CBSE SAMPLE PAPER – 09 (Unsolved)

Class-XI

BIOLOGY (THEORY)

Time: 3 Hrs **MM: 70**

General Instructions

1. The question paper comprises of five Sections A, B, C, D and E.
2. All questions are compulsory.
3. There is no overall choice however; internal choice has been provided in one question of 2 marks, one question of 3 marks and all the two questions of five marks category. Only one option in such question is to be attempted.
4. Questions1 to 5 in section A are very short questions of one mark each. These are to be answered in one word or one sentence each.
5. Questions 6 to 9 in section B are short questions of two marks each. These are to be answered in approximately 20-30 words each.
6. Questions 10 to 20 in section C are questions of three marks each. These are to be answered in approximately 30-50 words each. Question 21 is of 4 marks.
7. Questions 22 to 23 in section D are questions of five marks each. These are to be answered in approximately 80-120 words each.
8. Questions 24 to26 in section E is based on OTBA of 10 marks.

Section – A

1. What is myasthenia gravis?
2. Who discovered ribosomes and nucleus?
3. What is the concentration of glucose in a normal healthy human being?
4. Where are thrombocytes formed from?
5. What are the factors that determine the net direction and rate of osmosis?

Section – B

6. Mention the function of calcium, F-actin in muscle contraction.

7.

a) Define taxonomic hierarchy.

b) Mention any two ecological significances of mosses.

Or

Why are lipids placed with biomacromolecules though their molecular weight is less than 1000 daltons?

8. Differentiate cardiac muscle and striated muscle.

9. Mention any four purposes served by transpiration.

Section – C

10. Mention six characteristic features of phylum Arthropoda.

11. Describe two methods of synthesis of amino acids.

12. Describe any two types of phyllotaxy found in angiosperms. Give an example of each.

13. Describe the male reproductive organs of a cockroach.

Or

Draw the labelled diagram of a T.S of dicot root.

14.

a) Two groups X and Y of plants of similar size and same leaf area were placed in identical conditions. Group X was exposed to light of wavelength of 400-450 nm while group Y was exposed to light of wavelength of 500-550 nm. Compare the photosynthetic rate of two groups by giving reasons.

b) Define cell junctions.

15.

a) When does the reduction in the number of chromosomes take place in the process?

b) Why does meiosis result in four daughter cells with half the number of chromosomes as the mother cell?

16. Draw a labelled diagram of human eye and label the parts through which light travels to make an image on the retina.

17. Name the types of endoplasmic reticulum and mention any one of its function of each of them.

18. Mention any two distinguishing features of Echinodermata.

19. Give three letter abbreviation and the single letter code for serine and tyrosine.

20. Differentiate ureotelism and ammonotelism.

21. **Ravi was rushed to a nearby hospital after an accident which caused a lot of blood loss. The hospital failed to supply O negative blood for transfusion. Rahman who was attending a patient learned about the situation and agreed to donate blood being of the same blood group. Ravi's mother initially refused but was later convinced by her daughter.**

a) What values do you find in Ravi's sister and Rahman?

b) Why can't O positive blood be transfused into Ravi's body?

c) What is the genetic basis of blood group inheritance?

Section – D

22. Define nitrogen fixation. Represent schematically the nitrogen cycle.

Or

a. Explain the sigmoid growth curve in plants.

b. Respiration is better considered as an amphibolic pathway. Explain.

23. Explain the chemiosmosis hypothesis of ATP formation.

Or

What is ascent of sap? Give the most acceptable theory of sap in higher plants.

Section-E (OTBA) Questions

24. OTBA Question 2 mark

25. OTBA Question 3 mark

26. OTBA Question 5 mark