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BIO 102 ASSIGNMENT

1.A system of plant taxonomy, the Eichler’s system was the first phylogenic(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] Phanerogamme are seed bearing plants. So they are also known as spermatophytes. They are

Higher plants. The plant body is differentiated into roots, stems 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, 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.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 Rhydophyceae, Phyaeophycaea 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 chlamydominas. In this method the two vegetative cells divides mitotically into two daughter cells,those finally divide and form new individuals. The reproduction is asexual.

5.Differences between Volvox and Synura

VOLVOX

A. Reproduction is both sexual and asexual

B. Volvox have Spherical colonies of up to 50,000 cells.

SYNURA

A. Reproduction is sexual

B. Fewer cells in colonies

6.Spirogyra is a filamentous charophyte green algae of the order of zypementales, named for the helical or spinal 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.They can form masses that float near the surface of streams and ponds, buoyed by [oxygen](https://www.britannica.com/science/oxygen) bubbles released during [photosynthesis](https://www.britannica.com/science/photosynthesis). They are commonly used in laboratory demonstrations. Spirogyra species can reproduce both sexually and asexually. Asexual, or vegetative, reproduction occurs by simple fragmentation of the filaments. Sexual reproduction occurs by a process known as [conjugation](https://www.britannica.com/science/conjugation-sexual-process), in which cells of two filaments lying side by side are joined by outgrowths called conjugation tubes This allows the contents of one cell to completely pass into and fuse with the contents of the other. The resulting fused cell ([zygote](https://www.britannica.com/science/zygote)) becomes surrounded by a thick wall and overwinters, while the vegetative filaments die.