

# SESSIONAL EXAMINATIONS, 1892-93.

## BOTANY.

*Examiners* : ..... D. P. PENHALLOW, B. Sc.  
..... JAMES STEWART, M.D.

1. Give a concise explanation of the structure and differentiations (internally) of the exogenous stem, together with the associated characters of root, leaf and flower.

2. Give a concise account of the absorption, transfer and disposition of the nutrient fluids of the plant.

3. Explain the morphological nature of the various parts of the flower, and show how proof may be obtained.

4. Give an account of the structure and growth of the microspore, and point out the essential differences in these respects, between the Angiosperms and Gymnosperms.

5. Explain the structure of the ovule and show what differences in structure and development are to be found between Angiosperms and Gymnosperms.

6. Give a concise account of the function of respiration with respect to the conditions, products and the tissues in which it is performed.

7. Give an account of the composition of the vascular bundle and distinguish between (1) the vascular and (2) fibre-vascular bundles as to (a) occurrence, (b) relative order of development and (c) constituent elements.

8. Explain the relative value of cross and close fertilization in the perpetuation of the species. Chief an adaptation to the former and show what agencies are chiefly concerned.

## FIRST YEAR.

### PHYSIOLOGY.

*Examiner* : ..... WINLEY MILLIS, M.A., M.D.

1. Sketch a Bell Animalcule. Name its parts and state the use of each.

2. Indicate by a diagram the accessory parts in the chick embryo.

3. Discuss the structure and functions of arteries, veins and capillaries.

4. Discuss a reflex act. Use diagrams.

5. The Stomach : structure and functions.

6. The Skin : various functions, with brief references to their anatomical basis.