

Root

- Non-green
- Root hairs are present
- Nodes and internodes are not present
- Negatively phototropic
- Positively geotropic
- Positively hydrotropic

Parts of a typical root

- Root cap
- Region of meristematic activity
- Region of elongation
- Region of maturation

Functions of root

- Anchorage
- Absorption of water and minerals
- Food storage
- Haustorial roots
- Assimilation e.g. Trapa
- Hygroscopic roots e.g. Banyan, orchid
- Nitrogen fixation
- Reproduction
- Climbing roots

Modifications of tap roots

- Pneumatophores
- Nodulated roots
- Storage roots:
 - a. conical in carrot
 - b. Fusiform in radish
 - c. Napiform in turnip
 - d. Tuberous in *Mirabilis jalapa*

Stem

- Develops from the plumule
- It bears nodes and internodes
- Positively phototropic
- Stem and its branches bear flowers and fruits
- Bears bud which may be terminal or axillary

Modifications of stem

- Storage of food
- Act as organs of perennation
- Tendrils
- Thorns
- Photosynthesis
- Stolon
- Runners
- Offsets

Leaf

- Develops at the node
- Bears a bud in its axil
- Growth is limited
- Arranged in an acropetal manner
- Consist of leaf base, petiole and lamina
- May be dorsiventral or isobilateral

Modifications of leaf

- Tendrils
- Spines
- Fleshy leaves of onion and garlic
- Leaves of Australian acacia
- Leaves of insectivorous plants