1. MEMBRANE STRUCTURE
2. CARBOXYLIC ACIDS
3. CIS TRANS RING
4. Write concisely on the functional characteristics of Nucleus, Mitochondria and Endoplasmic reticulum

**NUCLEUS:** It controls the heredity characteristics of an organism. It main cellular metabolism through controlling synthesis of particular enzymes. It is responsible for protein synthesis, **cell** division, growth and differentiation. Stores heredity material in the form of deoxy-ribonucleic acid (DNA) strands.

**:** The most prominent roles of mitochondria are to produce the **energy** currency of the **cell**, ATP (i.e., phosphorylation of ADP), through **respiration**, and to regulate cellular metabolism. The central set of reactions involved in ATP production are collectively known as the citric acid cycle, or the Krebs cycle.

**Endoplasmic reticulum : Endoplasmic reticulum** (**ER**), in biology, a continuous membrane system that forms a series of flattened sacs within the cytoplasm of eukaryotic **cells** and serves multiple **functions**, being important particularly in the synthesis, folding, modification, and transport of proteins .

1. **Explain the various classes of glycolipids and draw the structure of one. :**

* Glyceroglycolipids: a sub-group of **glycolipids** characterized by an acetylated or non-acetylated glycerol with at least one fatty acid as the lipid complex. ...
* Glycosphingolipids: a sub-group of **glycolipids** based on sphingolipids.

**STRUCTURE OF Glycosphingolipids:**

