

**Biology (Class XII)**

Time Allowed: 3 Hours

Max Marks 70

General Instructions:

- (i) All questions are compulsory.
- (ii) The question Paper consists of four sections A, B, C and D. Section A contains 8 questions of 1 mark each, section B is of 10 questions of 2 marks each, Section C has 9 questions of 3 marks each whereas section D is of 3 questions of 5 marks each.
- (iii) There is no over all choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and all the 3 questions of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.
- (iv) Whenever necessary, the diagram drawn should be neat and properly labeled.

**SECTION-A**

1. Banana is a true fruit and also a parthenocarpic fruit. Justify. [1]
2. Name the process of rupture of Graffian follicle and the subsequent release of egg from the ovary. [1]
3. Name the conditions in which an allopolyploid, have one genome more than diploid state (AAAABB). [1]
4. Are the two polynucleotide chains of DNA identical? [1]
5. What are the first indications of tetanus? [1]
6. Which enzymes are used for releasing macromolecules(DNA) from cell envelope? [1]
7. How many amino acids are arranged in two chains of insulin? [1]
8. How an organism optimize its survival and reproduction in its habitat? [1]

**SECTION-B**

9. What is geitonogamy? Give its one similarity to (a) autogamy and (b)xenogamy [2]
10. What is parturition? Which hormones are involved in induction of parturition? [2]
11. What is the basis of formation of four types of gametes in a dihybrid (RrYy) [2]
12. What is the contribution of Avery, Macleod and McCarty? [2]
13. Why for transplantation , organs cannot be taken from just anybody? What is it that the doctors check? [2]
14. What are molecular scissors? Give an example. [2]

Or

Explain the principle of PCR. [2]

15. How is a nematode(pest) resistant plant produced? [2]
16. Write a short note on population density. [2]
17. What does the stationary phase of sigmoid growth curve indicates? [2]
18. How is the green house effect produced? [2]

**SECTION-C**

19. List the objectives of Reproduction and child health care programme (RCH) [3]
20. Trace the development of mature embryosac from a megaspore mother mother cell. [3]
21. How is the genetics of haploid organisms differ from that of diploid organisms? [3]
22. Describe semiconservative mode of DNA replication. [3]

or

Describe the mechanism of editing and DNA repairs. [3]

23. What are introns and exons ? What process ensures a linear arrangement of amino acids although the genes are discontinuous? [3]
24. What are body's two lines of defence in a nonspecific defence mechanism? [3]
25. Differentiate between psychosis and neurosis. [3]
26. Write a short note on teratogens [3]
27. What is gene amplification? Explain the steps involved in gene amplification by polymerase chain reaction. [3]

**SECTION-D**

28. Explain antibiotic resistance observed in Bacteria in light of Darwinian selection Theory. [5]

Or

What is the mechanism by which the AIDS virus causes deficiency of immune system of the infected person? [5]

29. How is Bt cotton plant produced? Explain the mechanism by which the plant is able to resist the infestation by cotton boll worms. [5]
30. (a) Give two main causes of extinction of species by human interventions [2]
- (b) What is biosphere reserves? Name different zones of biosphere reserves. [2]
- © Explain IUCN Red list [1]

**TIPS**

1. Read the question paper carefully.
2. Spellings of the terms should be perfect.
3. Diagrams should be neat and well labeled.
4. Do all the questions serial-wise.
5. Do not cross the word limit.



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