

# Mitochondria:-

## Defination:

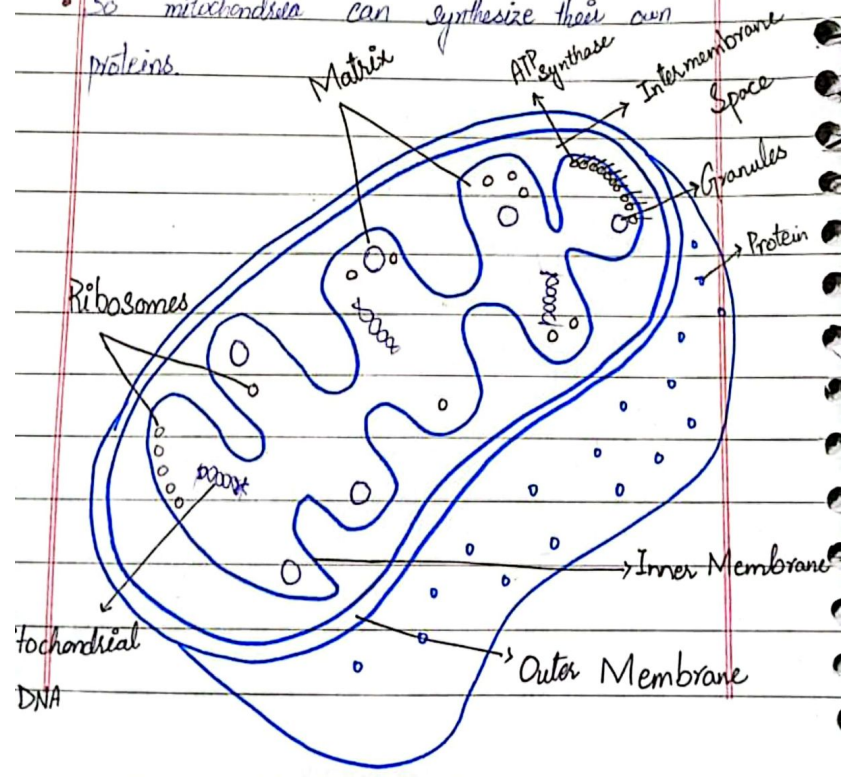
- A mitochondrion is a round to oval-shaped organelle found in the cells of almost all eukaryotic organisms. It produces energy, known as ATP, for the cell through a series of chemical reactions.
- Mitochondria are typically round to oval in shape and range in size from 0.5 to 10  $\mu\text{m}$ .
- Mitochondria may be called power house of the cell.

## 1- Structure of Mitochondria:

- The mitochondria may be vesicle rod or filament shaped.
- Mitochondria are bounded by two membranes.
- The outer membrane is smooth. The inner membrane forms many infoldings called crista.
- The crista and the proteins of the inner membrane aid in the production of ATP molecules.

## 2-Chemical Composition of Mitochondria:

- The mitochondria membrane have similar composition and structures as other membranes.
- They are composed of lipids and proteins.
- The mitochondria matrix contains a large number of enzymes, coenzymes, organic and inorganic salts.
- Mitochondria also contain DNA and ribosomes.
- So mitochondria can synthesize their own proteins.



### 3- Formation of Mitochondria:

- Mitochondria are self-replicating organelles.
- It means new mitochondria are formed by the division of the old mitochondria.

### 4- Intermembrane Space and Matrix:-

- The space between the membrane is called the intermembrane space, and the compartment enclosed by the inner membrane is called the mitochondrial matrix.
- The matrix contain mitochondria DNA and ribosomes.