

Reg. No

Name

17P3621

MSc DEGREE END SEMESTER EXAMINATION- OCTOBER-NOVEMBER 2017

SEMESTER 3 : BOTANY

COURSE : 16P3BOTT10 ; GYMNOSPERMS, EVOLUTION & PALEOBOTANY

(For Regular - 2016 admission)

Time : Three Hours

Max. Marks: 75

Section A

Answer any 8 (2 marks each)

1. What are the two subdivisions of Division Spermatophyta?
2. Name the male and female fructification of *Glossopteris*?
3. What is meant by an obliterated pith? Give examples.
4. Define a hypostomatic stomata
5. What is Canada balsam?
6. Define germplasm theory.
7. What are vestigial organs? Give two examples.
8. What is Lamarckism?
9. What are the patterns of evolution seen in genes and genomes?
10. Define mega fossil and micro fossils
11. Define haplocheilic and syndetocheilic type of stomata
12. What is Form taxa?

8 x 2 (16)

Section B

Answer any 7 (5 marks each)

13. Write an account on the ovule of different species of *Caytonia*.
14. Describe the various leaf types in *Pinus*.
15. Discuss the general characteristics of Podocarpaceae.
16. Give an account of the theory of sexual selection.
17. Define speciation. List various factors influencing speciation.
18. Explain the role of geographical barriers in evolution.
19. What are molecular signatures of natural selection?
20. Explain the modern concept of organic evolution.
21. Describe the Indian human fossil.

22. Illustrate the life cycle of a gymnosperm.

7 x 5 (35)

Section C

Answer any 2 (12 marks each)

23. Describe the development of male and female gametophyte of *Cycas*.

OR

24. Describe the geological time scale

25. What is isolation? Describe the various isolating mechanisms and the importance of isolation.

OR

26. Explain natural selection. What are the levels and models of natural selection? Add a note on fitness and polymorphism.

2 x 12 (24)