

# KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(3 Pages)

Reg. No:.....

Question Code: 26E00903

Course Code : 24UMB031

UG Degree - End Semester Examinations, April 2026

Third Semester

B.Sc., BOTANY

Plant Diversity-III

(For those who joined in July 2024 onwards)

Time : 3Hours

Maximum : 75 Marks

## PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1 1. Bryophytes are commonly known as  
K:1 (a) First vascular plants (b) Amphibians of the plant kingdom  
(c) Seedless spermatophytes (d) Naked seed plants
- CO:1 2. Which bryophyte is used as absorbent bandages?  
K:1 (a) *Riccia* (b) *Polytrichum*  
(c) *Sphagnum* (d) *Anthoceros*
- CO:2 3. Gemma cups are characteristic features of  
K:1 (a) *Anthoceros* (b) *Marchantia*  
(c) *Riccia* (d) *Polytrichum*
- CO:2 4. In *Anthoceros*, the sporophyte is  
K:1 (a) Long-lived and photosynthetic (b) Short-lived and dependent  
(c) Absent (d) Completely independent
- CO:3 5. The classification of Pteridophytes (up to order) was proposed by  
K:1 (a) Sporne (b) Bessey  
(c) Engler and Prantl (d) Eichler

- CO:3 6. Production of a sporophyte directly from gametophyte without  
K:2 fertilization is known as
- (a) Apospory (b) Apogamy  
(c) Heterospory (d) Homospory
- CO:4 7. In *Psilotum*, true roots are  
K:1
- (a) Well developed (b) Modified into rhizoids  
(c) Absent (d) Taproot-like
- CO:4 8. Heterospory is first observed in  
K:1
- (a) *Psilotum* (b) *Lycopodium*  
(c) *Selaginella* (d) *Marsilea*
- CO:5 9. The sporocarp is a reproductive structure found in  
K:1
- (a) *Lycopodium* (b) *Selaginella*  
(c) *Psilotum* (d) *Marsilea*
- CO:5 10. Which of the following is a medicinally important fern?  
K:1
- (a) *Dryopteris* (b) *Pteris*  
(c) *Adiantum* (d) *Marsilea*

**PART - B (5 X 5 = 25 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 250 words.**

- CO:1 11. (a) List out the ecological importance of bryophytes.

K:3

**(OR)**

- (b) Mention the industrial uses of bryophytes.

- CO:2 12. (a) Explain sexual reproduction in *Marchantia*.

K:3

**(OR)**

- (b) Describe the structure of *Polytrichum* sporophyte.

- CO:3 13. (a) Elucidate the classification of *pteridophytes*

K:4

**(OR)**

- (b) Explain apogamy and discuss its significance.

- CO:4 14. (a) Explain the internal structure of *Psilotum* stem with neat  
K:4 diagram.

**(OR)**

- (b) Describe the morphological structure of *Selaginella*.

CO:5 15. (a) Give an account of the medicinal uses of pteridophytes.

K:3

**(OR)**

(b) Analyze the horticultural and agricultural importance of ferns.

**PART - C (5 X 8 = 40 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 500 words.**

CO:1 16. (a) Elaborate classification of bryophytes according to Rothmaler.

K:6

**(OR)**

(b) List out the general characters of Bryophytes.

CO:2 17. (a) Describe the life cycle pattern of *Marchantia*.

K:4

**(OR)**

(b) Create the life history of *Anthoceros* with a neat diagram.

CO:3 18. (a) List the general characteristic features of pteridophytes.

K:5

**(OR)**

(b) Interpret heterospory. Describe the development of embryo in any heterosporous pteridophyte studied by you.

CO:4 19. (a) Evaluate the structure and reproduction of *Psilotum*.

K:4

**(OR)**

(b) Elaborate the life cycle pattern of *Selaginella*.

CO:5 20. (a) Describe the morphological, anatomical nature of *Marsilea* sporocarp.

K:6

**(OR)**

(b) Discuss the ecological and industrial importance of pteridophytes.