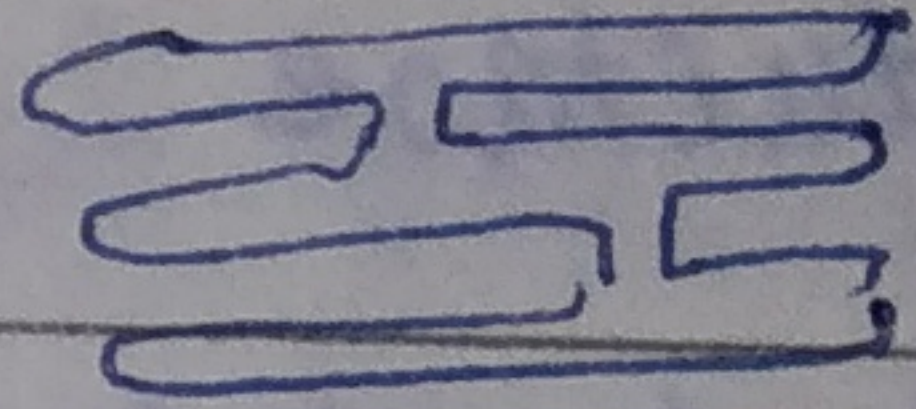


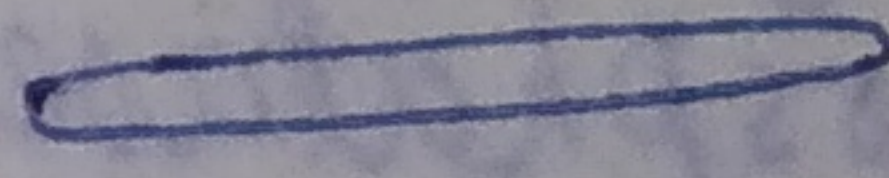
## Endoplasmic Reticulum - (E.R) -

- \* Porter (1945) - discovered & also termed it.
- \* They are 3D, complicated, & interconnected system of Tubules
- \* Generally attached to P.M or Nuclear Memb.
- \* They may be formed of 3 Types of element -

(1) - Cisternae → Interconnected unbranched Tubules.



(2) - Tubules → Tubular unbranched



(3) - Vesicles - oval, round or sac like ○

### Types -

#### SER

- 1) - surface is smooth
- 2) - Ribosome absent
- 3) - synthesize Glycogen, Lipid & Steroids
- 4) - often peripheral (attach to P.M)
- 5) → Produces sphaerosome

#### RER

- 1) - surface is Rough.
- 2) - Ribosome present
- 3) - synthesize Protein & enzyme
- 4) - often internal (attach to Nuclear Mem)
- 5) → Helps in Formation of lysosome through Golgi body
- 6) - Ribophorin (Glycoprotein) Absent → Present help in attachment of Ribo to E.R

## Function of E.R - Endoplasmic Reticulum

- \* Acts as cytoskeleton of cell. & provide support
- \* keep the cell organelles in their positions
- \* Quick Intracellular Transport
- \* SER helps in detoxification of Toxic substance
- \* Their memb contain many enzymes — 1

ATPase  
 Reductase  
 Dehydrogenase  
 Phosphatases

} For various physiological activities.

- \* E.R of muscles are known as sarcoplasmic Reticulum & matrix as sarcoplasm (store  $Ca^{++}$ ) that help in muscle contraction.
- \* Provide Memb for lysosome & Nucleus (After Telophase)