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COURSE CODE: BIO 102

COURSE TITLE: PLANT AND ANIMAL DIVERSITY

MATRIC NO: 19/MHS02/070

1. According to the Eichler’s grouping of 1883 ;

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|  DIVISION |  CLASS |
| 1] Thallophyta | Phycotinae[Algae]Mycotinae[Fungi] |
| 2] Bryophyta | Musci [Mosses]Hepaticae [Liverworts] |
| 3]Pteridophyta | Psilotinate LycopodinaeEquisetinae[Horse tails]Fillcinae[Ferns] |
| 4] Spermatophyta | Gymnospearmae [Gymnosperms]Angiospermae[ Angiosperms] |
| 1. Algae is important to man in the following ways ;
2. Food to people and livestock
3. Thickening agents in ice cream and shampoo
4. Drugs to ward of disease
5. A Unicellular form of algae : Chlamydomonas

 DESCRIPTION :* It is found in stagnant water
* presence of Flagella for movement
* Bounded by a cell wall and contains organelles
* Presence of Stigma for photo reception
1. Chlamydomonas carry out two forms of reproduction ;
2. Vegetative reproduction

 In CHLAMYDOMONAS, a cell that divides 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 are released. Increase in the population of cells in a colony is achieved by repeated mitotic division.1. Sexual reproduction

This involves the aggregation of cells in a colony. The cells pair by their posterior. The cytoplasm of the pairing cells fuse [Plasmogamy] and the flagella are lost. The 2 nuclei that have n quantity of genetic material fuse [Karyogamy] to produce a single cell with 2n [diploid] nuclear material. After karyogamy sometimes, the zygote undergoes 2 successive cell divisions. The first division restores the haploid spores by halving 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 with four cells and with n quantity of nuclear material as meiosis. The four products of meiosis are released as haploid zoospores. 1. The two types of colonial forms of algae are ;

a. Volvoxb. Pandorina

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| Volvox | Pandorina |
| 1. More complex than pandorina
 | Less complex than volvox |
| 1. More evolutionary advanced than pandorina
 | Less evolutionary advanced than pandorina  |

1. A complex form of algae ; Fucus

DESCRIPTION :1. A genus of brown algae whose species are often found on rocks on the intertidal zone of the sea shores.
2. The plant body is flattened
3. Dichotomously – branched thallus with a mid-rib
4. A vegetative apex
5. A multicellular disk that attaches the plant to the rock surface
6. Sexual reproduction is Oogamous

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