**NAME: OLA-AMUDA IBUKUN MAYOWA**

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**DEPARTMENT: PHARMACY**

**COURSE: BIO102**

**ASSIGNMENT**

1. EICHLER’S GROUPING OF 1883

A.W.Eichler classified the plant kingdom into two sub-kingdoms; Cryptogamae and Phanerogamae. Cryptogamae was further classified into:

|  |  |
| --- | --- |
| **DIVISION** | **CLASS** |
| Thallophyta | Phycotinae (Algae) |
|  | Mycotinae (Fungi) |
| Bryophyta | Hepaticae (Liverworts) |
|  | Musci (Mosses) |
| Pteridophyta | Psilotinate (Psilotum) |
|  | Lycopodinae (Lycopodium, Selaginella) |
|  | Equisetinae (Horsetails) |
|  | Filicinae (Ferns) |

And Phanerogamae was further classified into:

|  |  |
| --- | --- |
| **DIVISION** | **CLASS** |
| Spermatophyta | Gymnospermae (Gymnosperms) |
|  | Angiospermae (Angiosperm) |

1. IMPORTANCE OF ALGAE TO MAN

* It serves as food for man
* It is used in the manufacture of fertilizers, red and brown algae are mostly used.
* It helps in binding soil together. It is important in the protection against natural processes such as erosion.
* It is also used in aquaculture such that it naturally absorb CO2 from the environs while providing O2 to the water at the same time.
* Alginic acid from the brown algae is used to stabilize emulsions and suspensions.

1. UNICELLULAR FORM OF ALGAE

Euglenophyta, flagellated, mostly unicellular that occurs often in fresh water. In contrast to most other algae, they lack cell walls and can be mixotrophic (both autotrophic and heterotrophic). An example is *Euglena gracilis.*

1. REPRODUCTION IN EUGLENA

Reproduction is through binary fission, a form of cell division.

It begins with the mitosis of the cell nucleus, followed by the division of the cell itself. Euglena divide longitudinally, beginning at the front end of the cell, with the duplication of flagella processes, gullet and stigma.

Presently, a cleavage forms in the anterior, and a V-shaped bifurcation gradually moves toward the posterior, until the two halves are entirely separated.

Reports of sexual conjugation are rare, and have not been substantiated.

1. THE COLONIAL FORMS IN ALGAE

* Volvox
* Pandorina

|  |  |
| --- | --- |
| **Pandorina** | **Volvox** |
| Sexual reproduction is anisogamous | Sexual reproduction is oogamous |
| Unicellular motile thallus | Multicellular motile thallus |
| It’s a genus of green algae | It’s complex form of pandorina |

1. COMPLEX FORM IN ALGAE

Trentepohlia is a genus of filamentous chlorophyte green algae in the family Trentepohliaceae, living free on terrestrial supports such as tree trunks and wet rocks or symbiotically in lichens. The filaments of Trentepohlia have a strong orange color caused by the presence of large quantities of carotenoid pigments which mask the green of the chlorophyll.