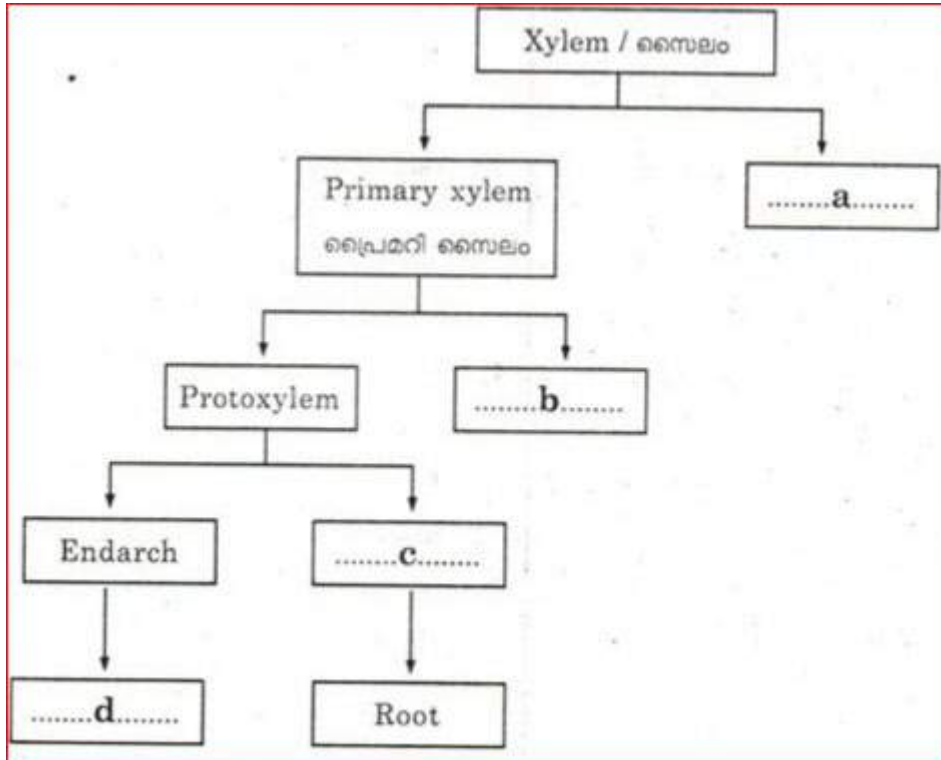
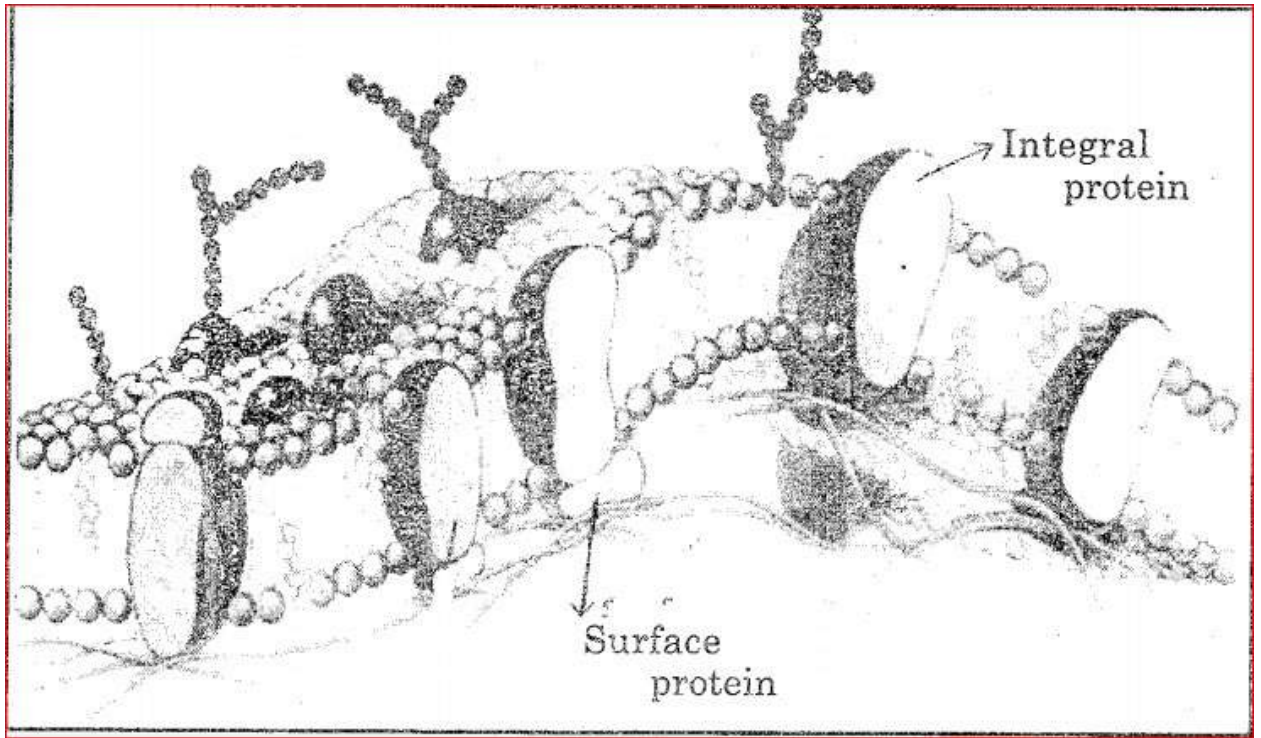


