CBSE
Class XII Biology
Sample Paper - 8

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

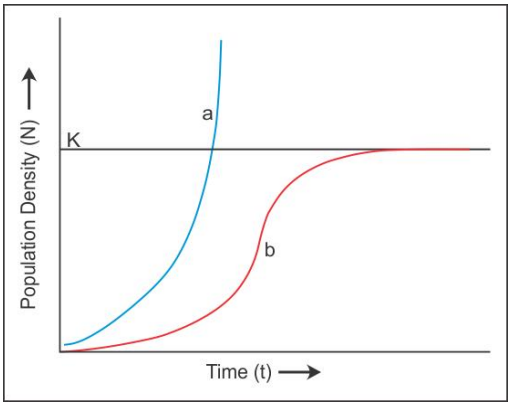
1. List two most common STDs. [1]

2. Give one important use of GMO. [1]

3. Why insulin was genetically engineered in bacteria? [1]

4. Mass extinction of species has been witnessed even before humans appeared on the Earth. Why is the extinction in progress presently considered predominantly different and alarming? [1]

5. In the absence of predators, which curve, (a) or (b), would appropriately depict the prey population? [1]



Section B

6. Why do you think the zygote is dominant for some time in a fertilised ovule? [2]

7. Briefly describe the 'origin of replication'. [2]

8. Distinguish between a leading strand and a lagging strand. [2]

9. What is the difference between function of primase and DNA polymerase? [2]

10. Where would you look for signs of secondary succession? When does secondary succession end? [2]

OR

Name the major greenhouse gases. What is their effect on the surface of the Earth?

11. Coconut palm is monoecious, while date palm is dioecious. Why are they called so?[2]

12. Name the group of organisms and the substrate they act on to produce biogas. [2]

Section C

13. What are chasmogamous flowers? Why does cross-pollination not occur in cleistogamous flowers? Give reasons for your answer. [3]

14. What changes occur in the uterus during (i) Menstruation (ii) Proliferative phase (iii) Secretory phase? [3]

15. Who are universal recipients and universal donors? Write their genotypes. [3]

16. Explain how condition XXY chromosomes can arise in humans. [3]

17.
(a) Rearrange the following in the ascending order of the evolutionary tree: Reptiles, salamander, lobefins and frogs
(b) Name two reproductive characters which probably make reptiles more successful than amphibians. [3]

18. Why is it generally difficult to transplant organs from one person to another? How is this difficulty now overcome? [3]

19. What is allergy? How are allergies related to the body's immune system? [3]

20.
(a) Differentiate between inbreeding and outbreeding.
(b) Explain inbreeding depression and how it can be overcome.
(c) Mention two advantages of the inbreeding programme in cattle. [3]

21. What are the uses of genetically modified plants? [3]

22. Draw a schematic sketch of the pBR322 plasmid and label the following:
(a) Any two restriction sites
(b) *Ori* and *rop* genes
(c) An antibiotic-resistant gene [3]

23. Give three important examples of commensalism. [3]

24. Why do we say energy flow in the biosphere is unidirectional? [3]

OR

What would happen to the successive trophic levels in the pyramid of energy, if the rate of reproduction of phytoplankton was slowed down? Suggest two factors which could cause such a reduction in phytoplankton reproduction.

Section D

25. How does the megaspore mother cell develop into a 7-celled, 8 nucleate embryo sac in an angiosperm? Draw a labelled diagram of a mature embryo sac. [5]

OR

What are the major functions of male accessory ducts and glands?

26. Give the salient features of the double helix structure of DNA. [5]

OR

State the aim and describe Meselson and Stahl's experiment.

27.

(a) What is plant breeding? List two steps involved in classical plant breeding.

(b) How has mutation breeding helped in improving crop varieties? Give one example where this technique has helped.

(c) How has the breeding programme helped in improving public nutritional health? State two examples in support of your answer. [5]

OR

(a) How are cancer cells different from normal cells?

(b) Pick the correct carcinogens from the following: Asbestos, infra red rays, arsenic, polythene, casein, caffeine, tobacco smoke, gamma rays

(c) Write three methods to detect cancer of internal organs.