

Exam. Code : 210002

Subject Code : 8436

M.Sc. (Botany) Semester—II

**BOTC-521 : BRYOPHYTES AND PTERIDOPHYTES**

Time Allowed—3 Hours]

[Maximum Marks—50

**Note** :— Attempt the compulsory question from Section A, **SEVEN** questions from Section B and **THREE** questions from Section C. Draw neatly labelled diagrams wherever required. Marks for each question are indicated in the paper.

**SECTION—A**

1. Write very briefly about each of the following :

(i) Land plants

(ii) Elatophore

(iii) Gemma cups

(iv) Spore sac

(v) Megaspore

(vi) Apospory

(vii) Apomixis

(viii) Microphylls.

1×8=8

**SECTION—B**

2. What are bryophytes ? Discuss briefly their origin and occurrence.

3. Justify the creation of the order Metzgeriales giving main diagnostic characters.
4. What is peat moss ? Describe its morphology and economic importance.
5. Bryophytes are the amphibians of plant kingdom. Justify the statement with examples from your syllabus.
6. State the homologous theory of the origin of sporophyte and briefly discuss evidences favouring the theory.
7. Discuss the morphology of *Zosterophyllum* with special emphasis on diagnostic characters.
8. Elucidate the morphology of Sphenophyllales. How do they resemble the present day horsetails ?
9. Compare and contrast the characters of eusporangiate and leptosporangiate ferns taking examples from your syllabus.
10. Discuss the morphology of *Marselia* with special reference to aquatic habit of the genus.
11. Discuss the general characters of Marattiales. Name the genera included in the order and give their distribution.

7×3=21

### SECTION—C

12. Justify the creation of the orders Sphaerocarpaceae. Discuss the diagnostic characters and life cycle of the type genus.

13. Illustrate the diagnostic characters of Anthocerotales with a detailed description of the sporogonium. Comment on their evolutionary significance.
14. What is organography ? Discuss the enation theory and give its merits and demerits.
15. What is a sorus ? Discuss the organization of sorus with respect to position, maturity and protection in the evolutionary sequence from primitive to the advanced ferns.
16. What is heterospory ? Discuss the occurrence of the phenomenon in vascular cryptogams and its role in the evolution of seed habit. 3×7=21