

5. In the following list classify the words that may be used as adjectives :

our, six, great, the, what, first, many, adjective, led, hurrying, most, stone.
[12]

(6) Explain the meanings of Number, Person, Government, and Agreement; giving as many examples of each, as possible, from the following :

James and I saw her on this road-side.
[3 × 4 = 12]

7. Explain the meaning of the term Syntax, and state the Syntax of each of the italicized words in the following sentence :

There, where a few torn shrubs the place disclose,
The village preacher's modest mansion rose. [2 × 6 = 12]

DICTATION.

NOTE.—The Presiding Examiner shall read the passage three times—the first time, to enable the candidate to collect the sense ; the second, slowly, to enable the candidate to write the words ; and the third, for review.

Fourth Reader, page 189.

UNIVERSITY OF TORONTO.

JUNIOR MATRICULATION, 1889.

CHEMISTRY—ARTS, PASS ; MEDICINE, HONORS.

Examiner : Anthony McGill, B.A., B.Sc.

NOTE. — Candidates for Honours and Scholarships will take all the questions. Other candidates will take the first three, and any two of the remainder.

1. Combustion is merely a case of chemical combination. How would you show experimentally that in the case of two gases, *A* and *B*, mutually combustible, it is as true that *A* burns in *B*, as that *B* burns in *A* ? Give specific names to the gases chosen in illustration of your answer, and diagrams of the apparatus you have employed, or seen employed.

2. (a) Describe a mode of preparing each of the oxides of carbon, with diagrams of apparatus needed.

(b) Calculate the weight of materials required to produce 10 litres of each gas.

3. Ten grams of sand, 10 grams of sulphate of soda, and 10 grams of hydrochloric acid, are thoroughly shaken together with one litre

of water. How would you effect the separation of the ingredients ?

4. Define Specific Heat, and give an account of any work you have done in determining the specific heat of a solid ; with diagrams of the apparatus used.

5. What would you expect to happen in each of the following cases ? Give equations :

(a) Barium dioxide is boiled with hydrochloric acid.

(b) Solutions of ammonium chloride and silver nitrate are mixed. The solution is filtered clear from any precipitate, and evaporated to dryness. The dry residue is strongly heated.

(c) Calcium chloride in solution is mixed with solution of ammonium carbonate. The precipitate is dried, and strongly heated in a crucible.

6. What are the various impurities that exist in natural waters ? Describe modes by which their presence in a particular sample may be determined, and how water containing them may be made pure.

BOTANY—PASS.

Examiner : J. J. Mackenzie, B.A.

NOTE.—Six questions constitute a full paper. No more are to be answered. All candidates must take questions 1, 2 and 3. Candidates for Honours must take questions marked *

* 1. Give an accurate description of the plant submitted.

* 2. Refer it to its proper position amongst Phanerogams, and mention several allied Canadian species.

* 3. Illustrate fully by drawings the structure of the ovary in the plant before you.

* 4. What do we understand by dioecious flowers. Mention some Canadian examples.

* 5. Give an account of the different methods of distributing the seed, illustrating your examples from the Géraniaceae, Compositae and Borraginaceae.

* 6. Give an account of the peculiar characters belonging to Saprophytic and Parasitic plants, and mention some Canadian examples of each.

7. Define the following terms: culma, stolon, rhizome, tendril, prickle and spur. Give example of plants where they occur.