Cell Membrane – Structure & Function

Chapter: Cell – The Unit of Life | **Exam:** NEET Biology

Introduction

The cell membrane, also called plasma membrane, is a thin, living and flexible boundary that separates the internal environment of the cell from the external environment.

Fluid Mosaic Model

The Fluid Mosaic Model was proposed by Singer and Nicolson in 1972. According to this model, the plasma membrane consists of a phospholipid bilayer with proteins embedded in it.

Structure of Cell Membrane

- Phospholipid bilayer with hydrophilic heads and hydrophobic tails.
- Integral and peripheral proteins are present.
- Carbohydrates occur as glycoproteins and glycolipids on outer surface.
- Cholesterol is present only in animal cell membranes.

Transport Across Cell Membrane

- Diffusion and facilitated diffusion occur without ATP.
- Active transport requires ATP and carrier proteins.
- Endocytosis and exocytosis are bulk transport mechanisms.

NEET Important Points

- Fluid Mosaic Model → Singer & Nicolson
- Cholesterol present only in animal cells
- Plasma membrane is selectively permeable
- Glycoproteins occur on outer surface only

Quick Revision

- Plasma membrane → Selectively permeable
- Fluid Mosaic Model → Singer & Nicolson
- Cholesterol → Animal cells
- Endocytosis → Eukaryotic cells

NEET Practice MCQs

1. Fluid Mosaic Model was proposed by Singer and Nicolson.
2. Cholesterol is present in animal cell membranes.
3. Diffusion does not require ATP.