

(c) It isn't quite a year since it has been discovered.

(d) Some say that the heat and dust affects the colour and texture of the material.

(e) Has more than one case of it occurred in the school?

(f) It was laying on the floor when I seen it last.

(g) If it wasn't her I don't know who he could have meant.

(h) If I was to spare the rod in this case I would certainly not be doing my duty.

(i) There is the man whom we all thought would have got the nomination.

(j) Such a result, however, will only be achieved when all are united.

(k) Neither history or tradition gives us any account of its origin.

(l) The Reform party has not obtained power, and will not have an opportunity of showing what they can do.

(m) The letter was no doubt written with a malicious intention of damaging Mr. A.'s character.

(n) He was denouncing them as schismatic, turbulent, self-seeking, and other choice epithets.

THE CLASS-ROOM.

EDUCATION DEPARTMENT,
ONTARIO.

JULY EXAMINATIONS, 1880.

First Class Teachers.—Grade C.

BOTANY.

Examiner.—J. C. GLASHAN.

NOTE.—The examiner attaches most value to the answer to No. 7.

1. Describe briefly (naming examples in every case) the usual arrangement of leaves on the stem. What is the relation of whorls to spirals? What is the direct cause of the death and fall of the leaf in the case of deciduous trees?

2. What different parts of plants are occasionally converted into tendrils? Give examples of each case. How does the Poison Ivy (*Rhus toxicodendron*) climb?

3. What are the chief alterations undergone in some cases by the ovary in becoming the pericarp? Describe the chief methods adopted by plants to secure the dispersion of their seeds. What is the difference between the down of milk vetch and that of dandelion?

4. Mention the principal useful and ornamental plants of the ranunculaceæ and of the liliaceæ proper.

5. Classify the principal cereals.

6. Define the following terms and name plants that afford illustrative examples of each:—tuber, corm, bulb, stock, stipule, ligula, raceme, spike, corymb, umbel, cyme, panicle, legume, samara.

7. Fill the accompanying *Floral Schedule*, from observation of the specimen before you.

PHYSICS.

Examiner.—J. C. GLASHAN.

NOTE.—Each candidate may select eight, but not more than eight of the following questions as numbered.

1. Distinguish between the mass of a body and its weight. Mention some phenomena which depend on one or the other respectively.

By what experiments can it be shown that the weight of a body is proportional to its mass? What common practical application is made of this fact?

2. Define and distinguish clearly by illustrative examples, "acceleration," "force," "momentum," "energy" and "work." What are the units commonly employed in measuring each of these?

3. State Newton's Second Law of Motion. What will be the meaning of "impressed force" if "change of motion" be taken to mean (a) "total change of momentum during a given time", (b) "time-rate of change of momentum"?

4. Define density and specific gravity, and clearly distinguish between them by illustrative examples.

How can the specific gravity of sand be practically determined? Illustrate by a numerical example.