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DENTISTRY

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BIOLOGY 102

ASSIGNMENT ANSWERS

1. Classify plants according to Eichler's grouping of 1883.

. 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. Cyptogamae 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. Phanerogamme 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. How are algae of importance to man?

. 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, align 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. Describe a unicellular form of algae

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. How does this unicellular alga described in question 3 carry out its reproduction?

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 into new individuals. There reproduction is asexual.

5. Differentiate between the two types of colonial form of algae.

VOLVOX	SYNURA
Reproduction is both sexual and asexual	Reproduction is sexual
Spherical colonies of up to 50,000 cells	Few cells in the colonies

6. Describe a named complex form of algae.

. Spirogyra is a filamentous charophyte green algae of the order Zygomatales, 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.