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***ASSIGNMENT.***

1. Classification of plants according to Eicher’s grouping of 1883.

-He classified the whole plant kingdom into two sub-kingdoms:

* Cryptogamae

(Gk. Kryptos= concealed, gamos= marriage)

\*Lower plants\*

* Algae;
* Bryophytes; and
* Pteridophytes.
* Phanerogamae

(Gk. Sperma=seed, phyton=plant)

\*Higher plants\*

* Gymnosperms (Gk. Gymno=naked, Sperma=seed); and
* Angiosperms (Gk.Angion=hidden, Sperma=seed)
* It is further divided into two: Dicotyledons and Monocotyledons.

1. Importance of Algae to man.
2. Food for sea animals and fishes.
3. It contains high mineral content useful for man and also animals.
4. Direct use of algae as food for man(In pre-historic times, several sea weeds have been used as direct source of food to human beings).
5. Used as a source of Vitamins for man(Vitamins A, B and E) can be sourced from seed weeds.
6. As a source of Agar- which is used in the preparation of Ice-cream, jellies, deserts etc.
7. It can be used in the manufacture of iodine and medicines.
8. It can be used to manufacture soap and alum.
9. Unicellular form of Algae.

* Euglenophyta.

The Euglenophyta or euglenoids are 800 species of unicellular protozoan-like algae, most of which occur in fresh waters. The euglenoids lack a true cell wall and are bounded by a proteineous cell covering known as a Pellicle. Euglenophytes have one to three flagellae for the locomotion and they store carbohydrate reserves as paramylon. The primary photosynthetic pigments of euglenophytes are chlorophylls ‘a’ and ‘b’ while their accessory pigments are carotenoids and xanthophylls; they can be photosynthetic and heterotropic.

1. Reproduction in Euglenophyta.

They produce asexually through binary fission, a form of cell division. Reproduction begins with the mitosis of the cell nucleus; following this is the division of the cell itself. They divide longitudinally, beginning at the front end of the cell with the duplication of the flagellar processes, gullet and stigma.

1. Differentiating between the two types of colonial forms of algae.

* Pandorina.
* The colony consistds of 16 cells attached to one another.
* They are achieved by aniosogamous pairing.
* The colony may be unisexual(only 1 kind of gamete produced) in some species or bisexual(male or female gamates produced).
* Less evolved than the volvox.
* Volvox.
* There are more cells in the colony, numbers may run in thousands and are held by cytoplasmic strands.
* Sexual reproduction is Oogamous.
* Colonies may either by unisexual or bisexual.
* More evolved than pandorina.

1. Description of a named complex form of alga.

* Gonium.

It is a small, motile, colonial green alga consisting of biflagellate cells in a flat plate. The cells use their pair of flagella to swim with a rotating motion. Different species may have 4,8,16 or 32 cells that are ovoid or angular in shape. Each cell has an eyespot, two contractile vacuoles at the base of the flagella and a large cup shaped chloroplast with at least one pyrenoid.