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**DEPT; NURSING SCICENCE**

**COURSE; GENERAL BIOLOGY II**

**LEVEL; 100**

**ASSIGNMENT ON GENERAL BIOLOGY II**

1. CLASSIFY PLANTS ACCORDING TO EICHLER’S GROUPING OF 1883.

Answer;

In 1883, A.W. Eichler gave a system of classification for the whole plant kingdom. It is a traditional system as well as a phylogenetic system of classification of plants. Eichler classified the plant kingdom into two sub-kingdoms. They are Cryptogamae and Phanerogamae.

The cryptogamae (GK. Kryptos=concealed; gamos=marriage) are the flowerless and seedless plant. They are simple plants like algae, mosses and ferns which do not produce flower, seeds and fruit. Cryptogamae are considered as lower plants.

The Phanerogams are seed bearing plants. So they are also known as ***spermatophytes*** (GK. Sperma=seeds; Phyton=plants), They are higher plants. The plants body is differentiated into leaves, stem and leaves with well-developed vascular system.

1. HOW ARE ALGAE OF IMPORTANCE TO MAN?

Ans; Algae serves as food for people and livestock, thickening agents in ice cream and shampoo, drugs to ward off diseases.

Algae have high Iodine content therefore preventing goiter.

Algae are considered nutritious because of high protein content and high concentrations of minerals, trace elements and vitamins.

Brown algae yield Alginic acid which is used to stabilize emulsions and suspensions found in products such as syrup, ice cream and paint.

Different species of red algae provide agar and carrageen used for preparation of various gels used in scientific research.

3. DESCRIBE A UNICELLULAR FORM OF ALGAE.

Ans;

Unicellular algae are plant-like autotrophs and contain chlorophyll. Chlamydomynas represents the unicellular and motile forms of green algae, found in stagnant water usually along with other forms. Flagella are the structure for mobility. 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. Manufactured sugar is processed into starch on pyrenoid.

4 .HOW DOES THIS UNICELLULAR ALGAE DESCRIBED IN QUESTION 3 CARRY OUT ITS REPRODUCTION?

Answer; In chlamydomonas, reproduction can either be vegetative(asexual) or sexual.

Chlamydomonas possesses red eye spots for photosensitivity and and reproduces sexually and asexually. Chlamydomonas’s asexual reproduction occurs by zoospores, or by aplanospores, by hypnospores or by palmella stage. Sexual reproduction through isogamy, anisogamy or oogamy.

5. DFFERENTIATE BETWEEN THE TWO TYPES OF COLONIAL FORMS OF ALGAE.

Answer;

The colonial forms in algae are the Pandorina and Volvox

Pandorina usually occurs in water bloom. The colony consist of 16 cells attached to one another. Each cell has many attributes/features in common with chlamydomonas e.g. nucleus, large chloroplast, pyranoid, flagella and stigma. Asexual reproduction is by simultaneous division of all cells of the colony to foem auto colonies that are liberated by a gelatniziation of colonial envelop. Sexual reproduction occurs by division of each cell of the colony into 16-32 zoogamates.

Volvox ; The genus volvox (also green colonial form) shows more complex form than pandorina. There more cells in colony, number may run into thousands and connected with cytoplasmic strands that runs through the cells. Not all cells form new colonies; but the larger cells at the posterior ends (gonidia) are the only ones that divides to form new colonies. Other cells remain vegetative throughout the life of the colony. Sexual reproduction is oogamous.

6. DESCRIBE A NAMED COMPLEX FORM OF ALGAE.

Answer;

FUCUS; Agenus of brown algae whose species are often found on rocks in the in the intertidal zones of the sea shores. The plant body is flattened. The plant body also have air bladders which is believe to aid the plant float on water. Various species of focus exist; vary in size from centimeters to about 2meters in length. They also vary in terms of whether sex cells are found in the same sexual chamber or in different sexual chambers on different plant bodies. Sexual reproduction is oogamous, sex cells are produced in conceptacles which have openings (ostioles) on the surface of the thallus.