head of lipid → hydrophilic ∴ H_2O molecules can attach with it
tail of lipid → hydrophobic ∴ work as barrier for H_2O and H_2O soluble particles.

- lipid bimolecular layer → always present in mobile condition so the membrane can perform following activities -

1. cell enlargement.
2. endocytosis and exocytosis
3. formation of intercellular junctions
4. fertilization
5. cell division.

- Plasma membrane is selectively permeable.

movement of substance
↓
short distance transport

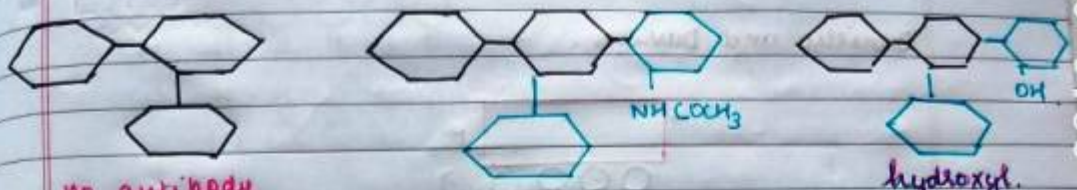
Passive
↓
diffusion
- downhill transport.
- high conc → low conc.

↓ facilitate
↓ simple.

Active
- also known as uphill transport.
- low conc → high conc.
- eg - Na^+ K^+ pump.

eg - RBC

O A B



no antibody formed.

N - acetyl group

hydroxyl.

terminal sugar present.

- Lipid exhibit following movement ⇒

rapid lateral diffusion	flip flop movement
between molecules of single layer	between molecules of 2 layers.

* MODELS

- Bilaminar model

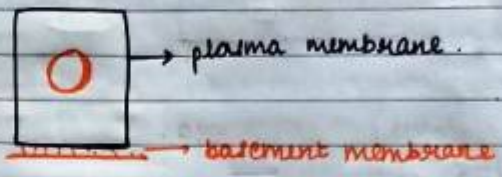
lipid bimolecular layer.

Date
Page

2018-8-10 10:58

* PLASMA MEMBRANE

- Plove coined the term plasma membrane or plasmolemma.
- Nageli and cramner : cell membrane [also include basement material]



- it is membrane present outside the cytoplasm and around membrane bound cell organelles.

* Properties :

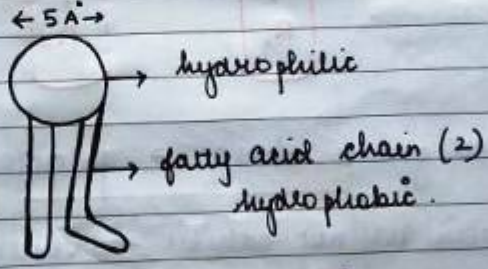
- Phospholyphoproteinous membrane.
- semi or quasi nature liquid structure or guid fluid model.
- asymmetrical
- selectable or differentially permeable.
- reparable
- elastic
- preable, hydrophilic.

NOTE - Protein molecule exhibit only lateral diffusion or movement in a membrane [not flip-flop].

* LIPID

Types

- Phospholipid
  - 70%
  - formation : SER site
  - eg - lecithin.
- Glycolipid
- steral.
  - phytosteral
  - cholesterol.
  - help in lipid molecule packaging.

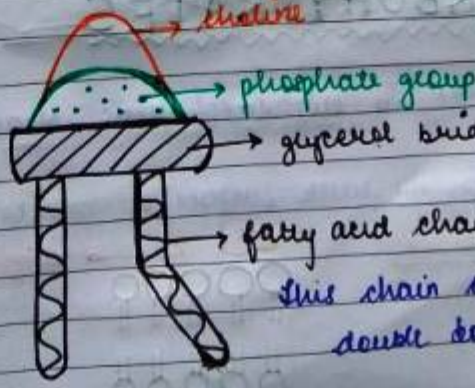


Polar : head end

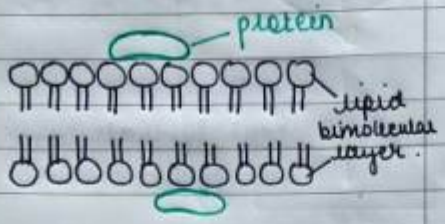
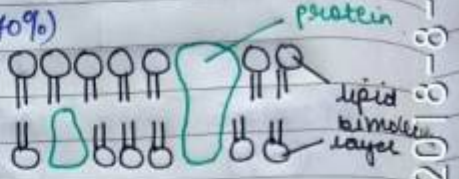
non polar : tail end.

amphipathic molecule.

eg - lecithin.



