

Name: MONDAY-JERUMEH IBUEBUE

Matric no: 19/MHS01/246 Department: MBBS 100lv

BIO 102 ASSIGNMENTS

1. EICHLER'S GROUPING OF 1883

DIVISION	CLASS
i. Thallophyta	Phycotinae(algae) Mycotinae(fungi)
ii. Bryophyta	Hepticae(liverworts) Musci(mosses)
iii. Pteridophyta	Psilotinae(psilotum) Lycopodinae(lycopodium, selaginella) Equisetinae(horsetails) Filicinae(ferns)
iv. Spermatophyta	Gymnospermae(Gymnosperms) Angiospermae(Angiosperms)

2.
 - i. Certain species of algae are harvested for food and cosmetics.
 - ii. They serve as thickening agents in ice cream and shampoo.
 - iii. Algae serve as drugs to ward off diseases
 - iv. Algae have high iodine content therefore prevent goiter
 - v. Seaweeds are source of three chemical extracts used extensively in the food, pharmaceutical, textile and cosmetics industries
 - vi. Brown algae yield Alginic acid which is used to stabilize emulsions and suspensions

3. UNICELLULAR FORM IN ALGAE

Chlamydomonas: represents the unicellular and motile form of green algae found in stagnant water usually along with other forms. The structures for mobility are flagella. The cell is bounded by a cellulose cell wall; contains organelles e.g. nucleus, mitochondria, stigma (eyespot), cup-shaped chloroplast, pyrenoid etc. The nucleus carries the genetic programme of the cell, the stigma is for photoreception, the mitochondria mediate the elaboration of energy molecules, and manufactured sugar is processed into starch in the pyrenoid.

4. Reproduction in *Chlamydomonas* can either be vegetative (asexual) or sexual.
 - i. Vegetative reproduction: results in the production of daughter cells in which the amount and quality of the genetic material in the nucleus of the mother cell is maintained in the daughter cell.
 - ii. Sexual reproduction: Instead of forming spores, the haploid daughter cells form gametes that have two different mating strains. It involves the union of sex cells (gametes).

5.

<i>Pandorina</i>	<i>Volvox</i>
It consists of 16 cells	There are more cells in this colony, numbers running into thousands
The cells are attached to one another	The cells are connected with cytoplasmic strands that run through the cells
Each of the 16 cells form daughter colonies achieved through 4 successive mitotic divisions (vegetative reproduction)	Not all the cells form new colonies; but the larger cells at the posterior end are the only ones that divide to form new colonies
Sexual reproduction is achieved by anisogamous pairing (pairing by the flagella ends)	Sexual reproduction is oogamous (the male gamete is motile while the female gamete (egg) is not motile)
Less advanced	<i>Volvox</i> is evolutionarily more advanced than <i>Pandorina</i>

6. MORE COMPLEX FORM OF ALGAE

FUCUS: A genus of brown algae where species are often found on rocks in the intertidal zones of the seashores. 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 the plant attaches to the rock surface. It has air bladder which is believed to aid the plant float on water. Various species of *fucus* exist. Sexual reproduction is oogamous.