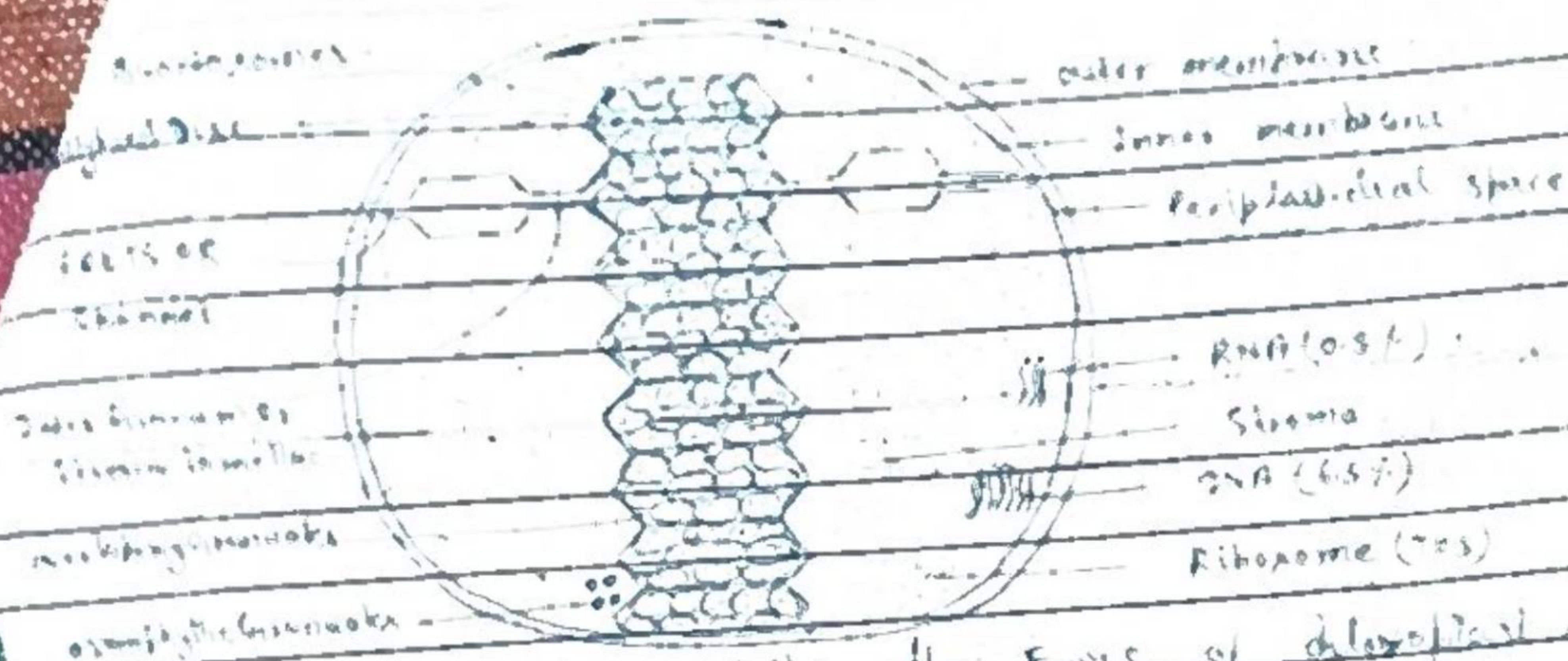


EMS. OF CHLOROPLAST



- ⇒ This diagram exhibits the EMS. of chloroplast.
- ⇒ We see chloroplast is the largest cytoplasmic organelle of plant cell.
- ⇒ It is biconvex in shape & double membrane structure. The outer most layer is outer membrane whereas the inner most layer is inner membrane.
- ⇒ In between two membranes there is a space is called Periplastidial space which thickness is $200\text{\AA}$.
- ⇒ The thickness of outer & inner membrane is $50\text{\AA}$ and they made up of lipoprotein.
- ⇒ Plasmic genes are that form of DNA & RNA are present in the chloroplast.
- ⇒ It is also plastogenic due to confined in chloroplast which is responsible for bearing to character from one generation to another. So, such inheritance is called cytoplasmic inheritance.
- ⇒ In plastogenic the amount of DNA is 6.5% of the total chloroplast & 0.8% RNA of the total chloroplast.
- ⇒ Prokaryotic ribosome is found & they are 70S type.
- ⇒ The entire chloroplast is filled with liquid stroma is called STROMA.

⇒ It is site for the dark rxn of photosynthesis.

⇒ It contains all enzyme in Calvin cycle.

⇒ Carnophyllis granules are also found in it. They are association of carotenoids where is coming from primary association of carotene & Xanthophyll.

⇒ Chloroplast contains bottle shaped structure called Granum.

⇒ The two types of Granum is present in the chloroplast. The 1st is overlapping and 2nd is Inter granum.

⇒ Several granums are arranged one after another in serial way so called overlapping Granum.

⇒ When connected the two granum each other in lateral side is called Inter Granum. Due to found in stroma we known as stroma lamellae.

⇒ Granum is responsible site for the light rxn of photosynthesis.

⇒ Within the granum several thallakoid disc are present they contain photosynthetic units & is known as quantasomes which contains 200 to 250 molecules of chlorophyll & than photosynthesis is start in the chloroplast.

FUNCTION OF CHLOROPLAST

There are two function of chloroplast →

1) Primary function.

2) Secondary function.

Primary function of chloroplast →

- ⇒ This largest cytoplasmic organelle of plant cell is related with the process of photosynthesis which is an anabolic phenomenon of metabolism.
- ⇒ This is a constructive phenomenon which food is prepared from carbon dioxide which is later converted into starch.
- ⇒ Light reaction is controlled by grana and the product will be stored in stroma.
- ⇒ Stroma contains all the enzymes for dark reaction to prepare food in form of carbohydrates by the enzymatic activity in a cyclic manner called calvin cycle.

2) Secondary function →

- ⇒ With the help of photosynthetic ribosome (20S) they are also involved in process of protein synthesis like bacterial cell.
- ⇒ Due to presence of DNA & RNA in form of plasmids they are related with the process of cytoplasmic inheritance. acutely the maternal cytoplasmic inheritance