

**Practice Paper - III**  
**Subject : Biology (Theory)**  
**Class : XI**

**Time : 3 Hrs.]**

**[MM : 70**

**General Instructions :**

- i. All questions are compulsory.
- ii. Marks of all questions are indicated against them.
- iii. Wherever necessary, the diagram drawn should be neat and well labeled.

**Section A**

**( One Mark Each)**

1. Name the scientist who wrote the book 'systema Naturae.'
2. Name the substance which makes the casparian strips impervious to water
3. Modified adventitious roots are present in mangrove plants. Name them and what advantage they offer to the plant?
4. Which Ascomycetes has been used extensively in biochemical and genetic work?
5. A farmer can get rid of broad leaved weeds with help of a plant hormone. Give an example of this hormone.

**Section B**

**( Two Marks Each)**

6. Write the differences between cartilaginous and bony fishes.
7. Suppose you are examining a cross section of a leaf under compound microscope, how would you determine it is a monocot or a dicot leaf?
8. Draw a neatly labeled structure of nucleus.

OR

Diagrammatically represent the types of chromosomes based on the position of centrosome.

9. Graphically explain how concentration of substrate affects the enzymatic activity.
10. During fermentation one molecule of glucose yields 2 molecules of ATP. Describe it.
11. What are the two modes through which hypothalamus cause the release of hormone by pituitary gland? 12. What is organ of corti ? Where is it located?

## Section C

( Three Marks Each)

13. Some fungi show association with roots of gymnosperms. Give examples and write their role in such association.
14. Describe the different types of phyllotaxy along with an example each.
15. How trichomes are different from root hair? State their function.
16. Write any three differences between male and female cockroach on basis of their external morphology.

OR

Describe types of cell junctions found in tissues.

17. Draw a neatly labeled diagram of mitochondria. Why is it called the “Power house of the cell”?
18. Explain competitive inhibition with help of an example.
19. Name the enzyme found in root nodules for  $N_2$  fixation. Name the pink coloured pigment required for its functioning. How does this pigment protects the enzyme?
20. Explain various methods of facilitated diffusion.
21. Compare  $C_3$  and  $C_4$  plants on the basis of  $CO_2$  acceptor, cell type and first  $CO_2$  fixation product.
22. Give a diagrammatic representation of transverse section of human gut. Neatly label it.
23. Mention the role of ATP and  $Ca^{2+}$  in muscle fiber’s contraction.
24. Draw a neatly labeled diagram of structure of Nephron.

## Section D

( 4 Marks Each)

25. What is a cell cycle? Explain the events occurring in this cycle.

OR

What are cofactors? Explain its types with one example of each.

- 26.(1) Define differentiation, dedifferentiation and re-differentiation.

OR

What is glycolysis? Where does it take place in the cell? Give a systematic representation of glycolysis.

27. Draw the structure of human heart and label any ten parts in it.

OR

Explain how carbon dioxide transport takes place in blood from tissues to lungs in humans.