



**INDIAN SCHOOL SOHAR**  
**PRE-FINAL EXAM-2016**  
**BIOLOGY**

**9.2.16**  
**STD XI**

**Marks:70**  
**Time:3½Hrs**

**General Instructions:-**

- This question paper consists of five sections **A, B, C, D&E**. Section **A** contains **5** questions of **1** mark each, section **B** is of **5** questions of **2** marks each, section **C** is of 10 questions of 3 marks each and section **D** is **3** questions of **5** marks each and section **E** is of **2** questions(OTB) of **5**marks each.
- All questions are compulsory.
- There is no overall choice. However, an internal choice is provided in one question of **2** marks, one question of **3** marks and all questions of **5** marks weightage. Attempt only **one** of the choices in such questions.
- Questions of section **A** are to be answered in one word or **one sentence** each, section **B** in approximately **20-30** words each, section **C** in **30-50** words each and section **D** in **80-120** words each.
- Wherever necessary, the diagrams drawn should be neat and properly labeled.

**SECTION-A**

1. Why is Abscisic acid known as the stress hormone? (1)
2. How is the mycorrhizal association helpful in absorption of water and minerals in plants? (1)
3. Identify the joint between the following: (1)  
 (a) Femur/ acetabulum (b) Atlas / axis.
4. Give the technical term for: (1)  
 (a) The nucleic acid that behaves like enzymes.  
 (b) The polysaccharide in plant tissues that is the store house of energy.
5. How is the 'key' as a tool helpful in taxonomic studies? (1)

**SECTION-B**

6. Imbibition is a special type of diffusion. What are the pre- requisites for imbibition? (2)
7. Pancreas is a composite gland .How does insulin and glucagon secreted by the pancreas function antagonistic to each other? (2)
8. How do neutral solutes, polar molecules and water molecules move across the membrane? (2)
9. State the economic importance of: (2)  
 (a) Cell wall in diatoms (b) Chemosynthetic autotrophic bacteria.
10. Mention the organs that help in excretion in cockroach. (2)

**OR**

Mention the modification and their role in the following plants.

- (a) Australian acacia (b) *Euphorbia*.

**SECTION-C**

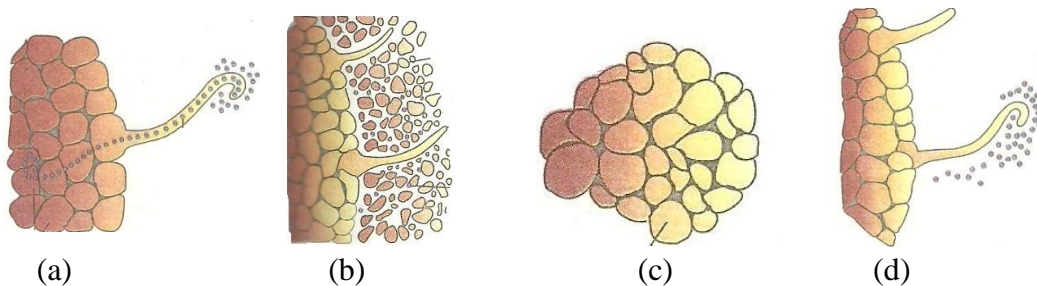
11. Plants have different kinds of meristems. How are meristematic tissues classified based on location and function? (3)
12. (a) How do enzymes bring about high rates of chemical conversion? (3)  
 (b) Name the co-factors and their role in enzyme action?

13. Tabulate the differences between green, brown and red algae based on the stored food and major pigments. (3)
14. Differentiate between: (3)
- nucleotide and nucleoside
  - Saturated and unsaturated fatty acid.
  - Peptide bond and glycosidic bond.
15. Give a broad outline of animal kingdom classification based on common fundamental features. (3)
16. Explain, with suitable examples the different types of phyllotaxy. (3)
17. What are the basic requirements for chemiosmosis? How is the proton gradient important? (3)
- How does chemiosmosis of photosynthesis differ from that of respiration?

**OR**

Pyruvic acid is the key product of glycolysis. What is the metabolic fate of Pyruvic acid in the absence and presence of oxygen?

18. Differentiate between the cell junctions found in the epithelium and other tissue. (3)
19. Given below is a diagram showing the steps involved in the formation of root nodule in soyabean. Rearrange and explain them in the right sequence. (3)



20. Explain the following processes briefly :- (3)
- Transmission of a nerve impulse across a chemical synapse.
  - Mechanism through which sound produces a nerve impulse.

**SECTION-D**

21. Muscle is a specialized tissue of mesodermal origin. Explain the mechanism of muscle contraction. (5)

**OR**

Explain the counter current mechanism that help to maintain a concentration gradient in the medullary interstitium.

22. (a) On studying the anatomy of a plant a child observed bundle sheath cells around the vascular bundles. The presence of this enabled him to identify this plant as  $C_4$  plants. Diagrammatically represent the  $C_4$  Pathway. (5)
- (b) Why are  $C_4$  Plants special?

**OR**

- Give the schematic representation of an overall view of the Krebs's Cycle.
- The respiratory pathway is an amphibolic pathway. Justify.

23. (a) Meiosis results in the production of haploid daughter cells. Enumerate the key features of meiosis. (5)
- (b) How does cytokinesis in plants differ from that in an animal cell?

**OR**

- (a) How do the organelles of the endomembranous system distinct in terms of its structure and function work in a coordinated manner?
- (b) List two functions of mesosome in a prokaryotic cell.

### **SECTION-E (OPEN TEXT MATERIAL)**

#### **Theme 2- The Ambient Air**

##### **Instructions for students:**

- These questions are based on one of the themes provided to you by the board.
- Please ensure that you get a copy of the relevant themes from the school to refer while answering the questions.
- Each question carries 5 marks.
- The suggested word limit for the questions is 100-120 words. However depending on the question, your answer could be shorter/ longer. It is important to present your views, arguments and conclusions logically, coherently in your own language; based on the concepts learnt during teaching learning sessions till class XI, their applicability with respect to open text material and your own awareness of the given theme.

24. *Statutory warning: Cigarette smoking is injurious to health!* is displayed on all packets and advertisements of cigarettes. In which group of individuals - adults, high school students is the prevalence of smoking higher? As a social worker what steps can be taken to minimize the health risks ? (5)
25. Indoor air pollution along with outdoor air pollution is one of the top environmental concerns in the country. Suggest any five measures that can be adopted by you to mitigate air pollution. (5)

**\*\*\*\*\*THE END\*\*\*\*\***