The Flower

Herbaceous plant

- An herbaceous plant is a plant which dies at the end of the growing season. Eg. – Smilax, tulip and Bilorisoa.
- They are monocotyledonous and the root system is usually fibrous.
- They can be annuals, biennials or perennials.
- The seeds of herbaceous plants are endospermic.
- The stems of some herbaceous plants are underground and may show modifications.

Inflorescence

- Arrangement of flowers on the floral axis is termed as inflorescence.
- Racemose- In this, main axis continues to grow and flowers are borne laterally.
- Cymose- In this, main axis terminates in a flower.

Flower

- Flower is the reproductive unit in angiosperms.
- Bisexual flower has both androecium and gynoecium.
- Unisexual flower has either androecium or gynoecium.

- Actinomorphic flower has radial symmetry. Example: *Datura* and mustard
- Zygomorphic flower has bilateral symmetry. Example: Pea and bean
- Asymmetric flower cannot be divided into similar halves by any vertical plane. Example: Canna

Parts of flower

- Calyx is outermost whorl of a flower composed of sepals. It may be gamosepalous (united sepals) or polysepalous (free sepals).
- Corolla is composed of petals. Petals are brightly coloured to attract pollinators. It may be gamopetalous (united petals) or polypetalous (free petals).
- Androecium is the male reproductive part of a flower, composed of stamens.
- Based on attachment of anther with floral parts, it can be epiphyllous (attached with perianth) or epipetalous (attached with petals).
- Stamens can be monoadelphous (united in one bundle), diadelphous (united in two bundles), and polyadelphous (united in many bundles).
- A sterile stamen is called a staminode.
- Gynoecium is the female reproductive part of a flower, composed of pistil.
- Based on position of ovary, a flower can be hypogynous (ovary is superior), perigynous or epigynous (ovary is inferior).

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- When carpels are fused, ovary is syncarpous; when carpels are free, ovary is apocarpous.
- A flower may be trimerous, tetramerous or pentamerous when the floral appendages are in the multiple of 3, 4 or 5, respectively.
- **Aestivation** is the arrangement of sepals and petals in a flower bud. It may be
- valvate – Example: *Calotropis*
- twisted – Example: China rose

- imbricate – Example: *Cassia*
- vexillary – Example: Pea
- **Placentation** is arrangement of ovules within the ovary. It can be
- marginal – Example: Pea
- axile – Example: Tomato
- parietal – Example: Mustard
- free central – Example: *Dianthus*
- basal – Example: Sunflower