

General Biology II

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MBBS

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1) Classify plants according to Eichler's grouping in 1883

Division	Class
Thallophyta	Phycotinae (Algae), Mycotinae (Fungi)
Bryophyta	Hepaticeae (Liverworts), Musci (Mosses)
Psilidophyta	Psilotinae (Psilotum), Lycopodiinae, Filicinae (Ferns), Equisetinae (Horse tails)
Spermatophyta	Gymnospermae, Angiospermae

2) How are algae of importance to man?

- Source of food for fish and livestock.
- Algae has chemicals used in Pharmaceuticals.
- Algae can be used to ward off diseases.
- Algae is nutritious as it has high trace elements.
- Algae is used in cosmetics.

3) Describe a unicellular form of Algae.

- It is motile.
- It is found in stagnant water.
- Has two flagella for mobility.
- Has a cellulose cell wall and contains organelles.
- Can reproduce either by vegetative (asexual) or sexual reproduction.
- Presence of cytosol, chloroplast and nucleus.

4) How does this unicellular algae described in question '3' carry out its reproduction?

- It's reproduction ^{can be} ~~is~~ sexual or asexual.

- In asexual reproduction, the cell divides mitotically to produce two identical daughter cells called zoospores.

- In sexual reproduction, caused by lack of nutrients of certain environment conditions, the gametes are produced instead of spores which then fuses in a process called isogamy to form a zygote which divides via meiosis to form four haploid daughter cells.

5.) Differentiate between the two types of colonial form of Algae.

Pandorina	Volvox
- Has 16 cells in the colony	- Has thousands of cells -
- It is less complex.	- Is highly complex.
- All cells undergo division.	- Not all cells undergo division -
- Sexual reproduction is Anisogamous	- Sexual reproduction is <u>Oogamous</u> .

6.) Describe a named complex form of algae.

FUCUS;

- It is a genus of brown algae.
- Often found on rocks in the intertidal zones of the sea -
- Plant body is flattened, dichotomously branched thallos.
- Plant body has air bladders.
- Vary from about a few centimetres to 2 metres
- Sexual reproduction is oogamous.
- Has a vegetative apex (a reproductive apex), and a multicellular disc