

NAME:ADENOPO DIVINE INIOLUWA
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1.A system of plant taxonomy, the Eichler 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-kingdom. They are: Cryptogamae and Phanerogamae.

- 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.

- 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.Importance of Algae to man:

- Used in the manufacture soaps and alums.
- Used as fertilizers
- Used in the manufacture of Iodine
- Used in the manufacture of medicines and minerals

3.Unicellular algae are plant-like autotrophs and contain chlorophyll.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 Rhydrophyceae,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 Chlamydomonas. In the case of Chlamydomonas reinhardtii , one of the best characterized models in green algae, sexual adhesion between the gametes is mediated by agglutinin molecules on their flagellar membranes. The plus and minus agglutinins are sex specifically displayed by nitrogen-starved mating-type plus (mt+) and mating-type minus (mt-) gametes, respectively. Once an agglutinin molecule directly binds to the agglutinin molecule on the flagellum of an opposite mating type as a consequence of agglutination, a gamete-specific flagellar adenyl cyclase is activated and the intracellular cAMP level is elevated nearly tenfold, triggering dramatic alterations in the cell. First, flagellar motility is altered, and the adhesiveness of the flagellar surface is increased. Second, a matrix-degrading enzyme is activated and the cell wall is degraded so that the gametes are able

to fuse. Third, mt+ gametes erect an actin-filled microvillus (“fertilization tube”) as a mating structure and the mt- gametes also erect a small, dome-like, actin-free mating structure. Cell fusion initiates with an adhesive interaction between mt+ and mt- mating structures, followed by localized membrane fusion. Two proteins, FUS1 and GCS1/HAP2, are known to be essential for the membrane fusion reaction. Both proteins are degraded rapidly upon fusion, as would be expected for a block to polygamy.

5. Difference between Volvox and Synura

SYURA	VOLVOX
A. The cells are few in colonies	A. Spherical colonies of up to 50,000 cells.
B. Reproduction is only sexual	B. Reproduction is both sexual and asexual

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.