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CHAPTER-05 MORPHOLOGY OF FLOWERING PLANTS

Morphology is the branch of biological science that deals with the study of form, size, colour, structure and relative position of various parts of organisms.

Importance of morphology-

- a. Knowledge of morphology is essential for recognition or identification of plants.
- b. It gives information about the range of variations found in a species.
- c. Deficiency and toxicity symptoms are morphological changes that occur in response to shortage or excess of minerals.

Parts of Flowering Plants-

All the flowering plants have roots, stem, leaves, flower and fruits. The underground parts of flowering plant are the root system and the portion above the ground forms the shoot system.

The Root

In Dicotyledons, elongation of radicle forms the primary roots which bears lateral roots of several orders called secondary roots, tertiary roots etc.

primary roots along with lateral roots forms the Tap root system. Mustard, Gram etc.

In monocotyledons, primary root is replaced by large number of roots at its base of stem to constitute the Fibrous root system. Wheat, rice etc.

The roots that arise from other parts of plant beside radicle are called adventitious

roots. Example- Grass, Banyan tree, Maize etc.

The main function of root system are absorption of water and minerals from soil, providing proper anchorage to the plant parts and storing reserve food materials.

Regions of Roots-

- The apex of root is covered by a thimble like structure called root cap, it protect the tender apex of root while making way through soil.
- Above the root cap is region of meristematic activity having small cells with dense cytoplasm.
- The cells above the region of meristematic activity is region of elongation where cells under elongation and enlargement to increase the length of root.