Performance based ?
10. Distinguish between Legal and Equitable assets, and give an historic sketch showing how lands became assets for payment of debts.
11. Distinguish between Accident and Mistake, and give the grounds of relief in such cases.
12. What are the leading divisions of Fraud? Explain each.

## CRIMES.

Examiner .............. ..... ......S. L. Shannon, Q. C.
Time: Three Hours.

1. What must constitute a crime? At what period of life is a party considered capable of committing a crime ?
2. Give the distinction between a crime and a trespass.
3. A crime is committed by a party in a state of intoxication ; can this be pleaded as an excuse? Suppose a man is drugged by a third party, and while nnder the influence of the drug commits a crime, is that any excuse?
4. Is insanity any excuse to a party who has committed a crime ? In the case of the Queen v. Oxford, the prisoner discharged the contents of two pistols, probably not loaded with ball, at the Queen. On the trial it was shown that he did not know he was doing wrong. Was this held as an excuse for the act ?
5. A foreigner charged with a crime committed in England, alleges that he did not know he was doing wrong, and that the act, with the commission of which he was charged, is not criminal in his own country. Is this an available excuse?
6. Two men and a boy of seventeen were cast away in a storm on the high seas, 1000 miles fiom the Cape of Good Hope, and were compelled to put into an open boat, having no water and hardly any food. On the twentieth day, to prevent themselves from dying of starvation, the two men killed and ate the boy. Was the necessity of the case any excuse for the act? or was the act murder ?
7. Is the statute of 25th Edward III.-relative to high treason-in force in Canada? Give a definition of high treason.
8. In the case of The Queen v. Gallagher and others, the prisoners were indicted for compassing to clepose the Queen from Ireland, to levy war against her, and to intimidate Parliament. It appeared in evidence that they belonged to secret societies in America, whose object was to procure the freedom of Ireland by force alone, and that they had come to England for the purpose of destroying public buildings by nitro-glycerine and other explosives. Could they be held to have committed treason-felony under these circumstances?
9. A shoots at a domestic fowl, intending to steal it, and accidentally kills B. Is A guilty of any, and if any, of what crime?
10. In the case of Queen v. Allen, the prisoner, while his proper wife was yet alive, went through the ceremony of marriage with another woman, who was within the prohibited degrees of affinity. Was he guilty of bigamy?
11. A snatches a diamond ear-ring from a lady's ear, tearing it out of the ear. While in the act it drops from his hand into her hair, and is found there by her afterwards. Is he guilty of taking and carrying away the ear-ring ?
12. A not being a member of the University of Oxford, dresses himself in a students cap and gown, and in consequence obtains goods from a tradesman in Oxford. Is he guilty of any crime, and if any, what?

## REAL ESTATE.

Examiner ...........................S. L. Shannon, 叉. C.
Time : Three Hours.

