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 Course Bio 102

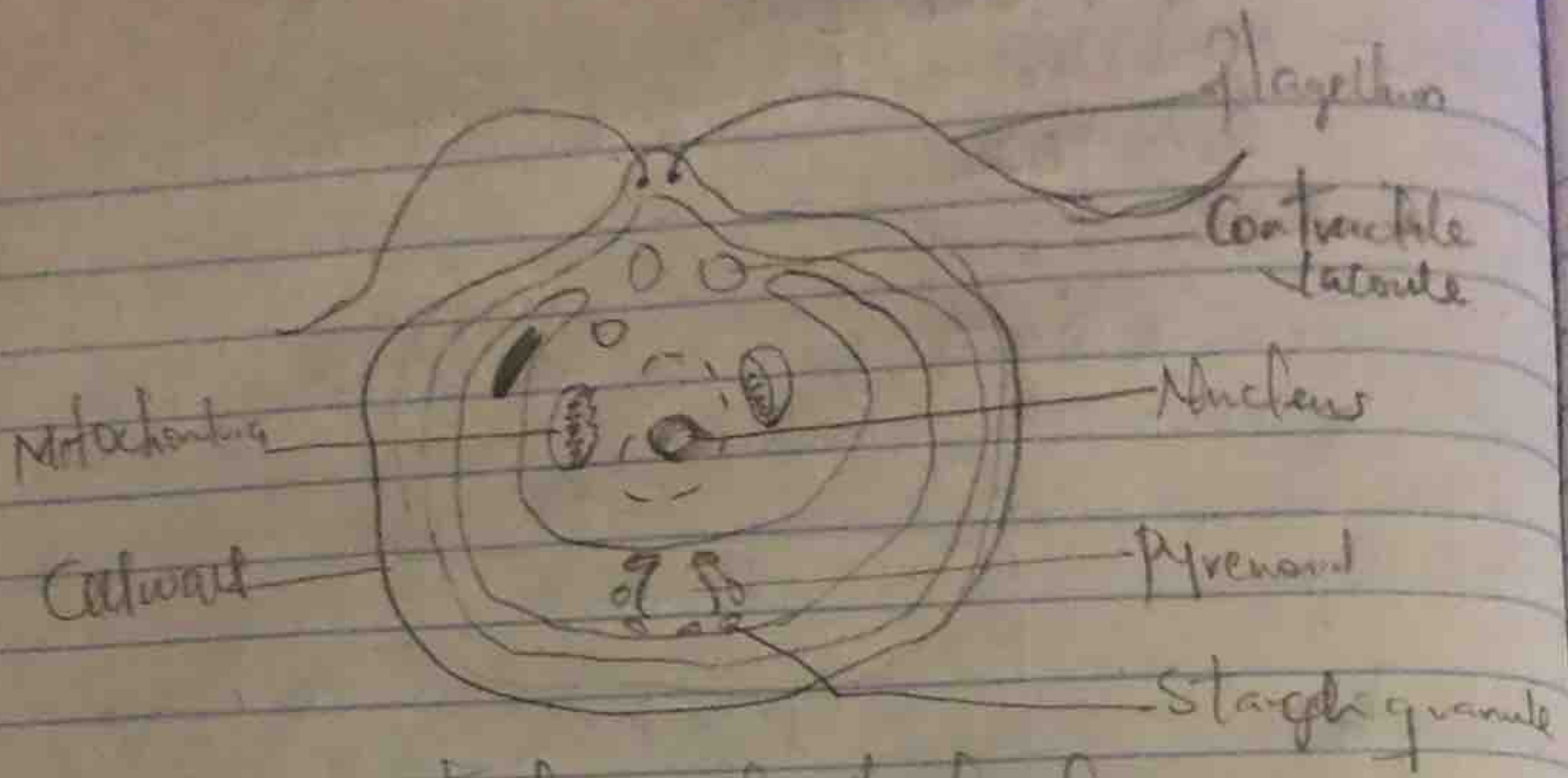
1. Classification of plants according to Eichler's grouping in 1883:

Division	Class
Thallophyta	Phyotinae (Algae) Mycotinae (Fungi)
Bryophyta	Hepaticae (Liverworts) Musci (Mosses)
pteridophyta	Psilotinae (Psilotum) Lycopodiinae (Lycopodium, Selaginella)
spermatophyta	Gymnospermae (Gymnosperms) Angiospermae (Angiosperms)

2. i - Algae are important as food for fish
- ii - It serves as food for people and invertebrates
- iii - Algae have a high concentration of Iodine used in iodine prevention
- iv - Brown algae are used to stabilize emulsion and suspension
- v - They are also used in the preparation of gels for scientific research.

3. Unicellular form in the algae  
 Chlamydomonas represents the unicellular and motile form of green algae. They are found in stagnant water. They possess a pair of flagella for mobility. The cell is bounded by a cellulose cell wall, containing nucleus, mitochondria, stigma (eyespot), cup-shaped chloroplast, pyrenoid etc.  
 The nucleus carries the genetic programme. The stigma (eyespot) is for photoreception. Mitochondria generates energy. Sugar is manufactured and stored in the pyrenoid.





Structure of Chlamydomonas

4. Unicellular form in algae is Chlamydomonas, reproduce either vegetatively (asexually) or sexually.

Vegetative reproduction:

In this type of reproduction, parent cell Chlamydomonas divide mitotically into two daughter cell (regarded as zoospores) and also maintaining the number of chromosomes (i.e. number of chromosome in parent ( $n$ ) is the same in each daughter cell). Before reproduction, they have to lose their flagella, the karyokinesis and cytokinesis takes place.

Sexual reproduction:

This takes place when there is lack of nutrient / other elements. ~~these~~ parent cells form opposite mating strains, they fuse (isogamy) to form a diploid zygote. The zygote which is diploid ( $2n$ ), encysts to form zygospore. It later undergoes meiosis to give four haploid ( $n$ ) daughter cells.

5. Pandorina	Volvox
(i) The colony consist of 16 cells	Colony consist of thousands of cells
(ii) Cells in colony are clumped together	Cells in colony are connected together by cytoplasmic strands.
(iii) All cell colony are involved in sexual reproduction	Only larger cells (gonidia) are involved in asexual reproduction.



