

TM211060TR

Reg. No :

Name :

M. Sc. DEGREE (C.S.S.) EXAMINATION, NOVEMBER 2021
[2021 Admissions Regular and 2020 Admissions Improvement & Supplementary]
SEMESTER I - CORE COURSE (BOTANY)
BO1C04TM20 - GYMNOSPERMS, PALEOBOTANY AND EVOLUTION

Time : 3 Hours

Maximum Weight : 30

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. What is the peculiar feature of secondary wood in gymnosperm?
2. What are coralloid roots? Describe their chief anatomical features.
3. Why is Welwitschia considered as bizzare of the plant kingdom?
4. List out the characteristic features of the family Taxaceae.
5. Compare the morphology of Cycas and Zamia.
6. Write a short note on Northgrippian and Greenlandian ages.
7. What are megafossils? Write two examples.
8. Explain the Haeckel's recapitulation theory.
9. What is atavism? Explain with example.
10. Explain the role of hybridization in evolution of species.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Write the economic importance of Gymnosperm.
12. Describe with diagrams the male and female reproductive structures of Agathis.
13. Explain with diagrams the microsporogenesis in Cycas.
14. Explain the stages of microgametogenesis and megagametogenesis in Ephedra.
15. Describe the evolutionary time scale.
16. Describe carbon dating.
17. Briefly explain the terms a)Microevolution, b)Macroevolution and c) punctuated equilibrium
18. Explain with examples the terms a) Batesian mimicry and b) Mullerian mimicry.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Describe the classification of Gymnosperms proposed by Sporne.
20. Describe the characteristic features of the families included in Coniferales.
21. Write an essay on the evolution of biomes.
22. Write an essay on the mechanism and patterns of speciation.