November 2025
M.Sc.
First Semester
CORE – 02
BOTANY
Course Code: MBOC 1.21
(Bryophytes & Pteridophytes)

Total Mark: 70   *Pass Mark: 28*
Time: 3 hours

Answer <u>five</u> questions, taking <u>one</u> from each unit.

UNIT–I

1. (a) Describe the anatomical features of the thallus of *Anthoceros* with a well labelled diagram.   7
   (b) Discuss the Proskauer's (1957) classification of Bryophyta, outlining the main classes and their defining characteristics.   7

2. Explain the structure of the mature sporophyte of *Funaria* with the help of a well labelled diagram. Describe the mechanism of spore dispersal in *Funaria* focusing on the role of the operculum and peristomial teeth.   9+5=14

UNIT–II

3. (a) With reference to the evolution of sporophyte in bryophytes, explain the theory of progressive simplification.   7
   (b) Discuss the medicinal applications of bryophytes providing specific examples.   7

4. (a) Discuss the physiological and morphological characteristics that makes bryophytes effective bio indicators of pollution. Explain in brief the role of bryophytes as bioindicators of heavy metals in air pollution.   7
   (b) How do bryophytes influence ecosystem functions? Discuss the role of bryophytes as pioneer species in the process of ecological succession, focusing on their contributions to soil formation.   7

UNIT–III

5. Give an overview of the general characteristics of pteridophytes and add a short note on the algal origin of pteridophytes.   10+4=14

6. Write a note on each of the following: 7×2=14
   (a) Telome theory
   (b) Heterospory and seed habit

UNIT–IV

7. Give a detailed account of the reproductive structures and life cycle of *Pteris* by supporting it with suitable diagrams.   14

8. Write a note on each of the following: 7×2=14
   (a) Morphological features of *Equisetum*
   (b) Reproductive structures of *Lycopodium*

UNIT–V

9. Discuss the diversity of pteridophytes in different habitats.   14

10. Write a note on each of the following: 7×2=14
    (a) Medicinal uses of pteridophytes
    (b) Pteridophyte-fungal association

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