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MBBS

19/MHS01/168

BIO 102 Assignment

1. Classify plants according to Eichler’s grouping of 1883.

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| Division | Class |
| Thallophyta | Phycotinae(Algae)  Mycotinae(Fungi) |
| Bryophyhta | Hepaticae(Liverworts)  Musci(Mosses) |
| Pteridophyta | Psilotinae(Psilotum)  Lycopodinae(Lycopodium)  Equisetinae(Horsetails)  Filicinae(Ferns) |
| Spermatophta | Gymnospermae(Gymnosperms)  Angiospermae(Angiosperms) |

1. How are algae of importance to man?

• Certain species of Algae can be harvested and used as food.

• It serves as thickening agent in ice-cream and shampoo.

• It is used to make drugs and ward off diseases.

• Algae have high iodine content so they prevent goitre.

• Brown algae yield alginic acid which Is used to stabilize emulsions and suspensions.

• Red algae provide agar and carrageen used for the preparation of various gels used in scientific research.

• It can also be used as fertilizer.

1. Describe a unicellular form of algae.

The Chlamydomonas represents the unicellular and motile form of algae, it is found in stagnant water (usually with other forms), They posses flagella for mobility, The cell is surrounded by cellulose cell wall and contains cell organelles and It reproduces either sexually or asexually through Mitosis.

1. How does this unicellular alga described in question 3 carry out its reproduction?

It carries out its reproduction either asexually (Vegetative) through Mitotic Cell Division or sexually.

1. Differentiate between the two types of colonial form of algae.

The colonial forms of algae are the Volvox and Pandorina.

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| Volvox | Pandorina |
| Reproduction is anisogamous. | Reproduction is Oogamous. |
| It’s a complex form of Pandorina. | It’s a genus of green algae. |
| A colony consists of thousands of cells joined by cytoplasmic strands that run through the cells. | A colony consists of 16 cells attached to one another. |
| Multicellular motile thallus | Unicellular motile thallus |

1. Describe a named complex form of alga.

A complex form of algae is the Fucus, a genus of brown algae. It is often found on rocks in the intertidal zones of the sea shores. The plant body is flattened, dichotomously-branched thallus (with mid rib, vegetative apex and reproductive apex at maturity) and a multicellular disk with which the plant attaches to surfaces with. It also contains air bladders which enables the plant to float on water. It varies in size from few centimetres to about 2 meters in length. Sexual reproduction is Oogamous, sex cells are produced in conceptacles which have openings (called ostioles) on the surface of the thallus.