



**DELHI PUBLIC SCHOOL SURAT  
BIOLOGY**

Roll No:

Class: XI

Marks: 70

*Time Allowed: 3 Hrs.*

***Instructions:***

- a) All questions are compulsory.
- b) The question paper consists of five sections A, B, C, D and E. Section A contains 5 questions of 1 marks each, Section B contains 5 questions of 2 marks each, Section C contains 12 questions of 3 marks each, Section D contains 1 question of 4 marks and Section E contains 3 questions of 5 marks each.
- c) Wherever necessary, the diagrams drawn should be neat and properly labeled.
- d) This question paper contains 2 pages.

**SECTION A**

1. State the term used for the core of the cilia and flagellum. [1]
2. Write the function of Glisson's capsule. [1]
3. What is meant by unipolar neuron? Where do you find them? [1]
4. Give the significance of fovea and organ of corti? [1]
5. Where are Leydig cells found? What is corpus luteum? [1]

**SECTION B**

6. Biology students visited a botanical garden. The guide explained the importance of trees especially in pollution. [2]
  - (a) Name a symbiotic association, which is considered as a very good pollution indicator.
  - (b) Write the components of the same.
  - (c) How do they help each other?
7. (a) Define bioluminescence. [2]
  - (b) Why do cyclostomes migrate to fresh water?
8. (a) Specify the cockroach if spermatophore and ootheca are to be removed. [2]
  - (b) What would be the consequences after removal?
9. Rama has a kitchen garden in her house. While playing her son uprooted a pulse plant and observed spherical outgrowths on the roots. When cut he found pink colour inside. [2]
  - (a) What are these spherical outgrowths?
  - (b) Why is the cut part of these outgrowths showed pink colour?
  - (c) Name the enzyme responsible for fixing nitrogen in root.
  - (d) Name the microbe, which produces such outgrowths in non-leguminous plants.
10. Write the four major photochemical events of light reaction. [2]

### **SECTION C**

11. Draw a table to show types of algae, their common name, stored food, cell wall and the number of flagella. [3]
12. Write the floral formula for the family Fabaceae. Draw floral diagram for the same. [3]
13. Draw a neat-labeled diagram to show T.S. of dicot leaf. [3]
14. 'A' is an organelle, which imparts specific colours to the plants. [3]
- (a) Identify the organelle.
- (b) What if elaioplast are removed?
- (c) Draw a neat- labeled diagram of 'A'.
15. Give diagrammatic representation of the following: [3]
- (a) Glucose
- (b) Portion of B DNA
- (c) A pyrimidine
16. Give diagrammatic presentation of the following: [3]
- (a) Metaphase I
- (b) Prophase I
- (c) Anaphase
17. Give reasons: [3]
- (a) Mycorrhiza is very important in pinus.
- (b) During rain, a wooden door is difficult to close.
- (c) Apoplast pathway is faster as compare to symplast pathway.
18. Explain glycolysis in brief. [3]
19. Explain in brief the phenomenon 'photoperiodism.' Why Auxin is considered as a very important phytohormone. [3]
20. (a) Define vital capacity. [3]
- (b) Write the reaction catalyzed by carbonic anhydrase.
- (c) Give the statistics for transport of gases.
21. Discuss in brief the regulation of kidney function. [3]
22. 'Muscle movement takes place due to the contractile protein present in the muscle fibre.' [3]
- Describe the structure of contractile protein in brief.

### **SECTION D**

23. Differentiate between monocot and dicot root. Draw appropriate diagram for the same. [4]

### **SECTION E**

24. (a) Define cell cycle. Give a diagrammatic view of cell cycle and depict the events in the same. [5]
- (b) What is the characteristic event of diakinesis?
- (c) What is meant by bivalent?
25. Describe the process of fixation of Carbon dioxide given by Hatch and Slack. Draw a neat-labeled diagram to show the details. [5]
26. Smita with A blood group met with an accident and required blood. Her daughter with B blood group offered but the doctor denied. Later, she was given her friend's blood. [5]
- (a) Why did the doctor refuse Smita's blood?
- (b) Make a table to show blood groups, antigen and antibodies.
- (c) What is erythroblastosis foetalis? How is it avoided?

***END OF EXAMINATION***