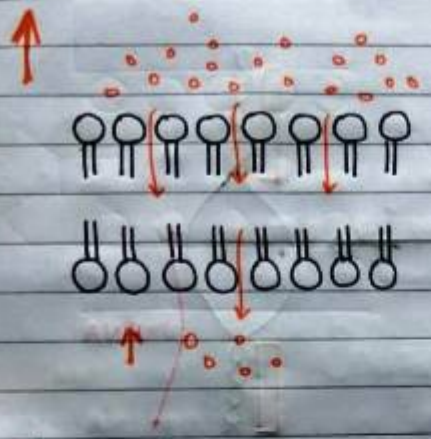
2018-8-10 10:59

Extrinsic or peripheral protein	Intrinsic or integral protein
(30%) 	(70%) 
present on surface of membrane and weakly attached.	present between lipid bimolecular layer and are partially or completely embedd
work as recognition and regulatory protein and make the membrane selective in nature.	Provide mosaic appearance to the membrane.
work as antigen with carbohydrate.	some are extended upto both the surface of the membrane known as transmembranous or tunnel protein.
eg- spectrin (in muscles) Fi particle of oxisome	Help in the transport of H_2O and H_2O soluble particles and ionized molecule (H^+, OH^-) → are of 8 types. eg-1. aquaporin [main transport particle] 2. porin 3. cytochrome oxidase 4. Fo particles.

20-8-10 10:59

2018-3-10 11:01

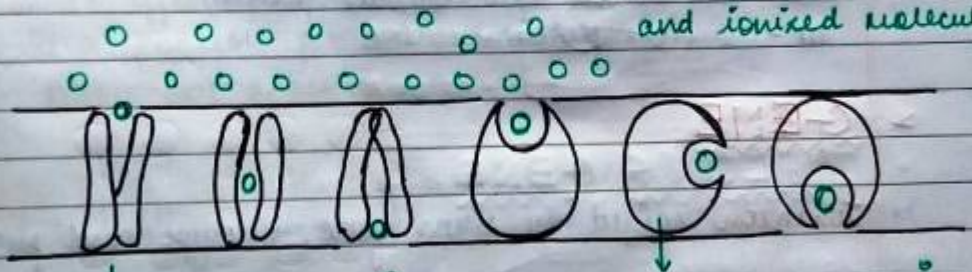
1. Simple diffusion



lipid and lipid soluble particles.

2. Facilitate diffusion

H_2O and H_2O soluble and ionized molecules.



tunnel or transmembranous protein.

↓

aquaporin

transport protein.

3. Protein molecule

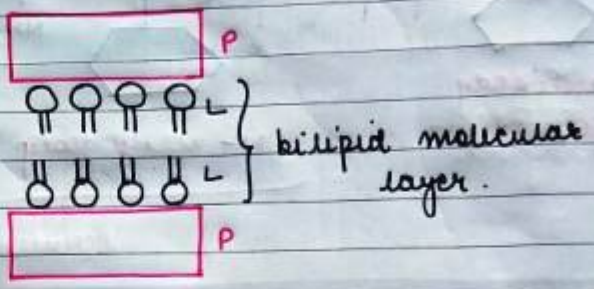
→ porin.

2013-3-10 11:00

- Trilaminar model [PLLP model]

1. Sandwhich model

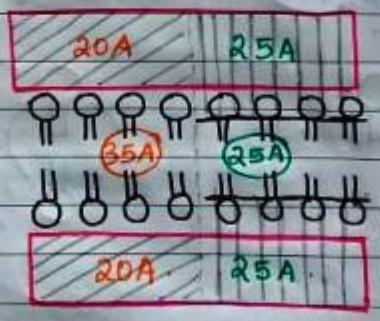
Danielle and Davson.



2. Unit membrane model

Robertson.

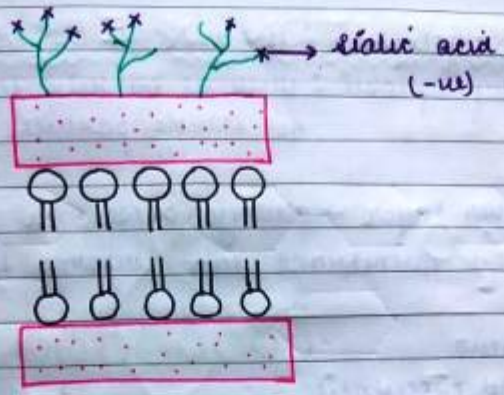
railway track model.



