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**1.**Eichler classified the plant kingdom int two sub-kingdoms;they are cryptogamae and phanerogamae . The cryptogamae are flowerless and seedless plants.they are simple like algae,mosses,ferns which do not produce flowers and seeds.cyptogams are considered as lower

plants.phanerogamae are seed bearing plants,so the are known as spermatophytes .the higher plants ,the body is diffrentiated into roots,stems and leaves with a well developed vascular system examples like angiosperms and gymnosperms.

**2.**They are important as food for fish

\*Certain species are harvested for food and cosmetics

\*They are considered as nutritious because of their high protein content

\*They high iodine content to prevent goitre

\*Carrageenan is also used as a thickening and stabilizing agent in products eg; pudding,syrups and shampoo.

**3.**The unicellular types are seen in all groups of algae with the exception of the class phaenophyceae. The unicellular types maybe ameoboid ,motile or non motile,the motility being due to themovement of the flagella attached at the anterior end.

 **4.**Vegetative reproduction

\*they undergo mitotic division

\*The cells divide to lose its flagella

\*they undergo mitotic division leading to two nuclei

\*cell walls are elaborated which delimit the cytoplasm around each nucleus (the daughter cells are released)

\*increase inthe population of cells In a colony is achieved by repeated mitotic divisions.

Sexual reproduction

 \*sexual reproduction involves the union of sexcells

 \*aggregation of cells(clumping) occurs during favourable condition

 \*these cells pair by their posterior (flagellated)ends.

 \*the gametes form two mating strains which are structurally similar and are positive and negative strains.

\*opposite mating strains fuse into a process called isogamy to form a diploid zygote which contain two sets of chromosomes.

\*the zygote undergoes meiosis which produce four genetically unique haploid cells which will grow to become mature cells.

1. Appearance :colonial organisms appear as a sphere while filamentous organisms appear as a thread.

\*Cell division:colonial organisms as a result of multiple cell division by mitosis while filamentous organisms are a result of multiple binary fission

\*Intercellular wall:the cells in the colonial arrangement lack an intercellular wall while the cells in the filamentous arrangement has intercellular wall

\*Types of organisms:colonial organisms are bacteria,algae,marine invertebrates and lower chordate while filamentous organism are bacteria,fungi and algae.

\*Sessile or floating:colonial are generally sessile while filamentous organisms are either sessile or floating.

**6.Fucus**

 A genus of brown algae whose speies are often found on rocks in the intertidal zones of the seashores .the plant is flattened,dichotomously-branched thallus witha mid rib,a vegetative apex ,a reproductive apex at maturity and a multicellular disk(hold fast) with which plant is attached to rock surface.the plant body also has air bladders which is believed to aid the plant to float on the water. Various species of fucus exist;vary in size from a few centimeters to about 2meters in length.they also vary in terms of whether the sex cells are found in the same sexual chamber or different sexual chambers on different plant bodies .