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1. Classification of plants according to Eichler's grouping of 1883

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| Division | Class |
| a. Thallophyta | Phycotinae(Algae), Mycotinae(fungi) |
| b. Bryophyta | Hepaticae(liverworts), Musci(mosses) |
| c. Pteridophyta | Psilotinate(psilotum), Lycopodinae(lycopodium, Selaginella), Equisetina(Horsetails), Filicinae(Ferns) |
| d. Spermatophyta | Gymnospermae(Gymnosperms)Angiospermae(Angiosperms) |

2. Algae serves as food for people. It is considered nutritious because of their high protein content and high concentration of minerals and vitamins.

b. Algae serves as drug to ward off diseases. It has high iodine content therefore preventa goitre.

c. Different species of red algae provide agar and carrageenan. Agar is used in the food industry to stabilise lie fillings and preserve canned meat and fish. Carrageenan is used as a thickening and stabilising agent in products.

d. Seaweeds are sources of three chemical extracts used extensively in the food , pharmaceutical, textile and cosmetic industries.

3. Chlamydomonas is a unicellular form of green Algae. It is motile and flagella are structures for ita mobility. It is found in stagnant water. The cell is bounded by a cellulose cell wall and it contains organelles such as nucleus, mitochondria, stigma, chloroplast, pyrenoid etc. The nucleus carries the genetic programme of the cell. The mitochondria produces energy. The stigma is for sensitivity. Photosynthesis occurs in the chloroplast and manufactures sugar is converted to starch in the pyrenoid.

4. Chlamydomonas carries out both asexual and sexual reproduction.

Asexual reproduction: a cell about to divide loses its flagella. The cell undergoes mitosis leading to two nuclei, cell walls are elaborated which felicity cytoplasm around each nucleus i.e two zoospores are released.

Sexual reproduction: this occurs during certain environmental conditions such as lack of nutrients or moisture. The cells pair by their flagellated ends. This pairing is said to be isogamous because the pairing cells are morphologically identical. Plasmogamy occurs and the flagella are lost. Karyogamy occurs so that a zygote is formed. After karyogamy sometimes, the zygote undergoes two successive cell divisions the first division restores the haploid condition by halfing the nuclear material in the two resulting nuclei while in the second division each haploid nucleus undergoes a normal mitotic division. These two divisions end up four cells which are released as haploid zoospores.

5.

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| Pandorina | Volvox |
| a. The colony consists of 16 cells attached to one another | a. The number of cells in the colony may run into thousands and connected with cytoplasmic strands that run through the cells |
| b. All the cells form new colonies | b. Not all the cells form new colonies. |
| c. Sexual reproduction is anisogamous | c. Sexual reproduction is oogamous  |

6. Fucus: This is a genus of brown algae whose species are often found on rocks in the intertidal zones of the sea shores. The plant body is flattened, dichotomously branched thallus with a midrib, a vegetative alex at maturity anda multicellular disk with which the plant is attached to rock surface. The plant body also has air bladders which is believed to and the plant to float on the water. Various species of fucus exist. They vary in terms of whether the six cells are found in the same sexual chamber or in different sexual chambers on different plant bodies.