### Botany Important Questions

1. Complete the flowchart given below:

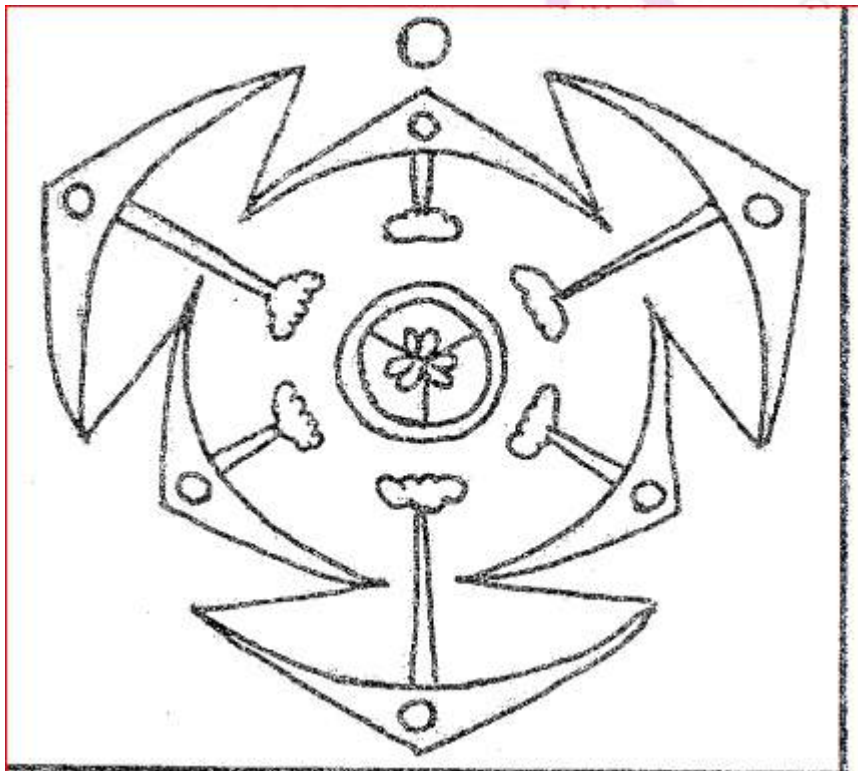


- 2, Plants are adversely affected by manganese toxicity. Mention the effects of manganese toxicity in plants.
3. The breakdown of glucose to pyruvic acid is called glycolysis. Where does it occur in a cell? How many ATP molecules are directly synthesized during the process?
4. First phase of meiosis I is typically longer and complex one. Name it. Mention the 5 subdivisions of this phase.
5. Give the scientific term of the following:
  - a. Interchange of genetic material between non sister chromatids of homologous chromosomes
  - b. Internode elongation just prior to flowering
6. Distinguish between the protonema and prothallus
7. A plant when placed in a concentrated sucrose solution, shrink after a few hours. Identify the physical phenomenon that leads to the shrinkage of cells and justify your answer
8. Observe the diagram below:



Analyze the diagram and explain the structure of the plasma membrane.

9. Observe the floral diagram given below:



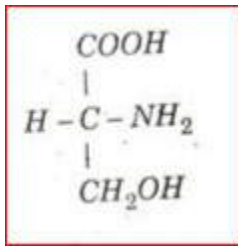
- a. Identify the family
- b. Write any four floral characteristics of the identified family

10. "Respiration is an amphibolic pathway". Evaluate the statement.

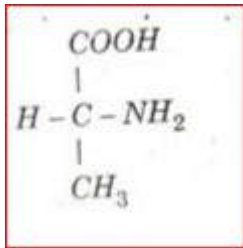
### Zoology Important Questions

11. Molecular structure of 2 amino acids are given below:

a. Name them

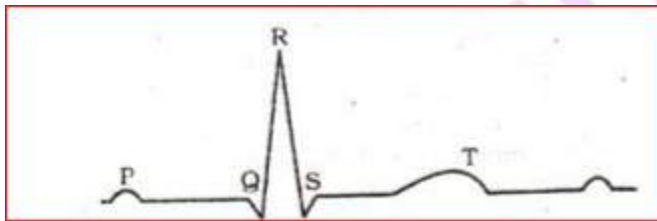


and



12. Select the bones of the leg from the given list of bones.  
Humerus, Tibia, Radius, Femur, Tarsals, Ulna, Fibula, Carpels

