

date shall be admitted to the Examination unless he shall have previously paid this Fee to the Registrar.\* If a Candidate withdraw or fail to pass the Examination, the Fee shall not be returned to him, but he shall be admissible to any two subsequent Matriculation Examinations without the payment of any additional Fee, provided that he give notice to the Registrar at least fourteen days before the commencement of the Examination.

The Examination shall be conducted by means of Printed Papers; but the Examiners shall not be precluded from putting, for the purpose of ascertaining the competence of the Candidates to pass, *videlicet* questions to any Candidate in the subjects in which they are appointed to examine.

Candidates shall be examined in the following subjects :

**MATHEMATICS.**—*Arithmetic.*—The ordinary Rules of Arithmetic. Vulgar and Decimal Fractions. Extraction of the Square Root. *Algebra.*—Addition, Subtraction, Multiplication and Division of Algebraical Quantities. Proportion. Arithmetical and Geometrical Progression. Simple Equations. *Geometry.*—The First four Books of Euclid :—or, The principal properties of Triangles, and of Squares, and other Parallelograms, treated geometrically : The principal properties of the Circle, and of its inscribed and circumscribed figures treated geometrically.

**NATURAL PHILOSOPHY.**—*Mechanics.*—Composition and Resolution of Statical Forces. Simple Mechanics (*Mechanical Powers*) :—Ratio of the Power to the Weight of each. Centre of Gravity. General Laws of Motion, with the chief Experiments by which they may be illustrated. Law of the motion of Falling Bodies. *Hydrostatics, Hydraulics and Pneumatics.*—Pressure of Liquids and Gases, its equal diffusion, and variation with the depth. Specific Gravity, and modes of determining it. The Barometer, the Siphon, the Common Pump and Forcing-pump, and the Air-Pump. *Acoustics.*—Nature of Sound. *Optics.*—Laws of Reflection and Refraction. Formation of Images by Simple Lenses.

**CHEMISTRY.**—Heat—its sources. Expansion. Thermometers—relations between different Scales in common use. Difference between Temperature and Quantity of Heat. Specific and Latent Heat. Calorimeters. Liquefaction. Ebullition. Evaporation. Conduction. Convection. Radiation. Chemistry of the Non-Metallic elements; including their compounds as enumerated below—their chief physical and chemical characters—their preparation—and their characteristic tests. Oxygen, Hydrogen, Carbon, Nitrogen. Chlorine, Bromine, Iodine, Fluorine. Sulphur, Phosphorus, Silicon. Combining Proportions by weight and by volume. General nature of Acids, Bases and Salts. Symbols and Nomenclature. The Atmosphere—its constitution; effects of animal and vegetable life upon its constitution. Combustion. Structure and properties of Flame. Nature and composition of ordinary Fuel. Water.—Chemical peculiarities of Natural waters, such as rain-water, river-water, spring-water, sea-water. Carbonic Acid. Oxides and Acids of Nitrogen. Ammonia. Olefiant Gas, Marsh Gas, Sulphurous and Sulphuric Acid, Sulphuretted Hydrogen. Hydrochloric Acid. Phosphoric Acid and Phosphuretted Hydrogen. Silica.

**CLASSICS.**—*The Greek and Latin Languages.*—One Greek and one Latin subject, to be selected by the Senate one year and a half previously from the works of the undermentioned authors :† *Homer*—One Book. *Xenophon*—One Book. *Terence*—One Play. *Virgil*—One Book of the Georgics, and one Book of the *Æneid*. *Horace*—Two Books of the Odes. *Sallust*—The Conspiracy of Catiline, or the War with Jugurtha. *Cæsar*—Two Books of the Gallic War. *Livy*—One Book. *Cicero*—De Senectute or De Amicitia, with one of the following Orations—Pro Lege Manilia, one of the four Catilinarian Orations, Pro Archia, Pro M. Marcello. *Ovid*—One Book of the Metamorphoses, and one Book of the Epistles of Heroides.

The Paper in Greek shall contain passages to be translated into English, with questions in Grammar, History and Geography. The Paper in Latin shall contain passages to be translated into English, with questions in History and Geography. A separate Paper shall

\* Payment of the Fee is not expected until the Candidate enters his name on the Register of the University; for which entry a time is appointed, of which he is informed when the receipt of his Certificate of Age is acknowledged by the Registrar.

\* The knowledge required of these subjects in Natural Philosophy is such as may be attained by attending a Course of Experimental Lectures.

† The CLASSICAL subjects for 1868 and 1869 are—

For January, 1868 :—*Homer*, Iliad, Book V.; *Livy*, Book III.

