CBSE
Class XII Biology
Sample Paper – 10

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

General Instructions:

1. All questions are compulsory.
2. This question paper consists of five sections A, B, C and D. Section **A** contains **5** questions of **one** mark each, Section **B** is of **7** questions of **two** marks each, Section **C** is of **12** questions of **three** marks each and Section **D** is of **3** questions of **five** marks each.
3. 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 weightage. A student has to attempt only one of the alternatives in such questions.
4. Wherever necessary, the diagrams drawn should be neat and properly labelled.

Section A

1. Write the location and function of the Sertoli cells in humans. [1]

2. What is biopiracy? [1]

3. State the main function of bioreactors. [1]

4. Define pioneer community. [1]

5. Give two examples of decomposers. [1]

Section B

6. What is parturition? Which hormones are involved in the induction of parturition?[2]

7. Why the Drosophila male fly is called heterogametic? [2]

8. If the base sequence of one strand of DNA is CAT, TAG, TAC, GAC, then what will be the base sequence [2]
(a) Of the complementary DNA strand
(b) Of its complementary RNA strand

9. Explain the role of Ti plasmids in biotechnology. [2]

10. Mention the importance of carbon cycle in nature. [2]

OR

How do nuclear power plants upset ecological balance?

11. What are ectoparasites and endoparasites? Give two examples of each. [2]

12. How do organisms cope with stressful external conditions which are localised or of short duration? [2]

Section C

13. How do long pollen grains retain their viability? [3]

14. Draw a labelled diagram of the V.S. of apple. [3]

15. Differentiate between Down's syndrome and Turner's syndrome. [3]

16. In genetics, a reference is made to be an abbreviated expression 'AUG'. Write any three points of scientific information embodied in this combination of three letters.[3]

17. State the theory of biogenesis. How does Miller's experiment support this theory?[3]

18. How does an antigen differ from an antibody? [3]

19. What is the significance of SCP? [3]

20. Identify a, b, c, d, e and f in the table given below. [3]

Organism	Bioactive molecule	Use
1. *Monascus purpureus* (Yeast)	a	b
2. c	d	antibiotic
3. e	Cyclosporin A	f

21. List the various steps which are involved in plant genetic engineering. [3]

22. Name and describe the technique which helps in separating the DNA fragments formed by using restriction endonuclease. [3]

23. Write a short note on the adaptations of desert animals. [3]

24. Explain the differences between the seral stage and the climax community during succession. [3]

OR

Describe various techniques used in the control of gaseous pollutants.

Section E

25.

(a) When and where does spermatogenesis occur in a human male?

(b) Draw a diagram of a mature human male gamete. Label the following parts: acrosome, nucleus, middle piece and tail

(c) Mention the functions of acrosome and middle piece. [5]

OR

Describe briefly the characteristics of flowers pollinated by birds.

26.

(a) Describe the various steps of Griffith's experiment which led to the conclusion of the 'Transforming Principle'.

(b) How did the chemical nature of the 'Transforming Principle' get established? [5]

OR

Who proposed the chromosome theory of inheritance? Give the salient features of this theory.

27. Describe the asexual and sexual phases of the life cycle of *Plasmodium* which causes malaria in humans. [5]

OR

(a) State the objective of animal breeding.

(b) List the importance and limitations of inbreeding. How can the limitations be overcome?

(c) Give an example of a new breed each of cattle and poultry.