CBSE Question Paper 2007

Delhi Set-2

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 diphyodont?

2. Name a plant hormone that controls apical dominance and a plant hormone that reduces it.

3. Name the dominant producers in a deep aquatic ecosystem. What other name could you give to a primary consumer?

4. Expand EEG. Give one use of this technique.

5. What are the two kinds of forces involving water molecules that allow water to travel upward in plants?

SECTION B

6. What is chemosynthesis? Name a chemosynthetic organism.

Or

In what form do plants absorb zinc from the soil? List any two zinc deficiency symptoms in plants.

7. What is pregnancy hormone? Why is it so called? Name two sources of this hormone in a human female.

8. What does the term genetic diversity refer to? What is the significance of large genetic diversity in a population?

9. Name and explain the type of barrier of innate immunity where some cells release interferons when infected.

10. Why is conversion of pyruvic acid to acetyl CoA called oxidative decarboxylation? Where does it occur in a cell?

11. How are ephemeral plants adapted to withstand hot and dry environment? Explain.

12. One bean plant is illuminated with green light and another bean plant similar in all respects (size and leaf area etc.) is illuminated with blue light. In which plant will the rate of photosynthesis be higher and in which will it be lower, if all other conditions are identical? Give reasons.

13. A patient was complaining of frequent urination, excessive thirst and dehydration. His fasting glucose level was found to be normal. Name the disease and explain its cause.

14. Your friend was diagnosed to be suffering from depression. Write any two symptoms that led to this diagnosis. What is its cause?

15. Draw a diagram of L.S. of an anatropous ovule of an Angiosperm and label the following parts:
(i) Nucellus
(ii) Integument
(iii) Antipodal cell
(iv) Secondary nucleus

SECTION C

16. Where does cardiac impulse originate in human heart? How does it spread throughout the ventricular wall?

Or

Name the muscles involved in inhalation in humans. Explain the mechanism which leads to the increase in the volume of the thorax during inhalation.

17. What is the ozone shield and why is it important? Name the gases that cause stratospheric ozone depletion.

18. What is agroforestry? How do shifting cultivation and taungya system of cultivation contribute to it? What is the difference between these two systems?

19. What is autopolyploidy? How does colchicine induce polyploidy? Name an autopolyploid that has succeeded as a variety.

20. What is cross-linking theory of ageing ? How does non-enzymatic glycosylation make senescence faster? Explain.

21. Explain how nastic movements differ from' tropic movements. Name the kind of movement seen in growing pollen tube in a flower.

22. Explain the symplast pathway in plants. How is apoplast pathway different from symplast pathway?

23. Explain what role does vitamin A play in promoting normal vision in humans. What would happen if a child is on vitamin A deficient diet?

24. What are the two factors that influence glomerulus filtration? Explain how they do so. What is the average glomerular filtration rate in human kidneys?

25. What are biopesticides? Give the scientific name and the use of the first commercially used biopesticide in the world.

SECTION D

26. Where does Calvin cycle occur in a chloroplast? Give a schematic representation of the cycle.

Or

Explain the electron transport system. Where does it occur in a mitochondrion and what is the role of oxygen in it?

27. Explain the mechanism of muscle contraction by sliding filament theory.

Or

What is a synapse? How is the nerve impulse transmitted across a chemical synapse? Explain.

28. (i) What is electroencephalography? Describe two important applications of this technique.

(ii) Explain how a simplest type of ECG monitor is used to take an ECG of a human heart.

Or

(i) Where are B-cells and T-cells produced in the human body? How do they differ from each other? Mention any two differences.

(ii) Name any three classes of immunoglobulins in humans. Write one function of each.