

MODULE 2: CELLULAR TRANSPORT

Q.1. The major difference between passive transport and active transport is the use of ----- during active transport.

Ans: Energy.

Q.2. Oxygen molecules move across cell membrane by the process of -----?

Ans: Diffusion.

Q.3. Three forms of active transport mechanisms are -----, ----- and -----?

Ans: Protein pumps, Exocytosis and Endocytosis.

Q.4. Polar molecules and ions diffuse across cell membrane by process of -----?

Ans: Facilitated diffusion.

Q.5. State the key difference between:

(a) Exocytosis and Endocytosis.

(b) Phagocytosis and Pinocytosis

(c) Diffusion and Facilitated diffusion.

Answers:

(a) Exocytosis and Endocytosis: **Endocytosis** is the process by which a cell takes in molecules and other objects that are too large to pass through the cellular membrane. The molecule to be taken in causes the cell membrane to bulge inward, forming a vesicle. Cell membrane in-folds around food particle, forms food vacuole and digests food. **Exocytosis**: the process by which a cell expels molecules and other objects out of the cell. These are molecules that are too large to be able to cross the cellular membrane. In this case, the cell forces material out of cell.
phagocytosis and pinocytosis

(b) Phagocytosis and Pinocytosis: **Phagocytosis** is the type of endocytosis where an entire cell is engulfed. **Pinocytosis** is another type of endocytosis, when the external fluid is engulfed.

(c) Diffusion and facilitated diffusion: **Diffusion** is the net movement of molecules (or ions) from a region of their high concentration to a region of their lower concentration. Large polar molecules or ions which cannot diffuse across the phospholipid bilayer, instead pass through by the method of **facilitated diffusion**. Movement of molecules is still PASSIVE the only difference is, the molecules pass through a protein channel instead of passing between the phospholipids.

Q.6. How will glucose be transported inside the cells?

Ans: Facilitated Diffusion