1. In what different ways may real estate he acquired according to the law of England?

State the difference between a Feoffment and a Conveyance under the Statute of Uses.
2. A dies intestate leaving real property ; and leaving one son $B$, two grandson's, Cand D, by a deceased son ; and three grand-children, E, F and G, by a deceased daughter, what proportions will be coming to each under our law ? What would be the shares of each, supposing he left only grand-children?
3. What is the rule in Shelley's case ?" Give an instance of an estate limited under this rule.
4. What are the different unities in estates in joint tenancy, and estates in common? Are there any instances of estates in joint tenancy still existing in Nova Scotia and New Brunswick?
5. A, the owner of real estate, by his last will devises his estate to his wife A for life, provided she continues unmarried; remainder to his son B in fee, provided he attain the age of 21 years ; remainder to his nephew $\mathbf{C}$ in fee, in case his son dies before attaining his majority. What are the respective estates of $\mathrm{A}, \mathrm{B}$ and C ?
6. Which is the highest estate in land, an estate for life, or an estate for 999 years? If the tenant in the latter case dies, to whom will the estate belong, his heirs or his personal representatives? What is such an estate called?
7. What are the provisions of the Statute of Frauds relative to leases for years? A parol lease is made for three years, with an option to extend it to four years. Is such a lease good under the Statute of Frauds? Is such a lease good under our Registry Act?
8. A, the owner of real property, gives a building lease of it to a contractor $B$ for 21 years, at a nominal rent. B covenants for himself and bis assigns with A that he will put up a range of buildings on the property within one year from date of the lease. B dies before commencing to build, and his executor assigns the lease to C . C fails to build within the year, and A enters and takes possession of the property for breach of a condition. Can he also sue $C$ for breach of covenant? What is the leading case on this subject?
9. What is the most important remedy a landlord has for arrears of rent due by his tenant? Is this affected by a credit given to the tenant on a bond made by tenant to the landlord? State for what amount only he can use this remedy, and the proceedings taken by him in such case.
10. What is the meaning of the maxim that "Every Englishman's house is his castle?" What is the leading case on this subject, and how does it apply in the case of distress for rent? If the tenant's outer door be closed can the landlord or his bailiff enter in any other way to make a distress?
11. A landlord lets to a tenant a dwelling house by parol agreement for three years ; the tenant takes possession, but after a short period of occupation finds it impossible to remain in consequence of the leaky condition of the house. Can he call upon the landlord to
repair, there being no express agreement for him to do so? If the tenant leaves the premises, can the landlord sue him for rent as it becomes due?
12. A landlord lets a furnished house to a tenant who, after occupying it for a short time, leaves it in consequence of the bad state of the drainage. Can the landlord sue the tenant for the rent? What is the leading case on this subject?
13. A tenant had placed a handsome mantel glass in the premises leased from his landlord. Thinking that his landlord would purchase it, he left it in the premises when he vacated the house. The landlord took possession of the premises, including the mantel glass, and refused to give it up. Can the tenant bring an action to recover the glass from the landlord? What is the leading case on this subject?
14. A private way has been used by the public over the land of A for upwards of twenty years, not however in a continuous line. A conveys the land over which the right is supposed to exist to $B$, who fences it. The parties claiming the right knock down the fence. Can B sue them for this trespass? What is the law on this subject?
15. What is a way of necessity?

## MARINE INSURANCE.

Examiner.............................. Allace Graham, Q. C.
Time: Two Hours.

1. Define seaworthiness. When, if ever, is there a burden on the plaintiff to prove seaworthiness.
2. What are the perils usually insured against? State what you know about the application of the maxim, "Causa proxima non remota spectatur" to contracts of insurance.
3. Why does the law require the insurer to have an insurable interest in the subject insured? What are the usual kinds of insurable interest? May consignor and consignee each insure the same subject to its full value and recover the insurance? State reasons.
4. When can the insurer by way of defence arail bimself of a promise not in the policy, and to what extent? On what principle.
5. What is the difference between a promissory representation and a statement of expectation on the part of the applicant for insurance?
6. What is the advantage of having inserted in a policy a clause fffecting insurance "for whom it may concern?" Who can claim the benefit of the insurance under this clause, and under what circumstances can it be claimed?
7. In respect to concealment of material facts, state under what circumstances the insured will be held responsible for concealment by an agent and the reasons for this responsibility. What kind of agency must be shown to exist before the assured will be held responsible for the concealment?
8. On what ground does long delay in making a voyage constitute a defence to an action on the policy ?
9. What are the duties of the master in case of shipwreck ? Under what circumstances may he sell the ship
10. After a vessel becomes a constructive total loss and notice of abandonment duly given, what may occur or be resorted to to prevent the recovery of the whole amount insured ?
11. When and why is it necessary to give notice of abandonment to underwriters on freight?
12. When the underwriters pay a total loss, by virtue of what principle do they become entitled to the subject of the insurance?
13. Under what circumstances, if any, can the insured recover more than the face of the policy from the underwriters?
14. If the underwriter to whom the ship is abandoned, she being a constructive total loss, repairs and carries on the cargo then in the ship to its port of destination, to whom does the freight belong, and is the underwriter on freight liable?
15. State any one leading case of importance in connection with marine insurance.

TORTS.
Examiner .............. ....... J. Y. Payzant, A. M.
Time : Two Hours.

