

Subject	Topic	Practice Paper - 3	Date
Biology	Complete Syllabus	PU - 12 - B	2017

Max. Marks: 70

Duration: 3hrs 15 mins

General Instructions:

- i) This question paper consists of four parts A, B, C and D. Part D consists of two parts, Section-I and Section-II.
- ii) All the Parts are Compulsory.
- iii) Draw diagrams whenever necessary. Unlabelled diagrams or illustrations do not attract any marks.

Part – A

Answer the following questions in ONE Word or ONE Sentence each.

10 x 1 = 10

1. Define spermiogenesis.
2. Name “one a week oral pill”.
3. Why DNA replication is termed as semi conservative ?
4. What is divergent evolution ?
5. What are somaclones ?
6. Streptokinase is known as clot buster. Give reason.
7. Name the microbe from which *Bt* genes were extracted.
8. Who had proposed the chromosomal theory of inheritance ?
9. State Allen’s rule.
10. Why secondary succession is faster than primary succession ?

Part – B

Answer any FIVE of the following questions in 3 - 5 sentences each

5 x 2 = 10

11. Define life span. Mention the different phases in it.
12. Distinguish between dominant and recessive factor.
13. Distinguish between prokaryotic gene and eukaryotic gene.
14. Differentiate between primary and secondary immune response.
15. What is plant breeding? Mention its objectives.
16. What is passive immunisation? Give an example.
17. What are solid wastes? Mention their types.
18. Why diverse ecosystems are more productive?

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Part – C

Answer any FIVE of the following questions in 40 - 80 words each.

5 x 3 = 15

19. (a) What is endosperm? [1]
 (b) Differentiate between free nuclear and cellular endosperm with suitable examples. [2]
20. (a) What are oral contraceptive pills? [1]
 (b) What are emergency contraceptives? [1]
 (c) How oral contraceptive pills help in preventing fertilization? [1]
21. Write short notes on PKU.
22. What is dairy farm management? What measures to be taken care for a successful dairy farm management?
23. (a) What are ethical issues? [1]
 (b) Write short notes on biopiracy. [2]
24. (a) India is said to have greater biodiversity than Norway. Justify. [1]
 (b) What is resources partitioning? Describe with an example. [2]
25. Define the following population attributes:
 (a) Population density
 (b) Sex ratio
 (c) Natality
26. (a) Define the term microinjection. [1]
 (b) What is insertional inactivation? Mention its significance [2]

Part – D (i)

Answer any FOUR of the following questions in 200 - 250 words each.

4 x 5 = 20

27. (a) Mention any three differences between external and internal fertilization with suitable examples.
 (b) Why offspring of asexual reproduction are referred as clone?
 (c) Why vegetative propagation is considered as a type of asexual reproduction? [3+1+1]
28. (a) What are out breeding devices in plants? [1]
 (b) Compare seasonal and continuous breeders with examples. [2]
 (c) What are vegetative propagules? Name the vegetative propagules in the following cases. [2]
 (i) Eichornia (ii) Bryophyllum (iii) Potato (iv) Ginger
29. (a) With a diagram explain the structure of an adapter (t-RNA) molecule. [3]
 (b) Mention the various levels of gene regulation in eukaryotes [2]

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30. (a) Draw a sketch of T.S of testis. [3]
 (b) What are Leydig cells? Mention their function. [2]
31. What is HGP? Mention its goals and features.

Part – D (ii)

Answer any THREE of the following questions in 200 - 250 words each. 3 x 5 = 15

32. What are controlled animal breeding techniques? [1]
 Describe the following controlled animal breeding techniques and mention their significance.
 (a) Artificial insemination [2]
 (b) MOET [2]
33. Give an account of applications of biotechnology in agriculture.
34. (a) Define allergy. [1]
 (b) What are allergens? Give examples. [2]
 (c) Mention any two symptoms of allergy. [1]
 (d) Name the type of antibodies produced in response to allergic reactions in the body. [1]
35. (a) Define sere. [1+4]
 (b) What is hydrarch succession? Mention successional serial stages in hydrarch succession in plants.
36. (a) What is air pollution? Mention its effects and control measures. [3]
 (b) Write a short note on a case study of integrated waste water treatment. [2]
37. Give an account of human evolution mentioning their different evolutionary stages, time period, brain capacity and salient features.