MIND MAP

Cell Membrane
- Composed of lipid and protein
- Function : Protect and gives definite shape to the cell and regulates movement of ions across cell.

Nucleus (master control of cell)
- Composed of protein, phosphorous, and DNA / RNA
- Function – Control all the activities of cell.

Endoplasmic reticulum (ER)
- Occur in there form-cisternae, vesicles and tubules.
- Two types – viz. Smooth ER (ribosomes absent) and Rough ER (ribosomes present).
- Function – Provides supporting skeletal framework to the cell. SER synthesizes fat, detoxify molecule and RER plays role in modification of proteins.

Cell Wall
- Composed of – cellulose and hemicellulose
- Function – Provides mechanical strength, makes cell turgid and protects cell against pathogen and injury.

Prokaryotic and Eukaryotic

Prokaryotic
- Primitive in nature
  Membrane bound organelles are absent
  Nucleus lacks nuclear membrane

Eukaryotic
- Well developed in nature
  Membrane bound organelles present
  Nucleus is well developed with nuclear membrane.

Peroxisomes
- Organelle containing powerful oxidizing enzyme.
- Function – They detoxify or remove toxic substances from cell.
- Helps in photorespiration of plants.

Vacuole
- Fluid or solid filled structure bounded by tonoplast.
- Function – Provide turgidity and rigidity to the plant cell, take part in excretion and osmoregulation and also store metabolic by products or end products of plant cell.

Centrosome
- Hollow, cylindrical structure made up of microtubules.
- Function : Helps in cell division.

Ribosome (Membrane less organism)
- Composed of RNA and proteins are attached to it
- Function : Protein synthesis

Mitochondria (Power house of the cell)
- Semi-autonomous
- Function – They are site of cellular respiration. i.e. they produce ATP – universal currency of energy.

Golgi Apparatus
- Also called Golgi body/Golgi complex/ Baker's Body / Dalton Complex / Lipochondria.
- In plants they are called dictyosomes.
- Function : They package the materials synthesized in cell and dispatches from cell across the plasma membrane and produce lysosomes.

Animal Cell and Plant Cell

Animal Cell : Lacks cell wall and chloroplast

Plant Cell : Cell wall and chloroplast are present

Lysosomes (Suicidal bag of the cell)
- Tiny sac like structure surrounded by a single, thin membrane.
- Function : They contain digestive enzyme and do intracellular digestion.

Cytoplasm
- Composed of insoluble wastes and storage products.
- Function – Store house of amino acid and site of metabolic activities such as glycolysis, lipogenesis, translation etc.

Plastid
- Semi – autonomous
- Present only in plants.
- Function – Chloroplast is the site of photosynthesis.
- Stone food in form of carbohydrates.