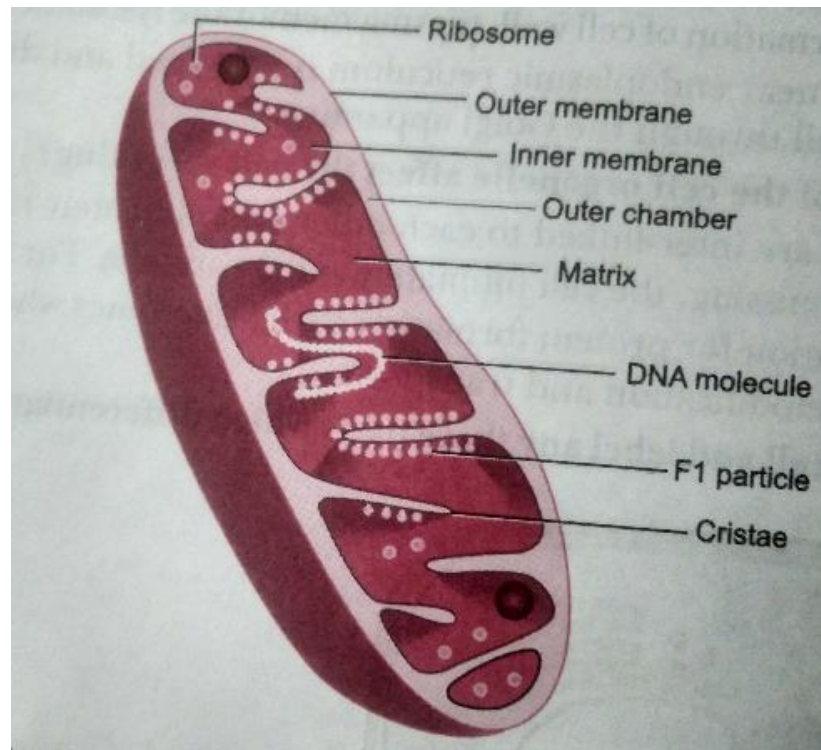


Long Answer Type Questions

[5 mark]

Q. 1. Draw a labelled diagram of mitochondria. Write the functions of mitochondria.

Ans.



Functions of mitochondria:

The mitochondria are the main sites for cellular respiration, the process in which the cell converts sugars and oxygen into ATP. ATP is used by various bodies as a source of energy to perform functions.

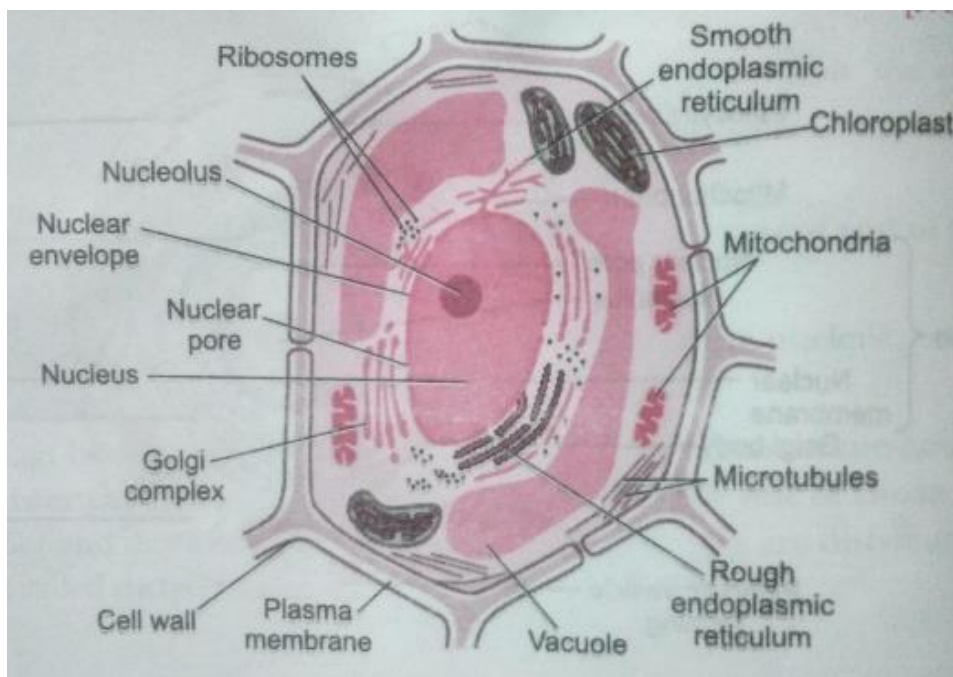
Q. 2. What is active transport? Differentiate between active and passive transport.

Ans. The process in which the molecules are moved uphill against the concentration gradient. Active transport always involves the expenditure of energy because the materials are pumped against the concentration gradient.

Active transport	Passive transport
1. It involves movement of molecules against the concentration gradient.	1. It involves movement of molecules along the concentration gradient.
2. It requires energy in the form of ATP molecules.	2. No energy is required.
3. It is a rapid movement.	3. It is a slow movement.
4. Movement of large molecules occur by active transport.	4. Only small molecules or water molecules are transported passively.

Q. 3. Illustrate only a plant cell as seen under electron microscope. How is it different from animal cell?

Ans.



Major
are:

differences

- (a) Plant cells have chloroplasts
- (b) Plant cells have large vacuoles.
- (c) Plant cells have cell walls.

Q. 4. In brief state what happens when:

- (a) dry apricots are left for sometime in pure water and later transferred to sugar solution?
- (b) a red blood cell is kept in concentrated saline solution?
- (c) the plasma membrane of a cell breaks down?

(d) rheo leaves are boiled in water first and then a drop of sugar syrup is put on it?

(e) golgi apparatus is removed from the cell?

Ans. (a) The apricots swell due to osmosis initially and when transferred to sugar solution shrink again due to exosmosis.

(b) RBCs shrink due to exosmosis.

(c) It would lead to scattering of cell organelles and there will be no functioning of the organs.

(d) There will be no change in cell shape or size because the cells are dead due to boiling.

(e) Function of Golgi apparatus is packing, storing and transfer of protein. It would affect the functioning of cell.