3. Greater membrane theory

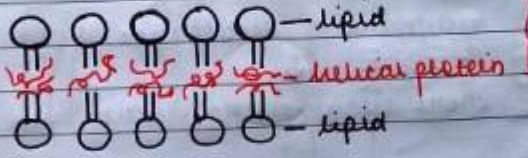
in place of glycocalyx, plant cell contains cell wall.

96



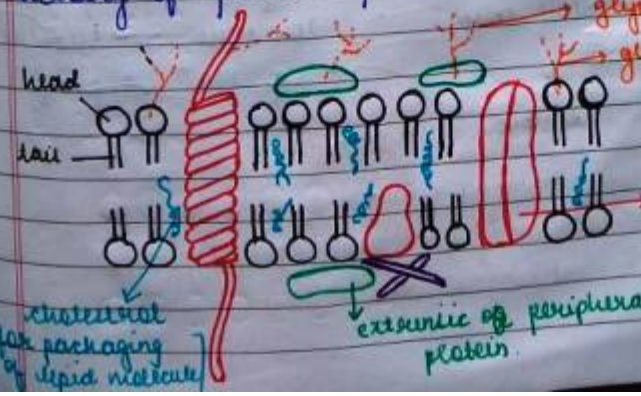
- Models in which proteins are considered to be present between lipid bimolecular layer.

1. Benson model



2. Fluid mosaic model / Quasi liquid model

- iceberg of protein present in the sea of lipid.



2018-8-10 11:00

hypotonic solution RBC kept, after some time it ruptures known as ghost.
crynation cell - animal cell when kept in hypotonic

2013-3-10 10:58

* chemical composition

eg: RBC membrane

- Protein (52%)
- lipid (40%)
- carbohydrate (8%)

* PROTEIN

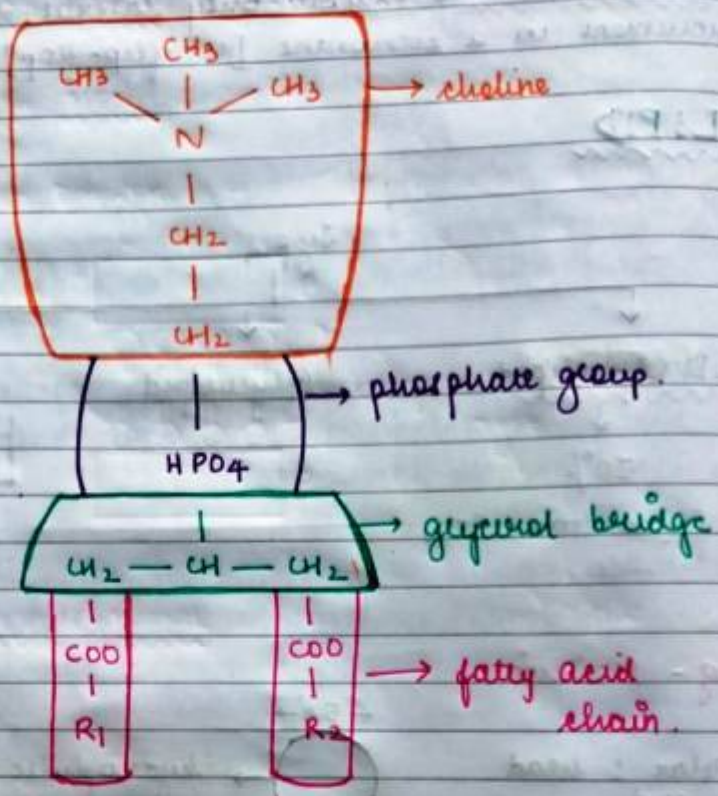
Types

Structural	Enzymatic	carrier.
eg: mainly present in endomembranous cell organelle	mainly present in mitochondria → 70% enzyme of cell	eg: permease.
ER, GC, lysosome, chloroplast		

intrinsic protein

- Porin in gram-ve bacteria. Present in outer membrane of chloroplast, mitochondria
- cytochrome oxidase
- Fo particle.

2018-8-10 10:59



- blood group changes → galactose sugar.
- protein does not exhibit movement, it is due to lateral diffusion of lipid.

* CARBOHYDRATES

- present in oligosaccharide chain form.
- only on the outer surface of membrane.