Lab (5)

Permeability

- Transmission the particles through the membranes.
- This phenomena for membranes, not for substances.
- There for there are 3 kites of membranes.

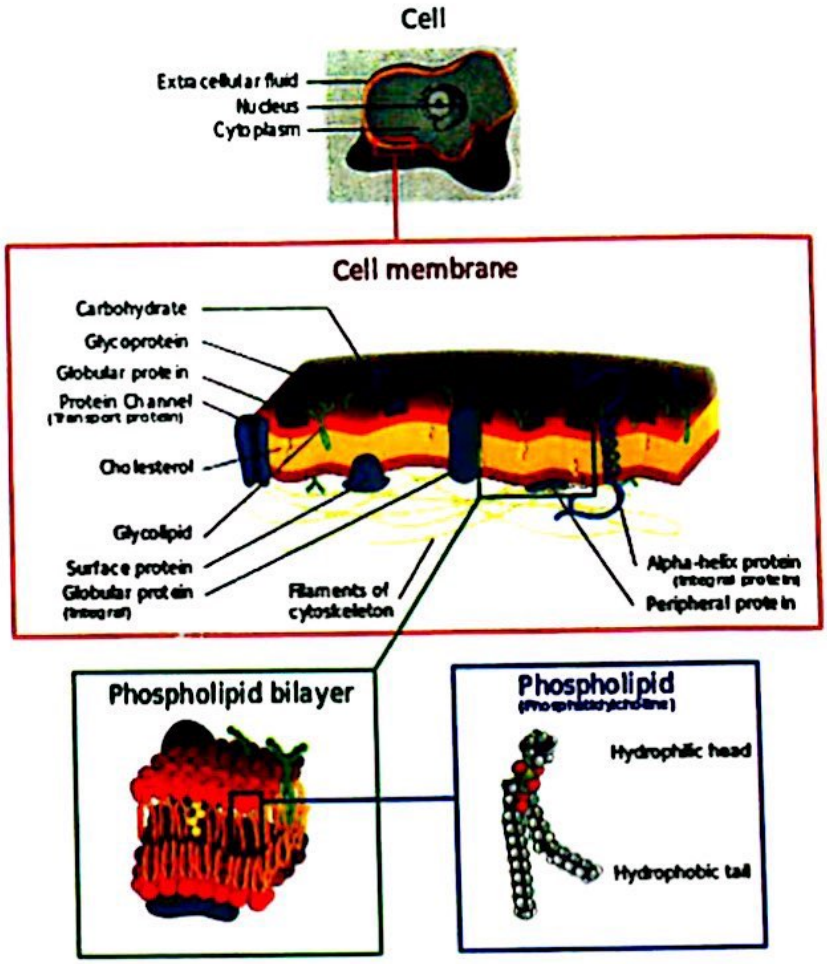
1- Impermeable membranes :- these membranes dose not allowed all particles for passing or transmission through it. Like (cuteness, supercne ,) these covered by waxy layer.

2- Selective membranes :- it allows for some particles passes through, and dose not allows other particles for passing. That depend on the size and mass of these particles, the solubility of particles in the membrane(like cell membrane).

3- Complete permeability membrane :- allows for all particles passing through (like cell wall) and (dead membrane).

Permeability through membranes depends on :-

1. size and mass of particles.
2. Solubility of solutes in membranes .



Factors affecting permeability :-

A. Physical factors :-

1. **Size and mass** :- the greater in mass and size of partied, it will be less permeable.
2. **Heat** :- → freezing
   → Boiling
   → Heating

Freezing :- particles more permeable. Because in freezing water molecules become crystals with rho phis edges, or (ice needle) and these will fraction the cell membrane , also the inter spaces will be bigger, allowing all particles to pass.

Boiling :- in boiling water, particles more permeable because high temperature damage the membrane (deforming the proteins) .

Heating :- heating increases the kinetic energy of particles and increased their permeability.

B. Chemical factors :-

1. Acids , Bases and salts :- strong acids and bases will change the (pH) so the cell membrane damage or being more homogenizing , and also strong acids deforming the proteins in membrane. There for the interspaces will be bigger and more wildly , allowing the particles to pass.
2. Organic solvents :- these substances, effect on phospholipids in cell membrane (dissolve it), so the membrane convert to a complete permeable , and allows for all particles to pass through.