

SAMPLE QUESTION PAPER 1

Class – XII

BIOLOGY

Time allowed: 3hrs

Maximum Marks: 70

General Instructions:

- (i) All questions are compulsory.
- (ii) 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.
- (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 weightage. 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

- 1. Give one example of continuous variations and discontinuous variations. [1]
- 2. Name the two primary lymphoid organs of human body? [1]
- 3. When sexual reproduction adds variations then why should any angiosperm opt for vegetative propagation method? [1]
- 4. Name the indicator species in polluted ganga water. [1]
- 5. What are sacred groves? [1]

Section B

- 6. What is the effect of alcohol on the human liver cells? [2]
- 7. Write examples of any two albuminous and non albuminous seeds. [2]
- 8. What are solid wastes? Give examples. [2]
- 9. Explain male homogamety through a suitable example. [2]
- 10. Describe the location and function of acrosome. [2]

Or

How is capacitation helpful in fertilization?

Section C

- 11. How biome and ecological niche terms differ from each other? Give examples of each. [3]
- 12. Write the specific features of a nuclear endosperm with example also mention its difference from cellular and helobial endosperm? [3]
- 13. If following is the sequence of structural gene: 5' CAATAGCCTAGAGAT 3' then find out the following : [3]
 - 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.

Or

Describe the traits governed by multiple genes and multiple alleles. Is there any difference in their pattern of inheritance? Explain.

14. Describe the process of gel electrophoresis. Name the carcinogenic dye used for staining DNA in this method. [3]

15. T.H. Morgan through his experiments on *Drosophila* described the concept of linkage. How linkage affects the inheritance pattern of genes? It is also an exception to one of the Mendel's law, mention that law. [3]

16. Define inbreeding depression. How the harmful effects of inbreeding depression can be overcome? [3]

Or

a) What is heterosis?

b) Explain biofortification and mutation breeding methods of plant breeding to improve quality and quantity of yield.

17. Discuss the interactions of following with their hosts : [3]

a) an epiphyte (with example)

b) a parasite (with example)

c) a mycorrhizae fungus

18. Increasing concentration of Carbon dioxide in atmosphere is beneficial to plants for performing photosynthesis then why environmentalists consider it alarming to the ecosystem viability? [3]

19. What is species richness? If biodiversity is affected by altitude and latitude then where would you find greatest levels of species richness also mention why? [3]

20. a) Define totipotency. How is this ability useful to the tissue culture method? [3]

b) What are somaclonal variations? Do they have any significance in tissue culture?

21. What are CFCs? Explain their effect on global warming and ozone depletion. [3]

22. Describe the adaptations that are shown by animals to resist and survive under unfavourable conditions. [3]

Section D

23. A married couple visits a gynaecologist and tells her that even after repeated copulations the wife is not getting pregnant. Now read the following and answer: [4]

a) If reproductive systems of both are working well what can be the possible reason for not conceiving?

b) If reproductive system of either one has a problem then what should be doctor's advice?

Section E

24. a) Draw well labeled diagram of mature female gametophyte of an angiosperm. [5]

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.

25. Explain stepwise the hypothesis of chemical evolution of life. Name the scientists who proposed it. Mention if it has got any experimental proof? [5]

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.

26. Describe adaptive immunity development in the body. Write the type of cells and molecules involved in it. How is it different from innate immunity?. [5]

Or

Explain causes, types and treatment of cancer. Define metastasis in cancerous cells