1. Define assault-harmonizing such definition with the decision in Stephens v. Myers.
2. Explain the meaning of "legal fraud " in the law of deceit.
3. State fully the modern doctrine of contributory negligence, giving examples and any authorities you may remember.
(a) Are there any exceptions to the rule that one of the risks a servant, entering on his master's business, assumes, is injury from the negligent acts of co-servants ?
4. A invites B to his house, while there B wantonly destroys a costly mirror. Is B liable for a trespass $a b$ initio ?
5. B, a gentleman residing in Australia, enters into an engagement for marriage with C, who resides in Halifax. After his arrival here to attend the wedding, D , the brother of C , in consequence of reports injurious to B's character, which, though false, are believed by him to be true, induces his sister, without repeating to her what he has heard, to break her engagement. Has B any legal remedy against D for the damage he has sustained ?
6. State any matters you may remember calculated to aid one in determining whether he has probable cause for commencing a prosecution against another.
7. The promoters of a coal company about to be organized, for the purpose of selling the stock, issue a prospectus containing gross misrepresentations as to the character and extent of the coal. After the stock is all subscribed, and the company organized, one of the shareholders sells out to A, who is induced to buy from having read the prospectus. The property proves worthless. Has A a good cause of action against the promoters?
8. A writes a libellous article attacking the financial standing of a prominent merchant and takes it to the editor of a newspaper for publication. The proprietor of the paper is absent, and without his knowledge, and believing the matter to be true, the editor has it printed. The paper is sold both by the newsboys and also by a newsvendor in his stall, but neither of them know anything of the libel or
the contents of the paper. Who are liable to the merchant for the libel?
9. A and B are neighbours living on intimate and friendly terms. During A's absence from home, B learns from what be believes to be a reliable source that A's servant, through his negligence, is endanyering the lives of A's cattle. B, without solicitation from any one, writes A of the fact. A thereupon discharges his servant. It turns out that the statement is untrue. Is 3 liable?
10. Discuss the doctrine of Walter v. Selfe and its applicability to the ringing of church and other bells, and the running of steam factories in towns and thickly settled localities where the noise interferes with the comfort and enjoyment of residents living close by.

## RVIDENCE.

Examiner
Mr. Harrington, Q. C.

1. Upon what principle is it that our law excludes, by a general rule, all evidence made by persons who are not produced in court as wituesses? Give one or two instances of cases in which this rule is relaxed, together with such reasons for the relaxation as oceur to you.
2. Where it is stated that the law requires the best evidence in all cases, what is meant by such phrase? State also a case in which-
(a) Evidence is admissible though not (in a probative sense) the best available.
(b) Evidence is not admissible though the best (in a probative sense) the case is capable of.
3. State the rules by which it is determined which party has the right to begin, having in view the process throngh which the law, in cases involving damages, \&c., finally reached its present condition.
4. Give in outline the questions involved in Doe v. Tatham.
5. Discuss res gestce in its relation to the rule against hearsay.
6. Discuss the presumption arising from possession.
7. What is-
(a) Relevancy-in a legal sense.
(b) Remoteness.
(c) A sues B for publishing a libel respecting him. On the trial he offers evidence that he and B had previously been upon unfriendly relations. What is the rule?
(d) A is indicted for a crime. The Crown on the trial offers evidence that he had formerly committed a crime of the same kind, or the same crime. Is it admissible?
(e) A is indicted for receiving stolen goods. The Crown after proving the fact of his having received the goods, and that they were stolen, offered evidence that he had in fact previously received stolen goods. What principle governs this case ?
8. What are the different kinds of presumptions?
9. What is the English rule as to the presumption of survivorship where two persons perish by a common calamity?
10. Mention some of the things of which courts take judicial notice-stating also what the judge shonld do if he doee not, in fact, know the thing of which he is bound to take judicial $n$ se.

# PROFESSIONAL EXAMINATIONS. 

## FACULTY OF MEDICINE.

## ANATOMY,

(INCLUDING PEACTICAL ANATOMY).
Examiners.... George L. Sinclair, M. D., A. W. H. Lindsay, M. D. Tuesdat, 16 th April- 10 A. m. to 1 p. m.

1. Describe the Occipital bone, noticing, 1st, its relations and mode of connection with other bones. 2nd, the foramina existing in it or into whose formation it enters, naming but not further describing the parts passing through them. 3rd, the muscles attached and their points of attachment.
2. Give the attachments and nervous supply of each of the muscles which flex and extend the thumb.
3. Describe the heart, indicating its relations to the chest walls, and also the positions of the valves. Where should the Stethoscope be placed in auscultation of the valves ?
4. Give the course, relations, and branches of the Posterior Tibial Artery.
5. Describe the musculo spiral nerve, including its course, relations, distribution.
6. Give the dissection required to expose the Quadratus Femoris, and mention the parts in immediate relation with it.
7. Indicate the dissection necessary to display the anastomoses at the bend of the elbow, giving merely the relations of other parts met with.
8. Indicate and explain the deformity in fractures above the condyles, and below the trochanters of the femur.

