

10. Describe briefly the different forms of Indefinite (or Indeterminate) Inflorescence.

11. "The growth of a plant consists in the multiplication of its cells." Explain how the multiplication takes place.

12. "The chemical action which goes on in the leaves of plants is precisely the reverse of what takes place in the lungs of animals." Explain this statement as fully as you can.

BOTANY—Honors.

J. FOWLER, M.A. (QUEEN'S).

1. What reasons have led Botanists to believe that the parts of a flower are only modified leaves?

2. Describe as carefully as you can the process of fertilization in any common plant.

3. Mention the organs of *v*egétation, and describe one of them.

4. Give all the points of difference you know between wind-fertilized and insect-fertilized flowers.

5. Mention all the parts of the flower-head and fruit of a Dandelion.

6. State all the points of difference you know between the fruit of the Strawberry, Raspberry and Blackberry.

7. Describe briefly the different kinds of underground stems.

8. Name the different varieties of Indeterminate Inflorescence.

9. "It often happens that, though several Carpels unite to form a compound Pistil, there is but one cell in the ovary." How do you explain this?

10. Distinguish a seed from a fruit, and give a classification of the different kinds of fruits.

11. From what source does a young plant derive its nourishment before it has roots or leaves sufficiently developed to obtain it from the air or soil?

12. Give the leading characteristics of the following orders:—Leguminosae, Cruciferae, Liliaceae, Gramineae, also of a Lycopod and a Mushroom.

CHEMISTRY—Pass.

PROFESSOR SMYTH (TRINITY).

(Three-fourths of this paper will be considered a maximum)

1. What conclusions can be drawn regarding chemical combination from the behavior of Phosphorus and Iodine?

2. How many litres of mixed gases can be obtained respectively by the decomposition of two litres each of the following gases:—Hydrogen chloride, Chlorine monoxide, Hydrogen monoxide, and Ammonia? Show the importance of these experiments in framing a chemical nomenclature.

3. Express in chemical language the methods of preparation of (a) Hydrogen nitrate, (b) Hydrogen chloride.