

**ABIODUN ROLIAT INUMIDUN**

19/MHS01/009

MBBS

**BIO 102 ASSIGNMENT(PLANT DIVERSITY)**

1. Plants according to Eichler's grouping of 1883 are:

A. Division Thallophyta-Class Phycotinae( Algae)

Class Mycotinae(Fungi)

B.Division Bryophyta-Class Hepaticae(Liverwort)

Class Musci(Mosses)

C.Division Pteridophyta-Class Psilotinate(psilotum)

Class Lycopodinae(Lycopodium selagine)lb)

Class Equisetinae(Horsetails)

Class Filicinae(ferns)

D. Division Spermatophyta-Class Gymnospermae(Gymnosperms)

Class Angiospermae(Angiosperms)

2. Importance of algae to man are

a. It serves as food for fish

b. It serves as thickening agents in icecream and shampoo.

c. It has high iodine content, therefore prevents goitre

d. Certain species are harvested for food and cosmetics in the far east

e. It serves as food for people and livestock.

3. A unicellular form of algae

---Chlamydomonas: This is a unicellular form of green algae. Found in stagnant water usually along with others. Flagella are the





structure of mobility. The cell is bounded by a cellulose cellwall that contains organelles such as nucleus, mitochondria, stigma, cupshaped chloroplast, pyrenoid etc. Reproduction can either be sexual or asexual.

4. Sexual reproduction of Chlamydomonas: This only happens during unfavourable environmental conditions. The haploid daughter cells form gametes that have two different mating strains which are structurally similar and are positive and negative strains. Opposite mating strains fuse in a process called ISOGAMY to form a diploid zygote, which contains two set of chromosomes. After a period of dormancy, The zygote undergoes meiosis, a type of cell division that reduces the genetic content of a cell by half. This cell division (ie meiosis) produces four genetically unique haploid cells that eventually grow into mature cells.

Asexual reproduction (vegetative reproduction): A cell about to divide loses its flagella. The cell undergoes mitotic division leading to two nuclei, cell walls are elaborated which delimit cytoplasm around each nucleus i.e two daughter cells (zoospores) are released. Increase in the population of cells in a colony is achieved by repeated mitotic divisions.

5. Differences between the two types of colonial forms of algae are:

<u>Pandorina</u>		<u>Volvox</u>
16 cells		numerous cells
Less complex		More complex
Many features common with chlamydomonas		no features common chlamydomonas

6. A complex form of algae

Fucus: 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 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

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 centimetres to about 2 metres in length.