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Class- B.Sc Part -1
Topic- Classification of Plant kingdom

Classification of Plant kingdom

R.H. Whittaker gave the Five Kingdom classification for living organisms. He categorized living organisms based on multiple characteristics such as cellular structure, mode of nutrition, body organization, reproduction, phylogenetic relationship, etc. These five kingdoms were Monera, Protista, Fungi, Plantae(Plant kingdom) and Animalia.

Plant Kingdom – Plantae

Kingdom Plantae includes all the plants. They are eukaryotic, multicellular and autotrophic organisms. The plant cell contains a rigid cell wall. Plants have chloroplast and chlorophyll pigment, which is required for photosynthesis.

Characteristics of Kingdom Plantae

The plant kingdom has the following characteristic features:

- They are non-motile.
- They make their own food hence are called autotrophs.
- They reproduce asexually by vegetative propagation or sexually.
- These are multicellular eukaryotes. The plant cell contains the outer cell wall and a large central vacuole.
- Plants contain photosynthetic pigments called chlorophyll present in the plastids.
- They have different organelles for anchorage, reproduction, support and photosynthesis.

Classification of Kingdom Plantae

A plant kingdom is further classified into subgroups. Classification is based on the following criteria:

Plant body: Presence or absence of a well-differentiated plant body. E.g. Root, Stem and Leaves.

Vascular system: Presence or absence of a vascular system for the transportation of water and other substances. E.g. Phloem and Xylem.

Seed formation: Presence or absence of flowers and seeds and if the seeds are naked or enclosed in a fruit.

The plant kingdom has been classified into five subgroups according to the above-mentioned criteria:

- Thallophyta
- Bryophyta
- Pteridophyta
- Gymnosperms
- Angiosperms