13. Diagrammatic representation of a standard ECG is given below:

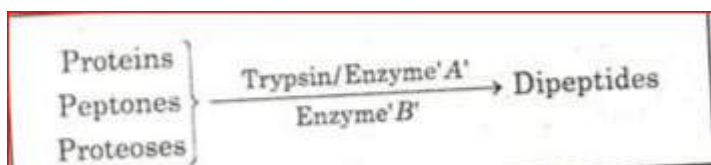


- a. What does the QRS Complex denotes?  
b. Mention the clinical significance of ECG

14. Match the terms in Column A with those in Column B and C.

	A	B	C
a)	Neutrophils	2-3%	Immune Response
b)	Eosinophils	20- 25%	Phagocytic
c)	Lymphocytes	60-65%	Allergic Reaction

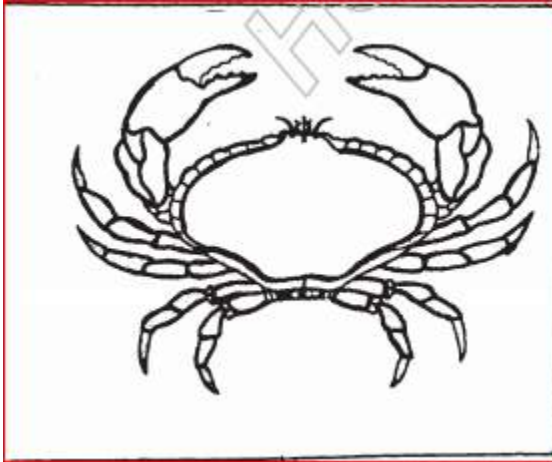
15. Protein digestion by proteolytic enzymes is given below:



a. Name the enzymes marked as A and B

- b. Identify the gland which secretes these enzymes
- c. Write the inactive form of the enzymes A and B

16. Diagram of an animal is shown below:



Identify its symmetry.

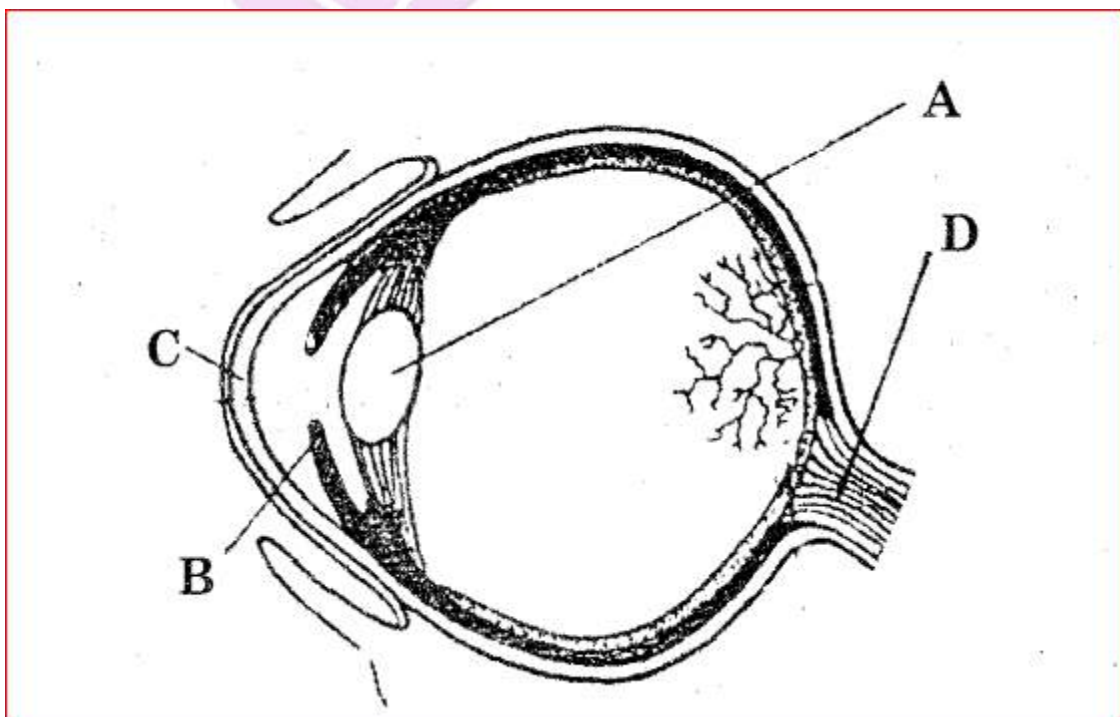
17. "In cockroaches a special mode of vision is noticed".

- a. Write the speciality of vision in cockroach
- b. Name the organ and its basic units that perform vision in cockroach

18. Metabolites are organic compounds constantly utilized in various metabolic activities in the cells.

- a. What are the 2 types of metabolites in the cells?
- b. Give an example for each type of metabolites.

19. Observe the diagram carefully and answer the following questions:



- a. Label the parts marked as A, B, C and D.
- b. Identify the photoreceptor cells present in the human eye

20. "The functioning of a human kidney is efficiently monitored and regulated by hormonal actions of hypothalamus pituitary, JGA and to a certain extent by heart."

- a. Do you agree with this statement?
- b. Justify the answer with suitable reasons.

