

**Biology**  
**Sample Question Paper**  
**Class XII**

**Class:12**  
**Time 3hrs**

**Max Mks:70**  
**No of pages:4**

**General Instructions:**

- All questions are compulsory.
- This question paper consists of five Sections A, B, C, D and E.
- Section A contains 5 questions of one mark each.
- Section B is of 5 questions of two marks each.
- Section C is of 12 questions of three marks each.
- Section D is of 1 questions of four marks each and Section E is of 3 questions of five marks each.
- 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.
- Wherever necessary, the diagrams drawn should be neat and properly labelled.

**SECTION A**

1. Name the two primary lymphoid organs of human body?
2. Why is a transplanted tissue rejected by the patient's body?
3. How are flavr savr tomatoes different from normal tomatoes?
4. Write the full form of SCID.
5. Give one example of continuous variations and discontinuous variations.a

**SECTION B**

6. Describe photochemical smog in brief? How does it lead to snow blindness?
7. Explain male homogamety through a suitable example.

8. How are eutrophication and biological magnification different from each other? Give examples.
9. How darwin's finches explain adaptive radiation?
10. Why is colour blindness trait more common with the males? Also explain conditions when a female will suffer from colour blindness trait.

### **SECTION C**

11. Explain ways to manage the hospital and electronic wastes in your surroundings.
12. If following is the sequence of structural gene:  
5' CAATAGCCTAGAGAT 3' then find out the following :
  - a) the sequence of mRNA formed after transcription along with its polarity.
  - b) the sequence of bases on the coding strand and template strand of DNA.
13. Describe the process of spermatogenesis in the human male reproductive system. Are spermiogenesis and spermiation different if yes then how?
14. What is active and passive immunity? Give examples of vaccines that provide active and passive immunity. Mention which one is long lasting and why?
15. Discuss the various levels of biodiversity that are prevalent in the ecosystem. Give suitable examples to support your answer.
16. Describe the process of gel electrophoresis. Name the carcinogenic dye used for staining DNA in this method.
17. Since HGP was completed scientists identified 1.4 million SNPs in the human genome. What kind of technical they have generated to the scientists through their existence in the genome?

18. Explain the three types of natural selection along with their prescribed graphs.
19. Define inbreeding depression. How the harmful effects of inbreeding depression can be overcome?
20. In 1938 the Coelocanth was caught in South Africa. Why are they so important for the evolutionary studies?
21. What is active and passive immunity? Give examples of vaccines that provide active and passive immunity. Mention which one is long lasting and why?
22. What are palindromes? How are they significant to biotechnological processes?

#### **SECTION D**

23. Explain in detail all the events that occur during menstrual cycle.

#### **SECTION E**

24. a) Define gene therapy. Site the example of ADA deficiency and its cure with reference to gene therapy.
- b) Write the positive and negative effects of developing transgenic crops.

OR

What are biopiracy and biopatenting? How are they interrelated? Give any example of biopiracy.

How biopiracy can be harmful to the host country?

25. a) Draw well labeled diagram of mature female gametophyte of an angiosperm.
- b) Make a list of post fertilization changes that occurs in the angiosperms.
- c) How is apomixis different from parthenocarpy.

OR

Some angiospermic plants show self incompatibility. How incompatibility is significant to these plants? Discuss with suitable examples.

26. Explain stepwise the hypothesis of chemical evolution of life. Name the scientists who proposed it. Mention if it has got any experimental proof?

OR

a) How does population change in *Biston betularia* is a description to natural selection occurrence?

b) What is genetic drift? How it leads to founder effect and bottleneck effect in populations.