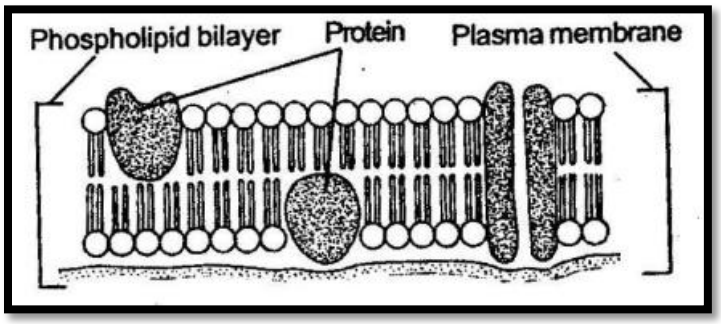
The Fundamental Unit of Life
Introduction and structure of plasma membrane

❖ Cell Membrane or Plasma Membrane:

The plasma membrane forms the outermost boundary of cytoplasm. It is extremely delicate, thin, elastic membrane which is selectively permeable. It is a living membrane and is made up of lipids and proteins.



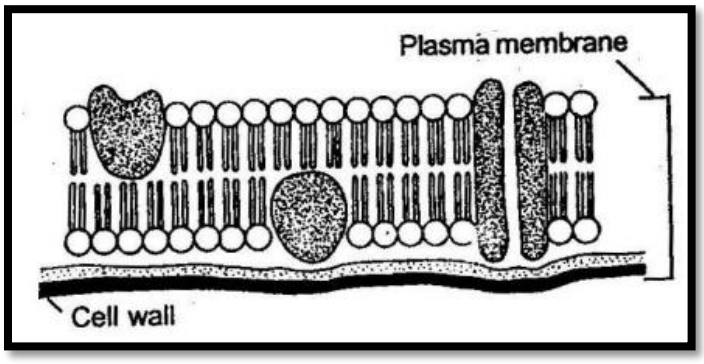
Functions :

(i) It gives definite shape to the cell.

(ii) It is selectively permeable.

(iii) It provides mechanical support for the protection of internal structures of a cell.

Cell Wall : It is present in plant cells only. It is non-living and is mainly made up of cellulose.



Functions :

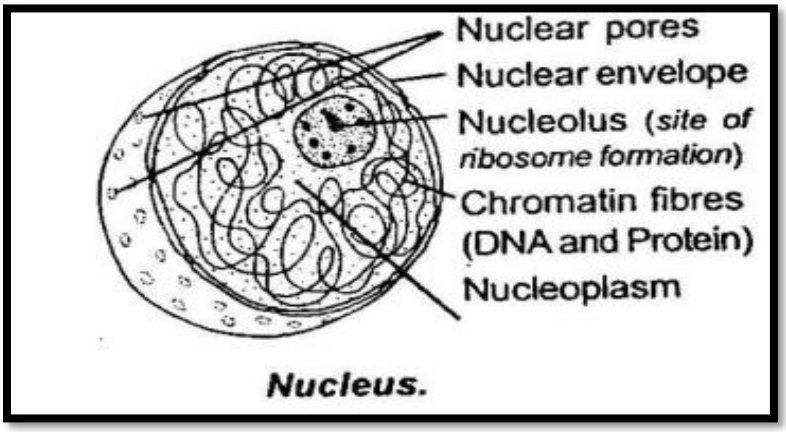
(i) It provides rigidity to the plant cell.

(ii) It prevents desiccation (drying) of cells.

(iii) It provides shape to the plant cell.

Protoplasm : It is a clear colourless, jelly like viscous semi-fluid substance. It is distinguished into a centrally located nucleus and cytoplasm.

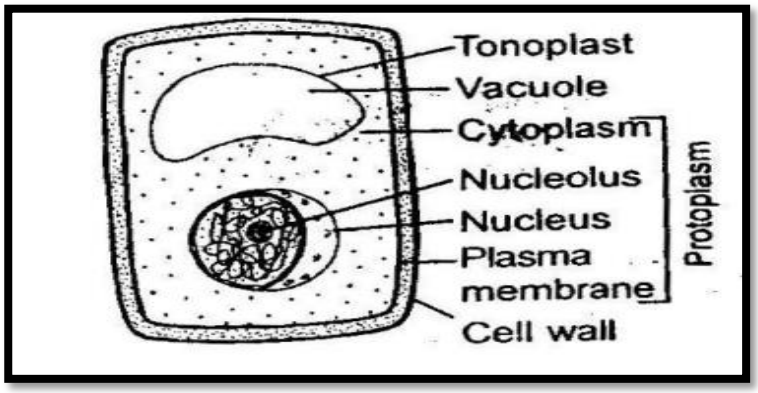
(A) Nucleus : Nucleus is the largest cell organelle. It is the controlling centre of all cell activities. It is bounded by a double membrane which is porous. Bounded by the nuclear envelope is the nucleoplasm. This nuclear envelope contains nucleolus and chromatin fibres.



Nucleus.

Functions:

(B) Cytoplasm: It is a viscous, homogeneous and colloidal liquid that contains various molecules of water, amino acids, carbohydrates, lipids, proteins, etc. It is forms the bulk of the cell and is present between the cell membrane and nuclear membrane. A large number of cell organelles are present in it.



Functions :

(i) It is a physical basis of all metabolic activities.

(ii) Various cell organelles perform specific functions in the cytoplasm.

(iii) It keeps the cell fully expanded and provides turgidity.