## PHYSIOLOGY.

Examiner....... ......................John Somers, M. D.
Thursday, 18 th April- -3 to 6 p. M.

1. What is protoplasm?
2. Give a short account of the proximate principles of the body.
3. Describe the Metabolic phenomena of the body, viz. :
a. Digestion.
b. Glycogenic.
c. Secretion (ex milk).
d. Secernent or excretive (urine).
e. Formative, tissue making (fat).
4. Give a brief history of the blood, its metamorphosis in the lungs.
5. Giv functions of large root of 5th pair. (Trigemini.

## MATERIA MEDICA,

## (INCLUDTNG THERAPEUTIUS AND PHARMACY.)

Examiner . . . . . . . . ................. D. A. Campbell, M. D.
Wednesday, 17 Th April- 10 A. M. TO $1 \mathrm{P} . \mathrm{M}$.

1. Write in full, prescriptions for Acute Bronchitis, Chronic Bronchitis, Cardiac Dropsy and Insomnia respectively
2. Describe fully the indications for drastic cathartics. Name the principal members of the gronp. Describe one fully. Mention the contra-indications to their use.
3. Describe concisely the action and uses of Jaborandi, Buchu, Santonin and Ergot respectively.
4. Salycylic acid. Name officinal preparations and state the doses. Describe fully the physiological action and principal uses.
5. Describe the action of Atropine. Point out some of the conditions for which it may be employed, and indicate the antagonism between it and Morphine.
6. Name the chief cardiac tonics. Describe one fully.
7. Indicate the chief characteristics of a pill. What are its advantages?

## CHEMISTRY.

Examiner . . . . . . . . . ......................... Prof. Lawson.
Monday, 15 til April, $10 \mathrm{~A}, \mathrm{~m}$. to $1 \mathrm{p} . \mathrm{m}$.
Five questions to be answered.

1. Explain in words, without use of symbols, the exact meaning of the following chemical equations :-
(1.) $\mathrm{NaNO}_{3}+\mathrm{H}_{2} \mathrm{SO}_{4}=\mathrm{NaHSO}_{4}+\mathrm{HNO}_{3}$.
(2.) $2 \mathrm{NaCl}+\mathrm{H}_{2} \mathrm{SO}_{4}=\mathrm{Na}_{2} \mathrm{SO}_{4}+3 \mathrm{HCl}$.
(3.) $2 \mathrm{NH}_{4} \mathrm{Cl}+\mathrm{CaO}=\mathrm{CaCl}_{2}+\mathrm{H}_{2} \mathrm{O}+2 \mathrm{NH}_{3}$.
(4.) $\mathrm{H}_{2} \mathrm{SO}_{4}+\mathrm{CuO}=\mathrm{CuSO}_{4}+\mathrm{H}_{2} \mathrm{O}$.

Give the equivalent, and the atomic, numbers of the elements included in these equations.
2. What are the principal constituents of Atmospheric Air, as regards their nature and quantity, and in what form do they exist in the air. Describe processes by which they may be separated or prepared in a pure state. What are the ordinary impurities of atmospheric air in dwellings and inhabited places, and in what way may their presence, or occurrence in unusual proportions, be ascertained. What means, other than ventilation, may be employed to maintain the purity of the air of rooms?
3. What is the composition of pure Water? What substances, solid, liquid or gaseous, are usualls present in, (1) Rain Water ; (2) Lake and River Waters ; (3) Sea Water ; (4) Mineral Waters. Upon what does the hardness of water depend, and how may it be removed.

In what way would you ascertain the extent of action of a particular sample of waters upou lead, and upon iron? How would you ascertain the presence or absence of sewage or house drainage in the water of a well ?
4. Explain the chemical nature of the process of Combustion, giving examples of slow and rapid combustion. What are the products of combnstion when the following elementary substances are burnt in oxygen or atmospheric air :-C, S, P, H, Na, Mg, Fe.
5. Describe the processes of testing for compounds of Arsenic and Antimony in ordinary cases of poisoning, including the separation of the poisons from organic matter, and the preparation of solutions suitable for testing. Also the proctss for estimating the amount of Arsenic present, with necessary calculations. In what way would you distinguish Cadmium specially from Arsenic, and what method would you adopt to prove the actual proportional composition of a precipitated Arsenical Sulphide.
6. Carbon is a tetrad element. What is meant by that expression, and in what way is the atomicity of an element determined. Certain hydirocarbons related to marsh gas, form, with it, a homologous series; explain the exact relations of the members of that series to each other, also the relation to them of the monatomic alcohols, common ether, the so-called fatty acids, and the compound ethers. What is Chloroform, and in what way is it prepared and purified? How is its presence tested for.
7. What is the usual composition, and the general chemical constitution, of the natural Alkaloids? What are the ordinary tests for Strychnia, and for Morphia? explain the chemical changes in composition that take place when the Alkaloids respond to these tests.

