

Roll.No.

24PPBCT1002

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

M.Sc. PBPBT - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

24PPBCT1002 - Pteridophytes, Gymnosperms and Paleobotany

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Illustrate the major differences between microphyllous and megaphyllous pteridophytes.
2. Explain the classification of Gymnosperms as given by K.R. Sporne (1965) and mention the key features of each group.
3. Apply your understanding of xerophytic adaptations to explain how Ephedra can survive in arid environments.
4. Describe the structural features of Sphenophyllum and how it differs from modern horsetails.
5. Describe the reproductive structures of Adiantum, including its sporangia and sori arrangement.
6. Relate the reproductive structures of Gymnosperms and Angiosperms by comparing their modes of seed production and dispersal.
7. Describe the structural adaptations of Podocarpus that help it survive in different environments.
8. Discuss the major contributions of Birbal Sahni to the field of Paleobotany in India.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Explain the concept of heterospory with examples. How did it lead to the evolution of seed habit?
10. Relate the differences in spore production between Psilotum and Selaginella to their respective environments and life strategies.
11. Analyze Geological time scale and describe the life in different eras.

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12. Judge the role of Cupressus seed adaptations in promoting biodiversity and maintaining ecological balance in its habitat.

II - Compulsory question (1 × 10 = 10 Marks)

13. Explain the study of fossil in understanding the evolution and discuss the process of fossilization and type of fossils in detail.
