**\*\*\*Gynoecium :**

It refers to all female organs of a flower, the unit of the gynoecium is carpel. The carpel is defined as modified, conduplicate megasporophyll that encloses one or more ovules.

**\*\*Gynoecial fusion :**

Fusion of carpels is a very important systematic character which are:-

1. **Apocarpous** : Carpels are distinct and free, this type is thought to be the ancestral condition in angiosperm as in *Rosa*.
2. **Syncarpous** : Carpels are connate and is the most common type in flowering plants as in *Tropaeolum*.
3. **Unicarpellous** : The gynoecium is composed of single carpel as in Fabaceae.



**\*\*\*Gynoecium component :** A pistil is that part of the gynoecium composed of :-

**A/ Ovary** : It is the part of the pistil containing the ovules.

**B/ Style** : It is the stalk like, non- ovule bearing portion of the pistil between the stigma and ovary. Style may be absent as in *Papaver*.

**\*\*\*Heterostyly :** The length of stigma verses anther vary among different flowers, so two types of flowers will appear :

1. **Pin flower** : with long style and short stamens.
2. **Thrum flower** : with short style and long stamens.

In this syndrome an insect visiting a pin flower is likely to have pollen deposited on its body in allocation that would affect pollination of a thrum flower rather than pin flower and vice versa, this increase the probability of pollination between flowers rather than within flowers.

**C/ Stigma :** It is the pollen receptive portion of the pistil.



**\*\*\*Ovary attachment :**

**-1A stipitate** : ovary is having a stipe or Gynophore( Gynophore is the basal stalk of pistil) as in *Typha* and is relatively rare.

**-2 A sessile** : ovary is lacking a stipe and is the most common situation.

**\*\*\*Ovary position :**

1. **Superior :** ovary position has sepals, petals and stamens attached at the base of it while flower is termed **Hypgenous** as in *Convolvulus*.
2. **Inferior :** ovary position has sepals, petals and stamens attached at the ovary apex while flower is termed **Epigynous** as in *Malus***.**
3. **Half inferior :** ovary position has sepals, petals and stamens attached near the middle of the ovary flower is termed **Epihypogynous**.

**\*\*\*Placentation:**

It refers to the distribution of placentae on the ovary wall and the arrangement of ovules, the major types of placentation are:-

1. **Marginal** : simple chambered ovary with single placental line as in legumes ( *ex: Vicia*).
2. **Parietal** : single chambered ovary with more than one placental line as in *Cucumis*.
3. **Axile** : ovary more than one chambered and placentae along the axis as in *Hibiscus*.
4. **Free-central**: ovary single chambered, ovules borne along the central column.
5. **Basal** : ovary single chambered, with single ovule at the base as in disk flower of *Helianthus* plant.
6. **Apical** : ovary single chambered, with single ovule at the apex.

