2. Distinguish between: *Cryptogams* and *Phænogams Exogens* and *Endogens*, *Angiosperms* and *Gymnosperms*, *Anophytes* and *Thallophytes*.

3. Describe the modifications in Flowers produced by cohesion of (*a*) the *stamens*, (*b*) the *pistils*.

4. Illustrate the law of alternate Phyllotaxis, and explain the nature of fascicled leaves.

5. Describe a plant of the order *Labiata*.

6. Give the principal distinctions between Vertebrate and Invertebrate animals.

7. Describe *Amœba*. Mention some other protozoa very important in the economy of nature.

8. Trace the reproductive changes in *Medusa*.

9. Describe briefly an *acephalous* Mollusc, and explain the nature and formation of its shell.

10. Classify the bones of the appendicular portion of the skeleton, and notice any peculiarities in *Cheiroptera*, *Pterodactylus*.

11. Classify the teeth in man, and give their general modifications in *(a) Ruminantia*, *(b) Rodentia*, *(c) Edentata*.

SECOND PAPER.

MINERALOGY AND GEOLOGY.

1 Classify the fundamental forms of crystals under the proper systems.

2. What is a *hemihedral* crystal? How are the hemihedral forms with parallel faces obtained from the cube?

3. State generally how a mineral might act under an acid and what each action would indicate.

4. Describe *Galena*, give methods of reducing it, and find what percentage of metal it should yield.

5. Mineral greenish, soft, lamellar, with a greasy feel. Name it and give its uses.

6. What is the mineral composition, of *Granite*, *Syenite* *Gneiss*, *Slate*, *Sandstone*? To what division of rocks does each belong?