BOTANY.
Examiner ............ ......................... Prof. Lawson.
Thursday, April 4tif, 10 A. m. -1 p. m.
(Seven questions to be answered).

1. Give a general description of the several parts of a plant, including the descending and the ascending axes and their modes of growth ; the lateral organs, their forms, structure and several parts, and their arrangement on the axis ; the inflorescence ; and the several parts of the flower and fruit.
2. Notice the principal forms of the plant cell, the aggregation of cells into tissues, and the combination of tissue systems in the formation of the organs of plants.
3. Describe the appearance presented by Protoplasm in an ordinary active cell; what is its chemical character? What are its physical characters, and its relations to water as regards absorption or solution? What is meant by "circulation," by "rotation," and by "amœbuid movements " in protoplasm? What are the relations of protoplasmc activity to presence of moisture ; to heat, giving optimum, maximum and minimum temperatures? What is understond by the term : "Continuity of Protoplasm" ?
4. Give a general view of the natural system of Classification of Plants, defining the great divisions of the. Vegetable Kingdom. What are the essential differences between the groups of orders called (1) Thalamifloræ, (2) Calycifloræ, (3) Corollifloræ, (4) Monochlamydeæ.
5. Describe the natural order Ranunculacea. Notice the principal medicinal plants which it contains. What modifications in the structure of the fruit appear in this order ?
6. How would you recognise a plant belonging to the Natural Order Cruciferce, (Brassicacee)? What is the ordinary form of inflorescence in this order. the nature and arrangement of the parts of the flower, the structure and modifications of the fruit and seeds. What useful plants belong to this arder ? What are the sensible qualities of the root and leaf tissues and seeds of those used as food, and what are the properties that render certain species useful in medicine?
7. Give the essential characters of the natural order Umbelliferce, and notice the more important plants belonging to the order.
8. Define the natural order Leৎuminosce (Fabacea), specifying the characters npon which you would depend to separate it from all others. Give a list of ten of the more important medicinal plants belonging to the order.

9 Describe the principal divisions of the natural order Rosacea, with special regard to the leaves and stipules, the structure of the fruit, and the properties of the plants which they respectively contain.
10. Give a description of the structure of the flower in the several divisions af Composite (Asteracea), and notice the medicinal plants belonging to them.

## PRACTICAL CHEMISTRY.

Examiner. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Prof. Lawson.

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\text { Friday, } 5 \text { th April-10 A. m. to } 1 \text { f. m. }
$$

1. The solutions assigned to you from the series of bottles labelled:
$\frac{x}{1,} \frac{x}{2}$, \&c., to . $\quad \frac{x}{40}$ are to be tested, in a systematic manner, for Metallic Oxides or Bases, and for Inorganic, and the ordinary Organic, Acids, - one metallic oxide or base, and one acid in each solution. State results clearly, -giving composition of the principal precipitates obtained, and the final determination which you make for each number. In case of failure to find Base or Acid, eite results which prove their absence. (No books, tables or notes to be used.)
[The Solutions submitted for testing (except those consisting of distilled water only) contained one each of the following Bases and Acids, viz. :
(1.) Metallic Oxides or Bases: $\mathrm{Na}_{2} \mathrm{O}$; $\left(\mathrm{NH}_{4}\right)_{3} \mathrm{O} ; \mathrm{K}_{2} \mathrm{O}$; $\mathrm{MgO} ; \mathrm{CaO} ; \mathrm{BaO} ; \mathrm{ZnO} ; \mathrm{Al}_{2} \mathrm{O}_{3} ; \mathrm{Hg}_{2} \mathrm{O} ; \mathrm{HgO} ; \mathrm{CdO} ; \mathrm{Sb}_{2} \mathrm{O}_{8} ; \mathrm{CuO}$; PbO ; $\mathrm{As}_{2} \mathrm{O}_{3}$.
(2.) Inorganic Adids: $\mathrm{H}_{2} \mathrm{SO}_{4} ; \mathrm{HNO}_{3} ; \mathrm{H}_{3} \mathrm{PO}_{4} ; \mathrm{HCl}$; HI ; $\mathrm{H}_{2} \mathrm{CrO}_{4}$
(3.) Orqante Acids: $\mathrm{H}_{2} \overline{\mathrm{~T}}=\left(\mathrm{H}_{2} \mathrm{C}_{4} \mathrm{H}_{4} \mathrm{O}_{6}\right) . \overline{\mathrm{HA}}=\left(\mathrm{HC}_{2} \mathrm{H}_{3} \mathrm{O}_{2}\right)$.]

