

CBSE Board
Class XII Biology
Sample Paper – 6

Time: 3 Hours
Total Marks: 70
General Instructions:

1. All questions are compulsory.
2. This question paper consists of four Sections A, B C and D. Section **A** contains **8** questions of **one** mark each, Section **B** is of **10** questions of **two** marks each, Section **C** is of **9** 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 weight age. A student has to attempt only one of the alternatives in such questions.
4. Wherever necessary, the diagrams drawn should be neat and properly labeled.

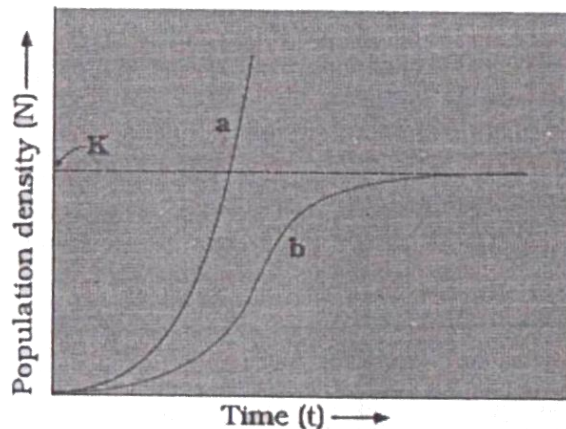
Section A

- Q.1. If the diploid number of chromosomes in an angiosperm plant is 18, what number would you expect in the endosperm and embryo of that plant? [1]
- Q.2. Which of the following conditions could be detected by Karyotyping the cells: Klinefelter's syndrome; Haemophilia; Amoebiasis? [1]
- Q.3. Why is whisky more intoxicating than beer? [1]
- Q.4. Name two cloning vectors. [1]
- Q.5. Name the protein produced by transgenes. [1]
- Q.6. Why insulin was genetically engineered in bacteria? [1]
- Q.7. Give one example of predation. [1]
- Q.8. Name two main abiotic factors which affect human environment. [1]

Section B

- Q.9. Explain the significance of the condition in human in which the testes remain suspended in scrotum outside the abdominal cavity. [2]
- Q.10. What are the differences between genotype and phenotype? [2]
- Q.11. (a) In Watson and Crick DNA model, a purine always pairs with pyrimidine. [2]
Why?
(b) What property of DNA structure can be implied from this?
- Q.12. A women heterozygous for blood group "B" marries a man with blood group "AB". Predict what population of children would be having the blood group same as that of the father. Can you relate the sex of the children to their blood groups? Justify your answer. [2]

- Q.13. Besides better aeration and mixing properties, what other advantages do stirred bioreactors have over shake flasks? [2]
- Q.14. How is gene transfer in animals done? Give its suitable example. [2]
- Q.15. How is diversity at all levels generally conserved? [2]
- Q.16. Why do mosses and lichens generally form the pioneer species for ecological succession on a bare rock? [2]
- Q.17. In the given population growth curve: [2]



- (a) What does the regions falling below level "K" in "a" and "b" indicate?
- (b) Which of the two is more realistic and why?
- Q.18. Which part of the plant is best suited for making virus-free plants and why? [2]
- Or
- How is fish considered as an important source of food?

Section C

- Q.19. What is the significance of pollen grain? [3]
- Q.20. Describe briefly about the various endocrine glands that control the process of spermatogenesis. [3]
- Q.21. A black coloured cock when bred with a white coloured hen produced steel-blue coloured offspring, called Andulasin (chicken). When the steel-blue coloured offspring were inbred, black, white and steel-blue coloured progeny were obtained. [3]
- (i) This result is genetically explained as
- (ii) What will be the expected ratio of the black, steel-blue and white progeny?
- Q.22. What is the purpose of proof reading in DNA synthesis? [3]
- Q.23. What are the advantages of biological control over chemical control? [3]
- Q.24. What is inflammation? What is the cause of swelling at such sites? [3]
- Q.25. What are the applications of Recombinant DNA Technology? [3]
- Q.26. How do animals adapt to cold environment? [3]

Q.27. Distinguish between upright and inverted pyramid. [3]

Or

Define the term ectoparasite. Give any two examples.

Section D

Q.28. State any five characteristics of flowers pollinated by wind. [5]

Or

Describe briefly the structure of human ovum.

Q.29. Describe how the conditions which prevailed on the primordial earth for abiotic origin of life were similar to those created in the experiment of Miller and Urey? [5]

Or

Describe briefly the mechanism of DNA replication.

Q.30. Anand a 14yr old boy thinks smoking makes him more energetic and feels like adult and thus more responsible citizen. He tries to smoke when he is with his peer group. As a friend you have to educate him. [5]

(a) Why he feels more energetic while smoking?

(b) Effects of CO in smoke

(c) Other ill effects on body

(d) What values are reflected in it?