

22 April CHAPTER-2 12th std
→ (Angiosperm)

≡ SEXUAL REPRODUCTION IN FLOWERING PLANTS ≡

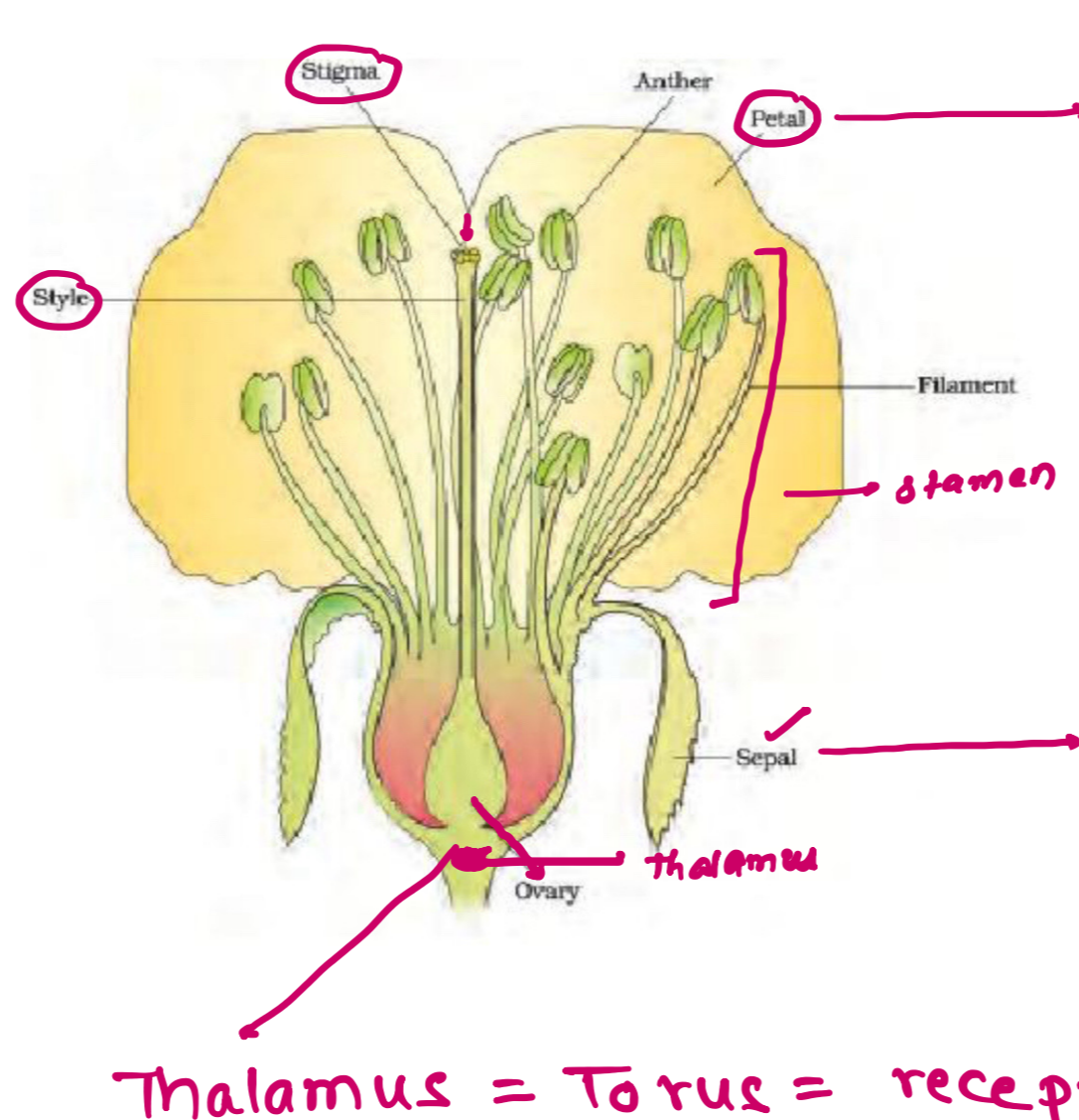
- ① All flowering plants shows sexual reproduction.
- * Perfume, scents produced by flower, rich color of flower, all they are helpful in sexual reproduction. *To Attract pollinators*
- * Diversity of structures of the inflorescence, flowers and floral parts, shows an amazing range of adaptation to ensure formation of the end product of sexual reproduction
** "the fruit and seed"

2.1 Flower - A fascinating organ of angiosperms

- * Flowers are objects of aesthetic, ornamental, social, religious and cultural value
- * They have always been used as symbols for conveying important human feelings such as Love, affection, happiness, grief, mourning etc.
- * Flowers of ornamental value:-
= Rose, Tulip, Marigold, Bougainvillea, Lily
- * flowers used in social and cultural celebrations:-
Marigold, Rose, Jasmine, Lily, Lotus → national flower aquatic.
- * Floriculture :-> It is flower farming, It is concerned with the cultivation of flowering and ornamental plants for gardens & for floristry. *"Nelumbo nucifera"*
- * To a biologist, flowers are morphological and embryological marvels and the sites of sexual reproduction.
- * flowers are modified shoot meant for reproduction.

* Parts of Typical Flower :-

- A typical flower has a broad base or thalamus over which are borne 4 whorls of leaves.
- (1) Sepals (calyx) → (outer most)
 - (2) Petals (corolla) → accessory or non-essential floral organs.
 - (3) Stamens (Androecium) → male reproductive structure of flower
 - (4) Carpels (Gynoecium) → female reproductive structure of flower
- essential floral organs



color other than green generally → If green (Sépaloïd)

* Stamens = microsporophylls } essential organs
* Carpels = megasporophylls }

Green color generally (If colored) petaloïd

Perianth = ? → individual parts of Perianth = Tepals

Thalamus = Torus = receptacle

arrangement (Aestivation)

2.2 Pre-fertilization: structure and events

- * Much before the actual flower seen on a plant, the decision that the plant is going to flower has taken place.
- * flowers are formed over mature plants in response to hormone induced structural & physiological changes in shoot apices.
- * shoot apices are transformed into a inflorescence over which floral primordia develop.
- * The primordia grows into floral buds which undergo anthesis and form flowers.

- * Complete :-> A flower has all ⊕ type of floral organs
- * Incomplete :-> The absence of any one or more of the floral organs makes the flower incomplete.
- * Perfect :-> when both essential organs (+tot) Bisexual, Hermaphroditic or intersexual
- * Imperfect or unisexual :-> only one of the two essential organs is (+tot)
 - male or staminate ✓
 - female or pistillate ✓
- * when both absent → "Neuter"
- * floral symmetry
 - Actinomorphic } cyclic
 - zygomorphic } cyclic
 - asymmetric - acyclic } fabaceae

↓
"vellicary aestation"