

## CHAPTER-03

### Plant Kingdom class 11 Notes Biology

Eukaryotic, multicellular, chlorophyll containing and having cell wall, are grouped under the kingdom Plantae. It is popularly known as plant kingdom.

Phylogenetic system of classification based on evolutionary relationship is presently used for classifying plants.

Numerical Taxonomy use computer by assigning code for each character and analyzing the features.

Cytotaxonomy is based on cytological information like chromosome number, structure and behaviour.

Chemotaxonomy uses chemical constituents of plants to resolve the confusion.

**Algae:** These include the simplest plants which possess undifferentiated or thallus like forms, reproductive organs single celled called gametangia. It includes only Algae.

#### Characteristic of Algae

Plant body is thallus, which may be unicellular, colonial, filamentous or parenchymatous.

Usually aquatic but a few are also found in moist terrestrial habitats like tree trunks, wet rocks, moist soil, etc.

Vascular tissues and mechanical tissues are absent.

Reproduction is vegetative by fragmentation, asexual by spore formation (zoospores) and sexual reproduction by fusion of two gametes which may be Isogamous (Spirogyra), Anisogamous (Chlamydomonas) or Oogamous (Volvox).

Life cycle is various- haplontic, diplontic or diplohaplontic.

Green Algae    Brown Algae    Red Algae

Mostly fresh water and sub aerial.    Mostly marine.    Mostly marine.

Unicellular organisms abundant.    Unicellular species are absent.    Unicellular species fewer.

Chlorophyll a and b type.    Chlorophyll a and c type.    Chlorophyll a and d type.

Reserve food is starch    Reserve food is laminarin.    Reserve food is floridean starch.

Cell wall is of cellulose.    Cell wall contains cellulose and algin.    Cell wall contains cellulose and poly-sulphate esters.

Fucoxanthin is absent Fucoxanthin present.    Phycoerythrine is present.

Zoospores present.    Zoospores present.    Zoospores absent.

Chlamydomonas, Ulothrix, spirogyra. Focus, Sargassum, ectocarpus.    Polysiphonia, Gelidium, Porphyra etc.

Economic importance-

A number of brown algae ( Laminaria, Sargassum) are used as food in some countries.

Fucus and Laminaria are rich source of Iodine.

Laminaria and Ascophyllum have antibiotic properties.

Alginic acid is obtained from Fucus and Sargassum, which is used as emulsions.