

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.

B.Sc.PBPBT - END SEMESTER EXAMINATIONS - APRIL 2025

SEMESTER - IV

20UPBCT4007 - Gymnosperms, Paleobotany and Evolution

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

1. Explain the general characteristics of Gymnosperms.
2. Illustrate the economic importance of Gymnosperms in relation to oil and timber.
3. Classify the external morphological features of *Cycas* and *Gnetum*.
4. Describe the reproductive structures of *Gnetum* with suitable examples.
5. Define fossils and explain the conditions necessary for fossilization.
6. Rephrase the distinction between petrification and compression fossils with examples.
7. Describe the contribution of Dr. Birbal Sahani to Paleobotany.
8. Apply the concept of variation to explain its role in evolution.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Design a critical analysis of the classification of Gymnosperms proposed by Pilger and Melchior (1954).
10. Explain the structural and reproductive features of *Cycas* in detail.
11. Apply your understanding to predict which fossilization method is most effective for preserving plant remains.
12. Relate different time periods to significant paleobotanical discoveries and predict their impact on understanding Earth's history.
13. Examine the Chemosynthetic theory of the origin of life and compare it with other origin theories.
