CBSE Board
Class XII Biology
Sample Paper-7

Time: 3 hrs **Total Marks: 70**

General Instructions:

(i) All questions are compulsory.
(ii) This question paper consists of four Sections A, B C and D. Section **A** contains **8** questions of **one** mark each, Section **B** is of **10** questions of **two** marks each, Section **C** is of **9** questions of **three** marks each, and Section **D** is of **3** questions of **five** marks each.
(iii) There is no overall choice. However an internal choice has been provided in **one** question of **2** marks, **one** question of **3** marks and all the **three** questions of **5** marks weight age. A student has to attempt only one of the alternatives in such questions.
(iv) Wherever necessary, the diagrams drawn should be neat and properly labelled.

Section A

Q1. Where is aleurone layer found to occur in plant material? What does it consist of? [1]

Q2. What are transposons? [1]

Q3. Name the main lymphoid organs in human body. [1]

Q4. Why plasmids are largely used as vectors? [1]

Q5. What is gene therapy? [1]

Q6. How Golden rice is genetically different from normal rice? [1]

Q7. Arrange the following in their hierarchy of levels:Community, population, ecosystem, organ system, biosphere. [1]

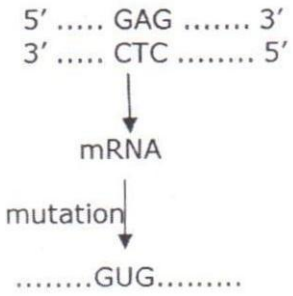
Q8. Name two species which have become extinct due to over exploitation by humans. [1]

Section B

Q9. One sperm is sufficient to fertilize the ovum. Then, why does human ejaculate carry sufficient number of sperms? [2]

Q10. What are the differences between monohybrid and dihybrid cross? [2]

Q11. From the following diagram of molecular mechanism of mutations, identify the type of mutation. [2]



Which disease is represented by such a mutation?

Q12. What is a test cross? How does it differ from reciprocal cross? [2]

Q13. What are the limitations of ELISA test? [2]

Q14. Expand PCR. List its two uses. [2]

Q15. Many tribes live in the high altitude of Himalayas. How do these people solve the problem of altitude sickness? [2]

Q16. How is diapause different from hibernation? [2]

Q17. Differentiate between grazing food chain and detritus food chain. [2]

Q18. Which gas gives the puffed appearance to the dough? Name the metabolic pathway taking place resulting in the formation of this gas. [2]

Or

Name any two species of fungus which are used in the production of the antibiotics.

Section C

Q19. Why is cross-pollination considered to be superior than the self-pollination? [3]

Q20. Name the hormones involved in regulation of spermatogenesis. [3]

Q21. A length of DNA helix is far greater than the dimension of a typical nucleus.

How is long DNA polymer packaged in a cell? [3]

Q22. Snapdragon shows incomplete dominance for flower colour. Work out the progeny from cross between plants with pink flowers and state their phenotype. [3]

Q23. How does moderate fever help a person in combating infections? What is to be done to bring down high body temperature? [3]

Q24. What are the new methods used for increasing fish production? [3]

Q25. Describe briefly the three critical research areas of biotechnology. [3]

Q26. When do population growth curve assume 'J' shape and sigmoid 'S' shape? [3]

Q27. Give an account of factors affecting the rate of decomposition. [3]

Or

List three important characteristic of a population and explain.

Section D

Q28. What is spermatogenesis? Where does it occur? Describe the stages of this process? [5]

Or

Name the various types of foetal membranes and explain briefly each one of them.

Q29. What will happen: [5]

(i) When complete sets of chromosomes are added to diploid genome?
(ii) When individual chromosomes are added to or deleted from the diploid genome?
(iii) When a part of the chromosome is lost?
(iv) When a part of chromosome breaks and attaches to another non-homologous chromosome?
(v) When a part of the chromosome breaks and attaches to its homologue?

Or

What are the goals of human genome project?

Q30. Municipal Corporation has deputed personnel to check for mosquito breeding in your school. [5]

(a) Which are the places they should check for mosquitoes and their larvae?
(b) Name two diseases which are spread by mosquitoes.
(c) Name any two biological agents which can be used to control mosquitoes.
(d) What values are reflected in it?