



General instructions

- The question paper consists of four parts A,B,C and D
- All parts are compulsory
- Draw diagrams wherever necessary. Unlabeled diagrams do not attract any marks

PART - A

I. Answer the following question in one word or one sentence each 1 × 10 = 10

1. What is a zoospermia?
2. What is inbreeding depression?
3. Which soil bacteria produces BT toxin?
4. Define ecological succession.
5. What is adaptive radiation?
6. What are interferons?
7. Name the source of taq DNA polymerase.
8. Give an example for autosomal trisomy.
9. tRNA is an adaptor molecule comment.
10. Define gene pool.

PART - B

II. Answer any five of the following questions in 3 to 5 sentences each where ever applicable 2 × 5 = 10

11. Write the characters of wind pollinated flowers.
12. Differentiate between active immunity and passive immunity.
13. What are palindromic sequences? Give an example
14. Differentiate between Gross primary productivity and Net primary productivity.
15. Mention the different types of RNA.
16. What are nucleosomes? Mention their chemical constitution.
17. What is convergent evolution? Give an example
18. Discuss the role of fungi as bio fertilizers.

PART - C

III. Answer any five of the following questions in 100 - 150 words each 3 × 5 = 15

19. Mention the type of reproduction in the following animals
 - a. Penicillium
 - b. Chlamydomonas
 - c. Sponges

20. With a neat labelled diagram explain the use of electrostatic precipitator
21. Draw a neat labelled diagram of clover leaf model of t-RNA
22. Explain the adaptive radiation with an example.
23. Explain the post-transcriptional events in eukaryotes.
24. a) What is endemism?
b) Mention the evil quartet of biodiversity loss
25. Draw a neat labelled diagram of plasmid PBR 322
26. Explain the following
 - a) Eurythermal organisms
 - b) Immigration
 - c) Natality

PART -D

Section I

- IV. Answer any four of the following 4×5=20
27. Draw a neat labelled diagram of sectional view of human female reproductive system. 28. Explain the structure of Megasporangium.
 29. State Hardy-Weinberg principle. Mention any two factors that affect Hardy-Weinberg equilibrium.
 30. Describe the process of Semi-conservative method of DNA replication.
 31. How does pollination achieved in Vallisneria and seagrasses?
 32. a) What is poultry? Mention two important components of Poultry farm Management.
b). Define Interspecific hybridization. Give an example.

Section II

- V. Answer any four of the following questions in 200 to 250 words each wherever applicable 5×4=20
33. Define ecological pyramid. Describe pyramid of numbers with an example.
 34. Briefly describe various steps involved in plant breeding.
 35. Write short notes on
 - a) Restriction endonucleases
 - b) Nematode resistance through RNA interference technique
 36. Explain the law of independent assortment with an example.
 37. Name any five atmospheric pollutants and mention their hazardous effects.
