

Exam. Code : 210002

Subject Code : 5441

M.Sc. Botany 2nd Semester

**BOT-C-528 : PTERIDOLOGY**

Time Allowed—3 Hours]

[Maximum Marks—50

**Note** :— Attempt all the parts of question no. 1 from Section A, **seven** questions from Section B and **three** questions from Section C. Draw neatly labeled diagrams wherever required. Marks for each question are indicated in the paper.

**SECTION-A**

1. Write very briefly about each **one** of the following :

(i) Petrifactions

(ii) Sporangium

(iii) Exarch xylem

(iv) Strobilus

(v) Actinostele

(vi) Simple sorus

(vii) Sporocarp

(viii) Annulus

1×8=8

## SECTION-B

**Note** :— Attempt any **seven** of the following questions in not more than **two** pages each.

2. What is meant by land flora ? Illustrate.
3. Elucidate the antithetic theory of the origin of the sporophyte in land plants.
4. Comment on the organography and phylogenetic position of *Rhynia*.
5. Draw the transverse section of stem of *Lycopodium* and comment on vasculature.
6. Discuss the leaf structure and rachis anatomy of *Marattia*.
7. Discuss the structure of fertile parts of *Ophioglossum*. Why is the genus so named ?
8. Discuss the plant body of *Salvinia* with reference to its habitat.
9. Elucidate the plant structure of *Pteris* with special emphasis on fertile parts.
10. Draw the transverse section of the internode of *Equisetum*. Label the diagnostic parts.
11. Elucidate the occurrence and genetic effects of apogamy.

3×7=21

### SECTION-C

**Note** :— Attempt any **three** of the following questions in not more than **four** pages each.

12. What do you understand by organography ? Discuss the elementary processes of the telome theory.
13. Elucidate the salient features of the life cycle of vascular cryptogams with suitable examples.
14. What is a prothallus ? Discuss the evolutionary changes in the prothallus during the course of evolution in vascular cryptogams.
15. Discuss the role of hybridization and polyploidy in the evolution and speciation in ferns.
16. Discuss the ecological significance of ferns with a special emphasis on their role in phytoremediation.  $7 \times 3 = 21$