

Reg. No

Name

18P3621

MSc DEGREE END SEMESTER EXAMINATION - OCTOBER 2018**SEMESTER 3 : BOTANY****COURSE : 16P3BOTT10 : GYMNOSPERMS, EVOLUTION & PALEOBOTANY***(For Regular - 2017 Admission & Supplementary - 2016 Admission)*

Time : Three Hours

Max. Marks: 75

Section A**Answer any 8 (2 marks each)**

1. List the distribution of gymnosperms in India.
2. Define circinate vernation.
3. What is a cataphyll and prophyll?
4. Define a cone scale
5. What is Canada balsam?
6. Define mutation.
7. What are microspheres?
8. What is Lamarckism?
9. What are the patterns of evolution seen in genes and genomes?
10. Define mega fossil and micro fossils
11. List the characters of *Lagenostoma lomaxii*
12. What is Form taxa?

(2 x 8 = 16)**Section B****Answer any 7 (5 marks each)**

13. Distinguish between Taxales and Coniferales.
14. Medullosaceae members possess polystelic vascular system. Justify.
15. Give an account on the morphological features of *Ginkgo*.
16. Give an account of the theory of sexual selection.
17. Define speciation. List various factors influencing speciation.
18. How will you explain the concept of sub-species cite suitable examples.
19. What are molecular signatures of natural selection?
20. Explain the modern concept of organic evolution.
21. What are the features of Devonian period ?
22. Distinguish between pteridophytes and gymnosperms

(5 x 7 = 35)

Section C

Answer the following (12 marks each)

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

OR

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

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

OR

26. Describe the geological time scale

(12 x 2 = 24)