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BIO 102

MEDICINE AND SURGERY

19/MHS01/060

ASSIGNMENT

1. A system of plant taxonomy, the Eichler system was the first phylogenetic (phyletic) or evolutionary system. He gave 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.

A) Direct use of algae as food for man

B) As a source of agar in the production of ice cream, jellies, desserts etc.

C) Medicines and minerals

D) Manufacture of iodine

E) Alginic acid, algin and mannitol which is used in the production of dyes, buttons and combs

F) Manufacture of soaps and alums

G) Used as fertilizer

H) Ornamental uses

3. Unicellular form of algae are also called acellular algae as they function as complete living organisms. Unicellular forms are common in all the groups of algae except Rhodophyceae, Phaeophyceae and Charophyceae. The unicells may be motile or non-motile.

4. Cell division or fission is the simplest method of reproduction for the unicellular forms of algae. It is often called binary fission as found in *Chlamydomonas*. In this method the two vegetative cells divide mitotically into two daughter cells, those finally divide as new individuals. Their reproduction is asexual.

5. Difference between *Volvox* and *Synura*

| VOLVOX | 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. *Spirogyra* is a filamentous charophyte green algae of the order of Zygementales, named for the helical or spiral arrangement of the chloroplasts that is characteristic of the genus. It is commonly found in freshwater habitats, and there are more than 400 species of *spirogyra* in the world