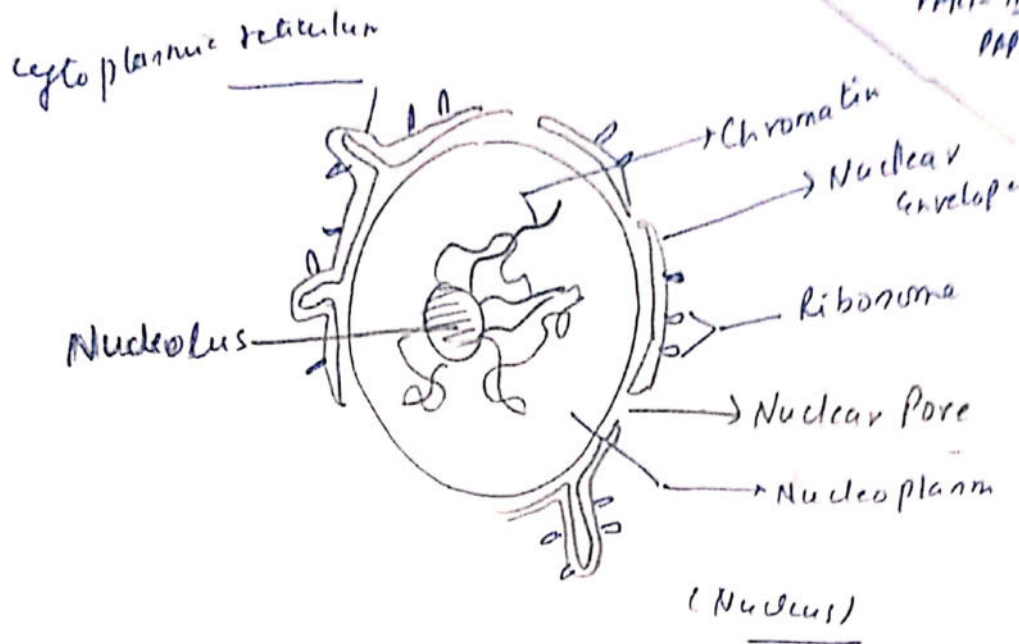


NUCLEUS

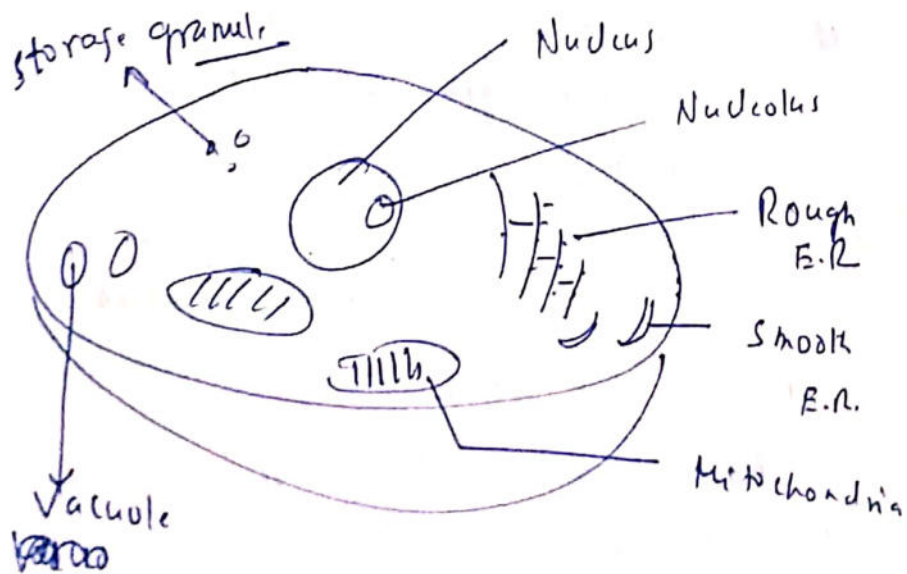
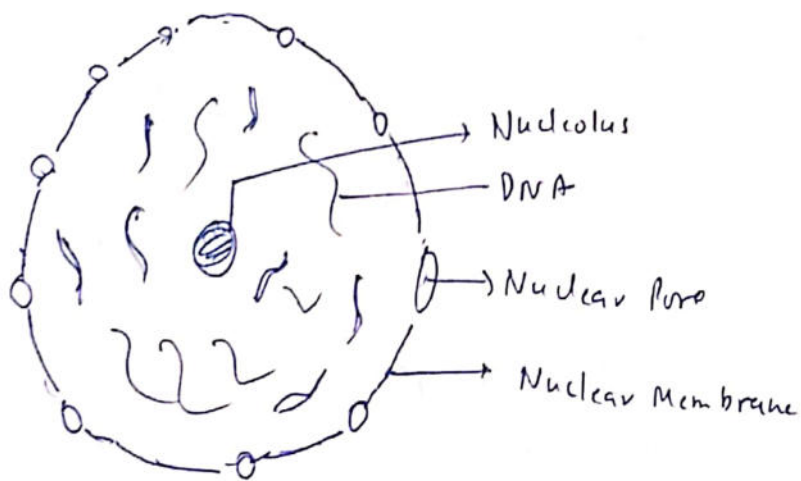


- Membrane bound- Organelle organ
- Contain genetic material - DNA of eukaryotic
- Maintain - Integrity of the cell, by facilitating transcription and replication processes
- $\frac{1}{10}^{\text{th}}$  part of entire volume
- Main component -
  - ① A phospholipid bilayer Membrane
  - ② Nucleoplasm
  - ③ Nucleolus
  - ④ chromatic substance
- Some eukaryotic cell - lack a nucleus referred as enucleate cell - ex: Erythrocytes
- Referred as - Command centre

②  
Shape - flattened - ~~is~~ ellipsoidal or irregular depending on the type of cell.

Ex. - Nucleus of - columnar epithelium cell -  
appears - more elongated

- It's shape changes - as the cell -  
matures.



## NUCLEAR MEMBRANE

(3)

- In Eukaryotes - Nucleus bound membrane - present [not in prokaryotes]
- Like a cell membrane - bound organelle
- Double layered structure - consist of phospholipids (forming the lipid bilayer nucleus envelope)
- On Nuclear Membrane - present - Nuclear Pore (Made of protein) through which substance enter or leave the cell (RNA, protein, etc)
- Lipid bilayers are separated by a thin space between them (perinuclear cisterna), fused at pores.

Nuclear Membrane Pore - are occupied by dense granules / fibrillar material arranged in a cylindrical manner

## FIBROUS LAMINA

- Part of cytoskeleton
- Attached to the inner layer of nuclear membrane.
- consist of fine protein filament
- Provide mechanical reinforcement to the bilayer Membrane.
- Play role in regulating gene expression

- ④
- Regulate material entering or exiting the cell

### NUCLEOPLASM

- Also known as - Karyoplasm / Nuclear sap
- Type of protoplasm composed of - chromatin fibre made of DNA
- Content - Nucleoprotein, nucleic acid, enzyme and mineral salts.
- Serve as suspension substance for organelles inside the nucleus.
- Regulation - Physiological activities of H. Nucleus
- Help to maintain - shape and structure of nucleus
- Support - chromosomes and nucleoli
- Components -

- ① Nucleolus
- ② Nucleotides
- ③ chromatin fibre
- ④ Nuclear Matrix
- ⑤ Enzyme

H.W

in Next class

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