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DEPARTMENT:MEDICINE

MATRIC NO: 19/MHS01/218

COURSE: BIO 102

ASSIGNMENT

1. Eichler's grouping of 1883

<u>DIVISION</u>	<u>CLASS</u>
<u>Thallophyta</u>	<u>Phycotinae (Algae)</u> <u>Mycotinae (Fungi)</u>
<u>Bryophyta</u>	<u>Hepaticae</u> <u>(Liverworts)</u> <u>Musci (Mosses)</u>
<u>Pteridophyta</u>	<u>Psilotinate</u> <u>(Psilotum)</u> <u>Lycopodinae</u> <u>(Lycopodium,</u> <u>Selaginella)</u> <u>Equisetinae</u> <u>(Horsetails)</u> <u>Filicinae (Ferns)</u>
<u>Spermatophyta</u>	<u>Gymnospermae</u> <u>(Gymnosperms)</u> <u>Angiospermae</u> <u>(Angiosperms)</u>

2. Importance of Algae to man

- It serves as food for people
- The red algae provide agar and carrageen used for the preparation of various gels used for scientific research

- It's contains high iodine content which prevents goitre
- It serves as thickening agents in ice cream and shampoo
- Alginic acid from the brown algae is used to stabilize emulsions and suspensions.

3. Unicellular form of Algae

Chlamydomonas represents the unicellular and module forms of green algae.

It's found in stagnant water.

It has the flagella which enables movement

The cell is bounded by a cellulose cell wall contains cellular organelles such as nucleus, mitochondria, stigma, cup shaped chloroplasts

The Nucleus Carries the genetic material of the cell

The stigma is for photoreception

Mitochondria mediate the elaboration of energy molecules

Manufactured sugar is processed Into Starch on the pyrenoid

4. **REPRODUCTION**

Reproduction can either be vegetative (asexual) or sexual

Vegetative results in the production of daughter cells in which the amount and quality of genetic material in the nucleus of the mother cell is maintained in the daughter cells. The amount of genetic material in the mother cell nucleus of n , the daughter cells also have n quantity of genetic material. The mitotic division maintains the quality and quantity of genetic material.

Sexual reproduction

It involves union of sex cell, aggregation of cells in a colony occurs under favourable conditions. These cells pair by their posterior end. This pairing is said to be isogamous because the pairing cells(gametes) are morphologically identical .

5. The colonial forms in Algae

○ Pandorina

○ Volvox

Pandorina	Volvox
Sexual reproduction is anisogamous	Sexual reproduction is oogamus
Unicellular motile thallus	Multicellular motile thallus
It's a genus of green algae	It's complex form of pandorina

6. Complex form in the Algae

Fucus

It's a genus of the brown Algae whose species are found on rocks in the intertidal zones of the sea shores. The body of the plant is flattened, dichotomously-branched thallus with a mid rib, a vegetative apex and a multicellular disk with which plant is attached to rock surface. The body has air bladders which is believed to aid the plant to float on the water. It varies in size from a few centimetres to about 2 metres in length.

Fucus species are **found** in the upper, mid, and lower intertidal in the colder waters of the northern Atlantic and northern Pacific. The genus is absent from the southern

hemisphere. Various species of *Fucus*: vary in terms of the cell being found in the same sexual chamber. Sexual reproduction is oogamous, sex cells are produced in conceptacles which have openings (ostioles) on the surface of the thallus.