



**SACHDEVA
GLOBAL SCHOOL**

CLASS - XI

BIOLOGY

TERM 1

30-09-2014

Name:

MARKS - 70 TIME - 3HRS

General Instructions:

- All questions are compulsory.
- The question paper consist of five sections A, B, C, D and E. Section-A consists of five questions of 1 mark each, Section-B consists of 5 questions of 2 marks each, Section-C has 12 questions of 3 marks each, Section- D consists of 1 question of 4 mark whereas Section- E consists of 3 questions of 5 marks each.
- There is no overall choice. However, an internal choice has been provided in one question of 2 marks, and one question of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.
- Wherever necessary, diagrams or graphs drawn should be neat and properly labelled.

Section A

- Identify the types of aestivation in fig A and B. (1)



- What are mesosomes? (1)
- Which is the most abundant protein found in the biosphere? (1)
- Give any two points of difference between cilia and flagella. (1)
- What is columnar epithelium? Where is it present in the body? (1)

Section B

- Define pneumatophores. State their significance. (2)
- How does temperature affect enzymatic activity in living organisms? (2)
- Define Inflorescence and differentiate between the two types. (2)
- What is meant by competitive inhibition of enzymes? (2)
- State the functions of stem in a plant. (2)

Or

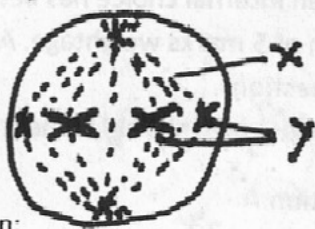
Differentiate between simple and compound leaf. (2)



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Section C

11. Draw a neat, well labelled diagram of T.S. of dicot leaf. (3)
12. What are cofactors? Describe any two of them with reference to enzymes. (3)
13. Draw a well labelled diagram of the structure of a monocot seed. (3)
14. Describe in detail the fluid mosaic model of the structure of the plasma membrane. (3)
15. What is the stomatal apparatus? Explain the structure of stomata with a well labelled diagram. (3)
16. Describe any three types of placentations found in flowering plants. Give an example of each. (3)
17. What are chromosomes made up of? Classify chromosomes on the basis of the location of the centromere. (3)
18. Differentiate between essential and non-essential amino acids with examples. (3)
19. Identify the stages of mitosis shown in the given fig and label parts X and Y. Which stage follows this stage? Enlist its characteristic features. (3)



20. Distinguish between: (3)
 - (a) Exarch and Endarch Xylem
 - (b) Open and closed vascular bundles
21. Write the floral formula of Family Solanaceae. What is staminode? Differentiate between hypogynous and epigynous flowers. (3)
22. Distinguish between cytokinesis in plant and animal cells. What is the G₀ phase of cell cycle? (3)

Section D

23. Explain the structure of proteins with respect to the four levels of organization. (5)
Or
Explain the Watson and Crick model of DNA structure.
24. Explain in detail the events that occur in each stage of Meiosis and illustrate your answer with well labelled diagrams. (5)
25. What is activation energy? Explain how the presence of an enzyme changes the energy requirement of a biochemical reaction. (5)
26. Explain in detail the process of secondary growth in dicot stems. Illustrate your answer with well labelled diagrams. (5)

SUBJECT : PHYSICS (SET-I) *

Time : 3 Hrs.

M.M.: 70

General Instructions :

- i) All questions are compulsory.
- ii) Q. no. 1 to 5 carry 1 mark each, Q. no. 6 to 10 carry 2 marks each, Q. no. 11-22 carry 3 marks each, Q. no. 23 is a value based question carrying 4 marks and Q. no. 24-26 carry 5 marks each.
- iii) There is no overall choice, however, an internal choice is given in 1 question of 2 marks, 1 question of 3 marks and all questions of 5 marks.
- iv) You may use the following constants :

$$G = 6.6 \times 10^{-11} \text{ NM}^2/\text{Kg}^2$$

$$M_e = 6 \times 10^{24} \text{ Kg}$$

$$R_e = 6.4 \times 10^6 \text{ m}$$

- Q1. Give the magnitude and direction of net force acting on a stone of mass 0.1 Kg after it is dropped from the window of a stationary train.
- Q2. Find the angle which $\hat{i} + \hat{j}$ makes with the X-axis.
- Q3. What is the angle between velocity and acceleration at any instant of an object in uniform circular motion?
- Q4. The displacement-time graph for a body is shown. Plot the corresponding velocity-time graph.
- Q5. A ball bounces to 80% its original height after hitting the ground. What fraction of its mechanical energy is lost?
- Q6. A body weighs 600N on earth. How much will it weigh on the surface of a planet whose mass is 9 times the mass of earth, and radius 6 times the earth's radius?

