



**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 four sections A, B, C and D. Section A contains 5 questions of 1 marks each, Section B contains 7 questions of 2 marks each, Section C contains 12 questions of 3 marks each, Section D contains 3 questions of 5 marks each. Choices are given in all questions in five marks i.e. Section D.
- c) Wherever necessary, the diagrams drawn should be neat and properly labeled.
- d) This question paper contains 2 pages.

SECTION A

1. Name the following: [1]
 - a) Largest isolated single cell.
 - b) Pigment containing membranous extension in cytoplasm of cyanobacteria.
2. What does the Blackman's Law of limiting factor state? [1]
3. Write the chemical equation catalyzed by salivary amylase. [1]
4. What does sliding filament theory mean? [1]
5. What is the mechanism of protein hormone in the cell? [1]

SECTION B

6. Differentiate between virus and viroids. [2]
7. Write the function of parapodia and nephridia in Neries. [2]
8. How is a continuous ring of cambium formed? [2]
9. Write the scientific name of Cockroach. What is meant by sclerite and how are they joined together? [2]
10. State the criteria on which Calcium is considered as an essential element in plant body. [2]
11. Sunita went to attend sports day in her husband's company ground with her friend Dr. Veena. While observing races she discussed various concepts regarding muscular movement. She was surprised to know about the importance of proteins. Explain in brief the arrangement of various protein during muscular movement. [2]
12. What would happen in the absence of the following: [2]
 - a) Cristae and macula b) Eustachian tube c) Fovea d) Corpus callosum

SECTION C

13. Discuss the journey of seed formation after pollination in Hibiscus. [3]

14. Define the following terms: [3]
 a) Coleoptile b) Hilum c) Imbricate aestivation
 d) Zygomorphic flower e) Staminode f) Parthenocarpic fruit
15. a) Draw a neat-labeled diagram of various types of chromosomes. [3]
 b) Write the chemical composition of chromosome.
16. State the salient features of B-DNA. [3]
17. What is meant by the following terms: [3]
 a) Crossing over b) syncytium c) quiescent stage
18. What is the difference between symport and antiport? Draw neat labeled diagram of the same. [3]
19. Explain Hatch and Slack Pathway. [3]
20. What is PS II and I. Write its relationship with cyclic and non- cyclic photo-phosphorylation? [3]
21. Expand EMP pathway. Make a flow chart to show different steps of this pathway. [3]
22. Write difference between absolute and relative growth rate. Draw a graph to show the growth pattern in higher plants. [3]
23. 'All the factors in our body are favourable for oxygen and carbon di oxide diffusion from alveoli to tissue and vice versa.' Justify. [3]
24. Counter current mechanism and ADH ensure homeostasis in body. Explain in brief. Draw suitable diagram for the same. [3]

SECTION D

25. Differentiate between the following: [5]
 a) Endarch and Exarch b) Stele and periderm c) Heartwood and sap wood
 d) Lenticles and stomata e) T.S. of monocot and dicot stem

OR

Describe permanent tissue. Draw neat - labeled diagram to support your answer.

26. Differentiate between mitosis and meiosis. Draw neat – labeled diagram in favour of the same. [5]

OR

Describe prophase I. Draw neat-labeled diagram in support of your answer.

27. a) What is formed elements of blood? Explain. [5]
 b) Differentiate between arteries and veins.
 c) Give a diagrammatic presentation of a standard ECG.

OR

- a) Draw a neat-labeled diagram of sectional view of human heart.
 b) Discuss Angina and heart failure

END OF EXAMINATION