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MATRIC NO: 19/MHS11/002

DEPARTMENT: PHARMACY

COURSE CODE: BIO 102

 ASSIGNMENT

1. EICHLER’S GROUPING OF 1883

DIVISIONS CLASS

1. Thallophyta i. Phycotinae(algae)

 ii. Mycotinae(fungi)

1. Bryophyta i. Hepaticae(liverworts)

 ii. Musci(mosses)

1. Pteridophyta i. Psilotinate(psilotum)

 ii. Lycopodinae(lycopodium)

 iii. Equisetinae(horsetails)

 iv. Filicinae(ferns)

1. Spermatophyta i. Gymnospermae(gymnosperms)

 ii. Angiospermae(angiosperms)

1. IMPORTANCE OF ALGAE TO MAN
2. They can be used as thickening agents in icecream.
3. They contain high content of protein, vitamins, therefore they are nutritious.
4. They can be used as cosmetics
5. They have high iodine content, therefore they prevent goiter.
6. They can be used as drugs to cure diseases.
7. UNICELLULAR FORM OF ALGAE

Chlamydomonas represents the unicellular form of algae. They are found in stagnant water. They have flagella for movement. Their cell is bounded by a cell wall which contains cell organelles like mitochondria, eyespot, chloroplast, nucleus etc. The nucleus carries the genetic program of the cell. The eyespot or the stigma helps in the reception of images. Manufactured sugar is processed into starch and stored as starch in the pyrenoid.

1. REPRODUCTION IN UNICELLULAR ALGAE.

The reproduction can either be vegetative or sexual reproduction.

VEGETATIVE REPRODUCTION: here, daughter cells are produced with the same quantity and amount of genetic material as the parent cell. When the Chlamydomonas is about to divide it loses its flagella and then undergoes mitosis. Two daughter cells called zoospores are released.

SEXUAL REPRODUCTION: Some environmental condition (e.g. lack of nutrients), can cause the Chlamydomonas to undergo sexual reproduction. Rather than forming spores, they form gametes. The gametes have two different mating strains. The two opposite mating strains fuse together in a process called isogamy to form a diploid zygote. After a period of dormancy, the zygote undergoes a process of meiosis which produces four daughter cells.

1. DIFFERENCES BETWEEN PANDORINA AND VOLVOX
2. Sexual reproduction in pandorina is anisogamous, while it is oogamous in volvox
3. Volvox is more advanced than pandorina.
4. Colonies of pandorina consists of 16 cells attached to one another, while colonies of volvox consist of number of thousands of cells.
5. All the cells in pandorina undergo division, but not all the cells in pandorina undergo division.
6. COMPLEX FORM OF ALGAE – FUCUS

Fucus is a genus of brown algae whose species are found on rocks in the intertidal zones of the sea shores. The body is flattened, dichotomously-branched thallus with a mid rib and a multicellular disk with which the plant is attached to the rock surface. The plant body has air bladders to aid the float on water. Various species of fucus exist and they vary in size from a few centimeters to about 2 meters a length. They also vary in term of whether the sex cells are found in the same sexual chamber or in different sexual chambers on different plant bodies.