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① Classify plants according to Eichler's grouping of 1823.
A system of plant taxonomy, the Eichler's system was the first phylogenetic (phylogenetic) 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.

① 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.

② 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 Angiosperm and gymnosperms.

② How are algae of importance to man?

① Ornamental uses

② Alginic acid, algin and mannitol which is used in the production of dyes, buttons and combs.

③ Medicines and minerals

④ Direct use of algae as food for man

⑤ As a source of agar in the production of ice-cream, jellies, desserts etc.

⑥ Manufacture of Fodder

⑦ Used as fertilizer.

⑧ Manufacture of soaps and alums

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.

Q 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 form of algae. It is often called binary fission as found in Chlamydomonas. In this method, the two vegetative cells divide internally into two daughter cells. These finally divide into new individuals. ~~There~~ Their reproduction is asexual.

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

- 1) Reproduction is both sexual and asexual. *Volvox*
- 2) Reproduction is sexual.
- 3) Spherical colonies of upto 50,000 cells.
- 4) Few cells in colonies.

Q Describe a named complex form of algae.

Sporogynia is a filamentous charophyte green alga of the order of Zygnematales, named for its spiral arrangement of the dioecious thalli. It is commonly found in fresh water habitats, and there are more than 100 species of Sporogynia in the world.