## HISTOLOGY.

Examiners.... Geo. L. Sinclatr, M. D., A. W. H. Lindsay, M. D.
APRIL $18 \mathrm{TH}-10 \mathrm{~A} . \mathrm{M}$. TO 12 m .

1. Describe the appearance presented by a transverse section of long bone (H. P.)
2. Name the different forms of epithelium and indicate their distribution.
3. Describe an hepatic lobule.
4. Describe the structure of arteries, the properties which they possess during life and ufter death.
5. What is the structure of the spinal cord as seen on transverse section, and under $\times 50$ ?
6. Describe the structure of the Ileum.
(The first four and either 5 or 6 to be answered.)

[^0]:    $\ddagger$ The Tutor will also be in the Library two or three times a week, from 3 to 5 p.m., when he may be consulted by students with reference to their studies.
    ${ }^{*}$ Students seeking a First or Second Class at the Sessional Examinations are examined in this additional subject.

[^1]:    * Students seeking a First or Second Class at the Sessional Examinations are examined in this additional subjert.
    $\dagger$ For private reading for a First Class. An "unseen" passage also will be set for translation.
    $\ddagger$ The Tutor will also be in the Library two or three times a week, from 3 to 5 p.m., when he may be consulted by students with reference to their studies.

[^2]:    $\dagger$ For private reading for a First Class. An "unseen" passage also will be set for translation.

    * Students seeking a First or Second Class at the Sessional Examinations are examined in this additional subject.

[^3]:    $\dagger$ The Syllabus in this subject may be altered at the opening of the Session.

    * Candidates for First Class will be examined in these additional works, which will not be read in class.

[^4]:    Books recommended : Candidates for a First Class distinction will be expected to read in connection with the lectures the following books: Blaikie's Elements of Dynamics (Thin, Edinburgh), Garnett's Elementary Treatise on Heat (Deighton, Bell \& Co.), Cumming's Electricity Treated Experimentally (Rivingtons), and Deschanel's Natural Philosophy, Ed. Everett, Part IV-Sound and Light (Blackie \& Son). Other students are recommended to read Stewart's Lessons in Elementary Physics (Macmillan \& Co.).

[^5]:    * The classical books for 1890 wil! be advertised at an early date.

[^6]:    * The "ordinary" subjects are those not marked with an asterisk in § i.

[^7]:    * So far as the provisions of the Time Table permit.
    +See Syllabus of English Classes (§ I. iiI.)

[^8]:    * So far as the provisions of the Time Table permit.
    + See Syllabus of English Classes (§ I. III.)
    $\ddagger$ The Advanced Class may be taken as an ordinary class in the Fourth Year. (See § I. IV).

[^9]:    * In the subject of Psychology the examination is held at about the middle of the Session.

[^10]:    * This medal will not be awarded after 1890, the Alumni Association having decided to adopt sowe other mode of commemorating the late Professors DeMill and MacKenzie.

[^11]:    Five Junior Exhibitions of $\$ 150$ a year, tenable for two years.
    Ten Junior Bursaries of $\$ 100$ a year, tenable for two years.
    Five Senior Exhibitions of $\$ 150$ a year, tenable for two years.
    Ten Senior Bursaries of $\$ 100$ a year, tenable for two years.

[^12]:    * Matriculation consists in entering the name upon the Register of a University as an undergraduate, not in the mere passing of a Matriculation Examination.
    $\dagger$ For the purposes of condition (b), Geometry and Algebra shall be reckoned as separate subjects.
    $\ddagger$ Undergraduates to whom Exhibitions or Bursaries were awarded previously to 1889 will hold their Exhibitions or Bursaries according to the conditions of tenure published in the Calendar of 1888-89.

