



K25U 0810

Reg. No. :

Name :

IV Semester B.Sc. Degree (C.B.C.S.S. – OBE-Regular/Supplementary/
Improvement) Examination, April 2025
(2019 to 2023 Admissions)
CORE COURSE IN BOTANY/PLANT SCIENCE
4B04BOT/PLS : Plant Diversity II – Pteridophytes and Gymnosperms

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever specified.

PART – A
(Objective type questions)

Answer all questions.

(4×1=4)

1. Identify the term which represents the presence of microspores and megaspores in Pteridophytes
 - a) Homospory
 - b) Heterospory
 - c) Monospory
 - d) Tetraspory
2. In *Psilotum* vegetative propagation takes place by
 - a) Gemmae
 - b) Tubers
 - c) Adventitious branches
 - d) Bulbils
3. Mention the source of 'Sago'
 - a) *Cycas*
 - b) *Pinus*
 - c) *Gnetum*
 - d) *Ginkgo*
4. The endosperm in *Gnetum* is
 - a) Haploid
 - b) Diploid
 - c) Triploid
 - d) Gradate ploidy

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PART – B
(Short Essay)

Answer any eight questions.

(8×2=16)

5. Discuss the affinities of Pteridophytes with Gymnosperms.
6. List the xerophytic characteristics of *Cycas*.
7. Comment on the leaves of *Pinus*.
8. Mention two root-like and two stem-like characteristics of the rhizophore in *Selaginella*.
9. Enumerate the ecological and economic importance of Gymnosperms.
10. Discuss the alternation of generations in Pteridophytes.
11. Analyse the aquatic adaptations of *Marsilea*.
12. Comment on the distribution of Gymnosperms in India.
13. Distinguish Manoxylic and Pycnoxylic wood ? List examples.
14. Distinguish between microphyllous and megaphyllous pteridophytes.
15. Explain Girdle traces in *Cycas* wood.
16. Comment on the vegetative propagation of *Equisetum*.

PART – C
(Essay)

Answer any four questions.

(4×3=12)

17. Explain the impact of polyploidy on the evolution and adaptability of Pteridophytes.
18. Comment on the structure and origin of siphonostele.
19. Evaluate the significance and evolutionary implications of the seed habit in Pteridophytes.



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20. Explain the structure of strobilus in *Equisetum*, with the help of suitable diagrams.
21. Comment on Sporne's system of classification of Gymnosperms.
22. Explain primary structure and secondary growth in *Gnetum* stem.

PART – D
(Long Essay)

Answer any one question.

(1×8=8)

23. Describe the life cycle of *Psilotum* with suitable diagrams.
24. Explain the internal structure of *Selaginella* stem with diagrams.
25. Compare and discuss the structure of the ovule in *Cycas*, *Pinus*, and *Gnetum* with the help of labelled diagrams.