CBSE
Class XI Biology
Sample Paper – 1

Time: 3 hrs **Total marks: 70**

General instructions:

1. All questions are compulsory.
2. The question paper consists of four sections A, B, C and D.
3. Internal choice is given in all the sections. A student has to attempt only one of the alternatives in such questions.
4. Section A contains 5 questions of 1 mark each.
5. Section B has 7 questions of 2 marks each.
6. Section C is of 12 questions of 3 marks each.
7. Section D has 3 questions of 5 marks each.
8. Wherever necessary, the diagrams drawn should be neat and properly labelled.

SECTION A

1. What are the names given to the male and female sex organs of algae? [1]

OR

Why are bryophytes called amphibians of the plant kingdom?

2. What is meant by a sheathing leaf base? [1]

3. What is the function of the nucleolus? [1]

4. Mention one similarity between transport proteins and enzyme proteins. [1]

OR

What is the function of catalase?

5. The proximal end of a nephron is closed. What is this modification? [1]

SECTION B

6. What is the difference between the two body forms—polyp and medusa—exhibited by cnidarians? [2]

7. Mention two factors on which imbibition depend. [2]

OR

List four sinks for mineral elements or ions in plants.

8. What is the role of antennae pigments of LHC? [2]

9. [2]

(a) Who proposed the double helical model of DNA?

(b) Why are the two strands of DNA described as antiparallel?

OR

(a) Name any four sites where ribosomes are present in plant cells.

10. Differentiate between red algae and brown algae. [2]

11. Name the kind of tissue which [2]

i. stores starch in potato

ii. forms the shell in nuts

12. How are amino acids in a protein held together? [2]

SECTION C

13. Name the type of fertilisation which is unique to angiosperms. Describe it. [3]

14. Underground parts of a plant are not always roots. Comment. [3]

OR

Mention the characteristics of the cells in the region of the meristem in roots.

15. Answer the following with reference to the anatomy of dicot root: [3]

i. Where is the pericycle located?

ii. How are xylem vessels arranged?

iii. What do you call such an arrangement?

16. Draw a labelled diagram of the alimentary canal of a cockroach. [3]

17. What do you understand by the cytoskeleton present in the cell? What function does it perform? [3]

OR

Differentiate between primary cell wall and secondary cell wall.

18. Find examples where the four daughter cells formed from meiosis are equal in size and where they are found unequal in size. [3]

19. Explain the terms: [3]

i. Monoglyceride
ii. Diglyceride
iii. Triglyceride

20. What are the two crucial events in aerobic respiration? Where do these take place? [3]

21. How does oxidative phosphorylation differ from photophosphorylation? Explain. [3]

OR

Answer the following questions with reference to nitrogen:

i. The form in which it is absorbed from the soil.
ii. In which part of the plant is it required?
iii. Two organic compounds in which it is a component.

22. [3]

i. Explain how the thoracic chamber is a closed chamber.
ii. Why is such a setup necessary?
iii. Why is the larynx called the sound box?

23. How does progesterone function in a human female? [3]

OR

Mention any four activities regulated by oestrogen hormone.

24. What are the factors affecting the rate of diffusion? [3]

SECTION D

25. Give the diagrammatic representation of ETS and explain. [5]

OR

(a) With the help of well-labelled diagrams, describe the process of plasmolysis in plants giving appropriate examples.
(b) Explain what will happen to a plant cell if it is kept in a solution with higher water potential.

26. [5]

(a) List the functional areas of the cerebral hemisphere and write one function of each.
(b) Draw a labelled diagram of a neuron.

OR

(a) Describe briefly the three parts of the large intestine.
(b) Draw a diagram of the human stomach and label its parts.
(c) What is peristalsis?

27. Name the components of the formed elements in the blood and mention one major function of each of them. [5]

OR

Describe the process of digestion of carbohydrates in the human alimentary canal.