[^13]:    * These Text Books are mentioned to indicate in a general way the extent of knowiedge required.
    $\dagger$ The classical books for $1890-91$ will be advertised at an early date.

[^14]:    $\dagger$ The English Classes of the First and Second Years, and the History and Physies Classes of the Third and Fourth Years, though extending over two sessions shall for the purpose of this rule be considered single classes, The Latin and Greek Classes of any one year shall also be consfdered one class.

[^15]:    * Latin for 1889, Cæsar, Gallic War, Bks. II. and III., or Virgil, Eneid, Bk. I.

    Latin for 1890 will be advertised at an early date.
    Greek for 1889, Xenophon, Anabasis, Bk. IV., or Symposium, Wiman's, published by J. Allyn, Boston.

    Greek for 1890 will be advertised at an early date.
    In French, Voltaire's Charles XII., Books I. and II., or Scribe's Bertrand et Raton. In German, Adler's Reader (Appleton \& Co.), Zweiter Abschnitt, 1-4 and 14-17 (inclusive).
    $\dagger$ These books are mentioned to show the extent of knowledge expected. Other books may of course be used by candidates.

[^16]:    $\dagger$ The Provincial Legislative Library and the Citizens' Free Library being open to the public on the fulfilment of certain conditions, may also be used by students.

[^17]:    * The Provincial Museum, which contains collections illustrating the Mineralogy, Geology, and Zoology of the Province, is open to the public daily, and may be used by Students.

[^18]:    ${ }^{2}$ Graduated with Second Rank Honours in Classies.
    ${ }^{3}$ Graduated with First Rank Honours in English and English History.
    ${ }^{4}$ Graduated with Second Rank Honours in English and English History.
    ${ }^{5}$ Graduated with First Rank Honours in Mental and Moral Philosophy.
    ${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathematical Physics.

    + Governor-General's Gold Medallist.
    $\ddagger$ Governor-General's Silver Medallist.
    * DeMill Gold Medallist.
    § Sir Wm. Young's Gold Medallist.
    a Munro Tutor in Mathematics, 1883-5.

[^19]:    ${ }^{2}$ Graduated with Second Rank Honours in Classics.
    ${ }^{3}$ Graduated with First Rank Horiours in English and English History.
    ${ }^{5}$ Graduated with First Rank Honours in Mental and Moral Philosophy.
    ${ }^{6}$ Graduated with Second Rank Honours in Mental and Moral Philosophy
    $\dagger$ Governor-General's Gold Medallist.
    $\ddagger$ Governor-General's Silver Medallist.

    * Demill Gold Medallist.

[^20]:    ${ }^{1}$ Graduated with First Rank Honours in Classics.
    ${ }^{2}$ Graduated with Second Rank Honours in Classics.
    ${ }^{4}$ Graduated with Second Rank Honours in English and English History.
    ${ }^{5}$ Graduated with First Rank Honours in Mental and Moral Philosophy.
    ${ }^{6}$ Graduated with Second Rank Honours in Mental and Moral Philosophy.
    7 Graduated with First Rank Honours in Mathematics and Mathematical Physics.
    ${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathematical Physics.
    $\dagger$ Governor-General's Gold Medallist.
    § Sir William Young's Gold Medallist.
    a Munro Tutor in Mathematics, 1885-7.

[^21]:    ${ }^{1}$ Graduated with First Rank Honours in Classics.
    ${ }^{3}$ Graduated with First Rank Honours in English and English History.
    ${ }^{4}$ Graduated with Second Rank Honours in English and English History.
    ${ }^{7}$ Graduated with First Rank Honours in Mathematics and Mathematical Physics.
    ${ }^{8}$ Graduated with Second Rank Honours in Mathematies and Mathematical Physics.
    $\dagger$ Governor-General's Gold Medallist.
    $\ddagger$ Governor-General's Silver Medallist.

[^22]:    ${ }^{2}$ Graduated with Second Rank Honours in Classics.
    ${ }^{8}$ Graduated with Second Rank Honours in Mathematics and Mathematica Physic ${ }_{3}$.
    $\dagger$ Governor-General's Gold Medallist.
    $b$ Munro Tutor in Classics, 1883-5.

