Lecture No.:02 **Date:** 12th May, 2020

CORE CONCEPT OF **HONOUR'S PART 1**

Group A - Algae **Paper** - 1

CLASSIFICATION OF ALGAE by Fritsch

The classification of algae has been classified by Fritsch's (1935) into II families. At first Linnaeus (1757) introduced the term algae. The algae represent chlorophyll bearing heterogeneous assemblage of plants. The classification of algae is based upon

(a) Nature of pigments
(b) Nature of reserve food
(c) Nature of flagella
(d) Nature of cell wall
(e) Structure of cell and nucleus

1. Chlorophyceae
2. Xanthophyceae
3. Chrysophyceae
4. Cryptophyceae

5. Dinophyceae
6. Chloromonadinae
7. Euglenidae
8. Phaeophyceae
9. Bacillariophyceae
10. Rhodophyceae
11. Myxophyceae or Cyanophyceae

1. Chlorophyceae -

I.It is found in fresh water. Chlorophyll a chlorophyll b and carotenoids at present.
II. Cell wall is made up from cellulose.
III. Formation of motile spores in which cillia or flagella is equal.
IV. Food is stored as starch.
V. Reproduction occurs by Isogamous and Oogamous .
Example - Spirogyra, Volvox and Ulothrix etc.

2. Xantophyceae -

I. This is yellow-green in colour and chiefly Xanthophyll is present.
II. Reserved food presents such as fats.
III. Pyrenoid are absent.
IV. Sexual Reproduction completes by dissimilar flagellated pairs.
Example - Vancheria.

3. Chrysophyceae -

I. Xanthophyll present with green materials.
II. Phycochrysin is present.
III. Food oil insoluble carbohydrates reserve as form of leucosin.
IV. Plants are unicellular, multicellular or colonial.
Example - Chrysosphora

4. Cryptophyceae -

I. These are available in different colours.

II. Pyrenoid is present which is found in chloroplast.
III. These are available in freshwater and marine in plenty.
Example - Cryptomonas

5. Dinophyceae -
I. Their colours are brown, red or deep yellow.
II. Food accumulated as form of oil.
III. Chromatophore are disc shaped.
IV. Nucleus is enlarged.
Example - Peridinium

6. Chloromonadineae -
I. This is disc shaped.
II. These are bright in colour and Xanthophyll present in plenty.
III. Food reserved as fat.
IV. Reproduction takes place by longitudinal division.
Example - Vacuolaria

7. Euglenidae -

I. In this family belongs microorganisms.
II. Chlorophyll is present.
III. Naked reproductive organs present.
Example - Euglena

8. Phaeophyceae -

I. These are brown and yellow algae present Fucoxanthine.
II. Chlorophyll and Carotene present.
III. Food accumulated as form of fat and manifold.
IV. Plant is long in shape and found in colony.
Biciliate motile Zoospores present.
Example - Sargassum and Fucus.

9. Bacillariophyceae -

I. These are multicoloured, Diatomic substance is present.

II. Generally unicellular, present food is form of starch.
III. Presence of Pyrenoid.
IV. These are non-movable.
Example - Diatoms

10. Rhodophyceae -
I. Phycoerythrin, Phycocyanin, Carotene, Xanthophyll and Chlorophyll are present.
II. Food accumulated as form of Floridean starch.
III. Sexual reproduction present as Oogamous type.
IV. Mostly found in sea water.
V. These algae are red in colour.
Example - Batrachospermum

11. Myxophyceae or Cyanophyceae -
I. Nucleus is ill-developed.
II. It's colour is blue-green and presence of Phycocyanin.
III. Food reserved as form of Myxophycean starch.

IV. Absence of motile stage.
V. Ability of N_2 fixation.
VI. Found upon moist soil and within plant body and Unicellular or filamentous.
Example - Oscillatoria