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The Fundamental Unit of Life Cell

(iv) Cytoplasm:

It is a jelly-like, viscous, colourless semi-fluid substance that occurs between the plasma membrane and the nuclear membrane.
The aqueous ground substance of cytoplasm is called cytosol that contains a variety of cell organelles and other insoluble waste products and storage products, like starch, glycogen, lipid, etc.

Functions:

• Protoplasm acts as a store of vital chemicals like amino acids, proteins, sugars, vitamins, etc.

• It is the site of certain metabolic reactions, like glycolysis, synthesis of fatty acids, nucleotides, etc.

Cell organelles:

Inside the cell there are different parts performing different activities to keep the cell alive and functionable. These part are called Cell organelles. They are explained below:

1. Golgi Apparatus:

Golgi apparatus consists of a set of membrane bound, fluid filled vesicles, vacuoles and flattened cisternae (closed sacks).
Cisternae are usually arranged parallel to each other.

Functions:

- Its main function is to store, modify, package and dispatch the substances.
- It is also involved in the synthesis of cell wall, plasma membrane and lysosomes.

2. Endoplasmic Reticulum:

It is a membranous network of tube like structures extending from nuclear membrane to plasma membrane.

It is absent in prokaryotic cells and matured RBCs of mammals.

There are two types of endoplasmic reticulum:
(i) Rough Endoplasmic Reticulum (RER): Here ribosomes are present on the surface for the synthesis of proteins.
(ii) Smooth Endoplasmic Reticulum (SER): Here ribosomes are absent and is meant for secreting lipids.

Functions:

- It gives internal support to cell.
- It helps in transport of various substances from nuclear membrane to plasma membrane or vice versa.
- RER helps in synthesis and transportation of proteins.
- SER helps in synthesis and transportation of lipids.