CHAPTER 3: MOVEMENT OF SUBSTANCES ACROSS THE PLASMA MEMBRANE

Paper 1 (Objective Questions)

1. Why do the heads of the phospholipids point out and the tails point to each other?

I The polar heads repel each other.
II The tails are repelled by the aqueous environment.
III The non-polar tails form chemical bonds with each other.
IV The heads are attracted to the water inside and outside the cell.

A I and III
B II and III
C II and IV
D III and IV

2. The role of the pore and carrier proteins within the plasma membrane is to…

A identify the cell.
B prevent the passage of amino acids.
C provide surface attachment sites.
D allow the movement of salts and sugars through the plasma membrane.

3. Molecule P diffuses freely through the phospholipid bilayer of the cell membrane. Molecule P is most probably…

A hydrophilic.
B hydrophobic.
C positively charged.
D negatively charged.

4. Which processes depend on the net movement of molecules from a high concentration to a low concentration?

I Osmosis
II Phagocytosis
III Simple diffusion
IV Facilitated diffusion

A I and II only
B III and IV only
C I, III and IV only
D I, II, III and IV

5. The selective permeability of the plasma membrane to different substances depends on the…

I size of the molecules crossing the membrane.
II total number of phospholipid molecules in the membrane.
III lipid solubility of the substances crossing the membrane.
IV presence of carrier proteins which assist the substances across the membrane.

A I and II only
B III and IV only
C I, III and IV only
D I, II, III and IV

6. The rate of facilitated diffusion is determined by the number of carrier proteins and the…

A pH of the membrane.
B amount of ATP available.
C pressure gradient across the membrane.
D concentration gradient across the membrane.