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ANSWERS

1) Eichler's grouping of 1883

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

2) Importance of Algae to man

- Contains high iodine content which prevents goitre
- Serves as food for people
- Alginic acid from the brown algae is used to stabilize emulsions and suspensions
- Red algae provides agar and carrageen used for the preparations of various gels used for scientific research
- Serves as thickening agents in ice cream and shampoo
- Used as fertilizer
- For the manufacture of soaps and alums

3) Unicellular forms of algae are also called acellular ;Example: Chlamydomonas represents the Unicellular and module forms of green algae.

It is found in stagnant water, has flagella for movement and mobility, the cell is bounded by a cellulose cell wall, Mitochondria for elaboration of energy molecules, Possesses stigma for photoreception, Has Pyrenoid for processing manufactured sugar into starch.

4) Reproduction in Chlamydomonas:

Can be either vegetative (asexual) or sexual

Sexual Reproduction: involves the union of the sex cells, under favourable condition aggregation of cells in a colony occurs, at the posterior end the cells pair, which is isogamous pairing because the pairing cells (gametes) are

morphologically identical, plasmogamy occurs and the flagella is lost, followed by karyogamy, after which the zygote secretes a thick wall called zygospore which is dominant, then the zygote undergoes two successive cell division and produces four haploid zoospores by meiosis.

Vegatative (Asexual) Reproduction: Is mitotic division in which the quantity and quality of genetic material of the organism is maintained, when the cell is about to divide it loses its flagella and undergoes mitotic division leading to two nuclei, cell walls are elaborated which delimit cytoplasm around each nucleus (two daughter cells i.e zoospores are released), by repeated mitotic divisions increase in a colony is achieved.

5) Two types of Algae (Pandorina and Volvox);

Pandorina	Volvox
Unicellular motile thallus	Multicellular motile thallus
Sexual reproduction is anisogamous	Sexual reproduction is Oogamous
It is a genus of green algae	It is a complex form of Pandorina

6) Complex form of Algae:

Fucus: It is 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. They also vary in terms of whether the sex cells are found in the same sexual chamber or in different sexual chambers on different plant bodies. Sexual reproduction is Oogamous, sex cells are produced in conceptacles which have openings (ostioles) on the surface of the thallus.