

CBSE
Class XII Biology
Sample Paper - 8

Time: 3 hrs

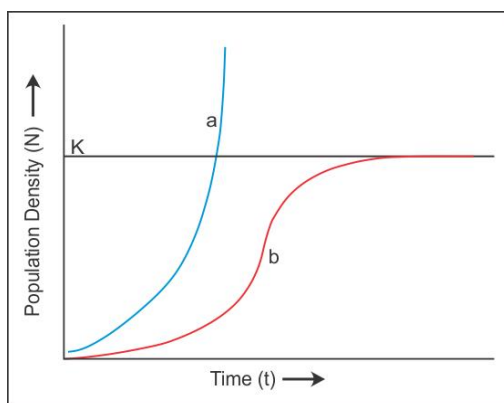
Total Marks: 70

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.
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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.