For June, 1868 :—*Xenophon*, Anabasis, Book II.; *Horace*, Odes, Books III., IV.

For January, 1869 :—*Xenophon*, The Agesilaus; *Ovid*, Metamorphoses, Book XIII.; and Heroides, Epistle VII., "Dido."

For June, 1869 :—*Homer*, Odyssey, Book X.; *Cicero*, "De Amicitia," and the Oration, "Pro Archia."

be set containing questions in Latin Grammar, with easy and simple sentences of English to be translated into Latin.‡

*The English Language.*—Orthography : Writing from Dictation : The Grammatical Structure of the Language.

*Outlines of English History and Modern Geography.*—History of England to the end of the Seventeenth Century, with questions in Modern Geography.

*The French or the German Language*, at the option of the Candidate.\*

The Papers in French and German shall contain passages for translation into English from works previously selected and made known by the Senate,† and questions in Grammar (limited to the Accidence) on subjects furnished by those passages; together with short and easy passages for translation into English from prose works not previously announced.

Candidates shall not be approved by the Examiners unless they show a competent knowledge in each of the following subjects : 1. Classics, including the Greek and Latin Languages, with Grammar, History, and Geography; 2. The English Language, English History, and Modern Geography; 3. Mathematics; 4. Natural Philosophy; 5. Chemistry; 6. Either the French or the German Language.

The Examinations shall be conducted in the following order : *Monday Afternoon*, 2 to 4. Latin Class. 4 to 6. Latin Grammar and Composition. *Tuesday Morning*, 10 to 1. Greek Classic and Grammar. *Afternoon*, 3 to 6. French or German. *Wednesday Morning*, 10 to 1. Arithmetic and Algebra. *Afternoon*, 3 to 6. Geometry. *Thursday Morning*, 10 to 1. English Language. *Afternoon*, 3 to 6. English History. *Friday Morning*, 10 to 1. Natural Philosophy. *Afternoon*, 2 to 5. Chemistry.

On Monday Morning at Nine o'clock in the week next but one ensuing, the Examiners shall publish a list of the Candidates who have passed, arranged in alphabetical order. And on the Monday Morning next following, at Nine o'clock, the Examiners shall publish a list of the Candidates who have passed, arranged in Three Divisions;—in the First and Second Divisions in alphabetical order.‡

All communications to be addressed to the Secretary of the Gilchrist Educational Trust, University of London, London, Ont.

## VI. Papers on Geographical Subjects.

### 1. CAPABILITIES OF THE NORTH WEST TERRITORY.

The Reverend George Macdougall thus referred to the capabilities of British Columbia and the North West at the meeting of the Wesleyan Missionary Society in Whitby :—The country is larger than this whole Dominion, and the agricultural portion of it is larger than Eastern or Western Canada. He would give them a few facts. The cattle live out all winter—except once during the last five years there was no need to feed horned animals or horses. This country extends 1000 miles from Red River to the Rocky Mountains. As to minerals he could trace 300 miles of coal in one direction. On one small creek he saw a seam of coal extending for six miles and four or five feet thick. On the Athabaska River 100 miles to the north of him coal could be seen all along the banks, also on the southern banks of the Saskatchewan, in one place he had seen it where it had been on fire from time immemorial. There was timber too, in abundance. Some of the finest rivers in the world ran parallel for hundreds of miles, and on the higher portions of their course, near the Rock Mountains, there was the finest timber. As to gold, he wished he had all the gold that could be picked up only five miles from the Mission House—he would soon pay the debt of

‡ Special stress is laid on accuracy in the answers to the questions in Greek and Latin Grammar.

\* Candidates can obtain credit for only one of these Languages.

† The FRENCH Subjects for 1868 and 1869 are—

For January, 1868 :—*Prosper Mérimée*, Colomba; *Ponsard*, Charlotte Corday.

For June, 1868 :—*Emile Augier*, Diane; *Alex. Dumas*, La Tulipe noire.

For January, 1869 :—*Etienne, Arago*, Les Aristocrates, Comédie en vers; *George Sand*, "Molière," Drame en prose.

For June, 1869 :—*Ponsard*, L'Honneur et l'Argent, Comédie en vers; *Erckmann-Chatrian*, Madame Thérèse, on Les Volontaires de '92.

The GERMAN Subjects for 1868 and 1869 are—

For January, 1868 :—*Sybel*, Prinz, Eugen.

For June, 1868 :—*Schiller*, Wilhelm Tell.

For January, 1869 :—*Halm*, Griseidis, the First Three Acts only.

For June, 1869 :—*Goethe*, Egmont.

‡ The places of Candidates in the Honours Division are determined by their respective degrees of proficiency in the subjects of the Past Examination taken collectively.