Question Paper 2006
Outside Delhi Set-1
CBSE Class-12 Biology

General Instructions:

1. This question paper consists of four sections A, B, C, and D. Section A contains 5 questions of one mark each. Section B is of 10 questions of two marks each. Section C is of 10 questions of three marks each and Section D is of 3 questions of five marks each.
2. All questions are compulsory.
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 three questions of 5 marks weightage. Attempt only one of the choices in such questions.
4. Question numbers 1 to 5 are to be answered in one word or one sentence each.
5. Question numbers 6 to 15 are to be answered in approximately 20-30 words each.
6. Question numbers 16 to 25 are to be answered in approximately 30-50 words each.
7. Question numbers 26 to 28 are to be answered in approximately 80-120 words each.

SECTION - A

1. What is haemocoel?

2. What do you call the study of the timing of seasonal activities of plants in relation to change in environmental conditions?

3. What happens to the glycogen concentration in the liver cells when the concentration of adrenaline in the blood stream increases?

4. Name the type of granulocytes that play an important role in detoxification.

5. A 30-year-old man with a history of no prior immunization steps on a nail while walking barefoot in his courtyard and bleeds. Which immunizations should be undergo?

SECTION - B

Q. 6. Name the respective mineral nutrient element of plants that

i. is needed in the synthesis of auxinsss

ii. is a constituent of ferredoxin.

iii. forms the core constituent of the ring structure of chlorophyll.

iv. forms the component of nitrogenase and nitrate reductase.

7. Explain how the hormones glucagon and insulin are antagonistic to each other in their action.

8. List any four ways how the use of auxins may help in obtaining better yield of fruit crops.

9. What is quarantine? Why is quarantine essential before introducing a plant species from another country?

10. Two groups (A and B) of bean plants of similar size and same leaf area were placed in identical conditions. Group A was exposed to light to wavelength of 400-450nm, and Group B to light of wavelength of 500-550 nm. Compare the photosynthetic rate of the two groups giving reason.

11. Give two differences between rheumatoid arthritis and gouty arthritis.

Or

What is osteoporosis? Name two factors responsible for this condition.

12. Explain the relationship between biotic potential and environmental resistance.

13. What is eutrophication? Explain its consequences on the life of plants and animals in such water bodies.

14. Why are stimulants and hallucinogens categorised as psychotropic drugs? Give one example each of the two types mentioned.

15. Draw a labelled diagram of a part of the transverse section through seminiferous tubule of human testis showing the various stages of spermatogenesis.

SECTION - C

16. A section of root nodule of chick plant appears pink

i. What is the colour due to?

ii. What type of condition does this pigment create in the nodules ‘

iii. Explain the process of biological nitrogen fixation in the root nodules

17. How does oxidative phosphorylation differ from photophosphorylation? Explain.

18. Does the location of Juxtaglomerular apparatus in human kidney explain its function.

19. Name the type of pollination taking place in coconut palms List five characteristics of the flowers of coconut plant favouring this type of pollination.

20. List any three major categories of cancer Explain briefly each category giving one example.

21. A 5-year-old child has complained of pain and swollen joints in his legs for the past one year. On physical examination, the doctor found bleeding gums, anaemia and emaciation.

i. Name the deficient vitamin and the corresponding deficiency disease the child is suffering from.
ii. List any four functions of this victim.

Or

Why do pregnant women need to have higher levels of folic acid, iron and calcium in their diet?

22. A person has been diagnosed to the HIV positive.

i. Name the test which the person underwent.
ii. Write the full name of the pathogen involved and describe its structure.
iii. Which particular cells of this person are likely to get destroyed?

23. i. What are tropical rain forests?
ii. Name any two dominant plant species of such forests in India

iii. Why is soil in tropical deciduous forests richer in nutrients than in tropical rain forests?

24. What is senescence? How do free radicals make senescence faster?

25. Describe the special adaptations of xerophytes with respect to root system, stem and leaves.

SECTION - D

26. i. Name the phenomenon by which the water rises in the xylem vessels in small sized plants.

ii. Explain the cohesion theory of ascent of water in tall trees.

Or

i. Explain the mechanism of photorespiration.
ii. Name the cell organelles involved in the process.

27. What is somatic hybridisation? Explain the steps involved in the production of asomatic hybrid.

Or

i. What are biopesticides? Give any two examples of their application.
ii. What is mycorrhiza? How does it act as a biofertilizer?

Q. 28. List and explain the three ways in which carbon dioxide is transported by blood in the human body. Support the answer with a suitable diagram.

Or

i. Describe step by step what happens in the different phases of cardiac cycle in humans.
ii. Name the two heart sounds and mention when they are respectively produced in the cardiac cycle.