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Matric no: 19/MHS11/145

Course: BIO 102

ASSIGNMENT

1. A system of plant taxonomy, the Eichler system was the first phylogenetic (phyletic) or evolutionary system. He gave a system of classification for the whole plant kingdom. Eichler classified the plant kingdom into two sub-kingdoms. They are Cryptogamae and Phanerogamae. A] Cryptogamae are flowerless and seedless plants. They are simple and flowerless plants like algae, mosses and ferns which do not produce flowers, fruits and seeds. Cryptogams are considered as lower plants.

B] Phanerogamae are seed-bearing plants. So they are also known as spermatophytes. They are higher plants. The plant body is differentiated into roots, stem and leaves with well developed vascular system. Examples are angiosperms and gymnosperms.

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 contains high iodine content which prevents goiter
- > 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 is found in stagnant water.

It has the flagella which enables movement. The cell is bounded by a cellulose cell wall. The stigma is for photoreception.

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

5. Difference between Volvox and Synura

A. Reproduction is both sexual and asexual

A. Reproduction is sexual

B. Spherical colonies of up to 50,000 cells

B. Few cells in colonies

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 centimeters to about 2 meters in length.

Sexual reproduction is oogamous, sex cells are produced in conceptacles which have openings (ostioles) on the surface of the thallus.