

Total Number of Questions : 32

Time : 3.00 Hours

Max. Marks : 200

1. Who proposed apical cell theory ? Briefly explain its concepts. (2 Marks)
2. What is ecotone ? Briefly describe its major properties. (2 Marks)
3. What is resolving power ? What is its property with respect to numerical aperture ? (2 Marks)
4. What are priones ? (2 Marks)
5. Define : (2 Marks)
 - (a) Holo type
 - (b) Lecto type
 - (c) Para type
 - (d) Syn type.
6. What are tylosoides ? Describe its significances and functions. (4 Marks)
7. What are the principles of Ion exchange chromatography ? (4 Marks)
8. Describe the composition of Carnoy's fluid. Describe its properties and uses. (4 Marks)
9. Write the causative organism of the following diseases. (4 Marks)
 - (a) Mahali of Areca-nut
 - (b) Blast of Paddy
 - (c) Quick wilt of Pepper
 - (d) Citrus Canker.
10. Write an account of Fossil Bryophytes. (4 Marks)
11. Briefly describe the types of nectaries in plants. What are their significances ? (5 Marks)
12. What are vital stains ? Describe the properties of any 4 vital stains. (5 Marks)
13. What is rhizosphere ? Describe its significances. (5 Marks)
14. Describe the methods of genetic recombinations in Bacteria. (5 Marks)
15. Which are the heterosporous pteridophytes ? Comment on the significance of heterospory in development of seed habit. (5 Marks)
16. What is endemism ? Describe its types. Cite three plant species endemic to Western Ghats. (5 Marks)
17. What is speciation ? What are the mechanisms of speciation. (5 Marks)

18. Describe different types of stomata. (7 Marks) Or
19. Define the concepts of (a) Valid publication (b) Effective publication. Mentioning the relevant articles of ICN. (7 Marks)
20. Describe the stages in the life cycle of Oedogonium. (7 Marks)
21. Give a comparative account of the ovule in Cycas and Gnetum. (7 Marks)
22. Describe types of fruits. (7 Marks)
23. Describe the patterns of root-stem transition. (10 Marks)
24. Describe numerical aberrations of chromosomes. (10 Marks)
25. Describe Koch's Postulates. (10 Marks)
26. Describe the types and evolution of Steles. (10 Marks)
27. Describe continental drift theory citing evidences. (10 Marks)
28. Make a comparative account of C3 and C4 cycle of photosynthesis. (10 Marks)
29. Describe : (10 Marks)
- (a) Double fertilization
 - (b) Formation and types of endosperm
 - (c) Discuss the significance of double fertilization.
30. What is Acetolysis ? Describe its procedure and chemicals used. Describe the structure of pollen wall. (10 Marks)
31. Describe the structure of DNA. Give a comparative account of different types of DNAs. (10 Marks)
32. What is ascent of sap ? Describe various theories to explain it. (10 Marks)