

Flowers: Important Terms



DR. NIDHAN SINGH



**I.B. (PG) COLLEGE,
PANIPAT**

FLOWER

Any typical flower is a stem tip (modified shoot) having 4 whorls of appendages, usually 2 sterile and 2 fertile

All the 4 whorls are considered to be modified leaves

Floral characteristics are the most commonly used features for identification and are much more reliable than vegetative features



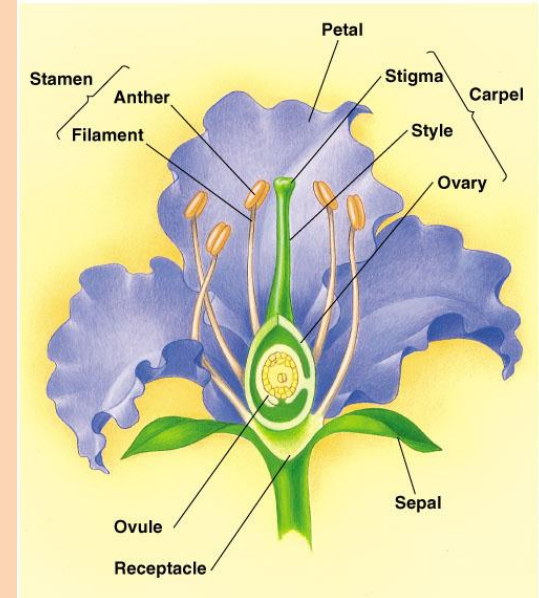
It is not unusual to find flowers lacking 1 or more whorls

FLOWER

A Typical Flower has Following 4 whorls:

1. Calyx (Made of Sepals)
2. Corolla (Made of Petals)
3. Androecium (Made of Stamens)
4. Gynoecium (Made of Carpels)

All the 4 whorls are considered to be modified leaves



Copyright © Pearson Education, Inc., publishing as Benjamin Cummings.

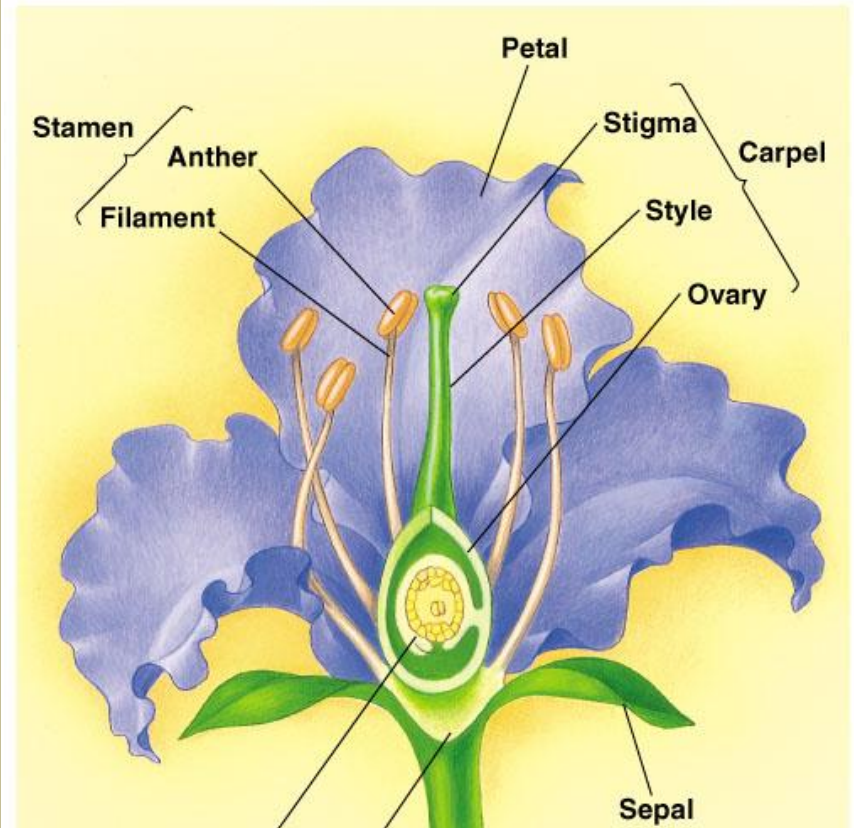
The first two whorls (i.e. Calyx and Corolla are sterile)

The last two whorls (i.e. Androecium and Gynoecium are fertile and represent male and female parts respectively)

FLOWER

Sterile Whorls:

1. **Calyx:** Made up of sepals and the primary function is to protect the flower in bud condition
2. **Corolla:** Beautiful part of the flowers, which attracts various pollinators



The Sterile whorls can also be called Accessory Whorls

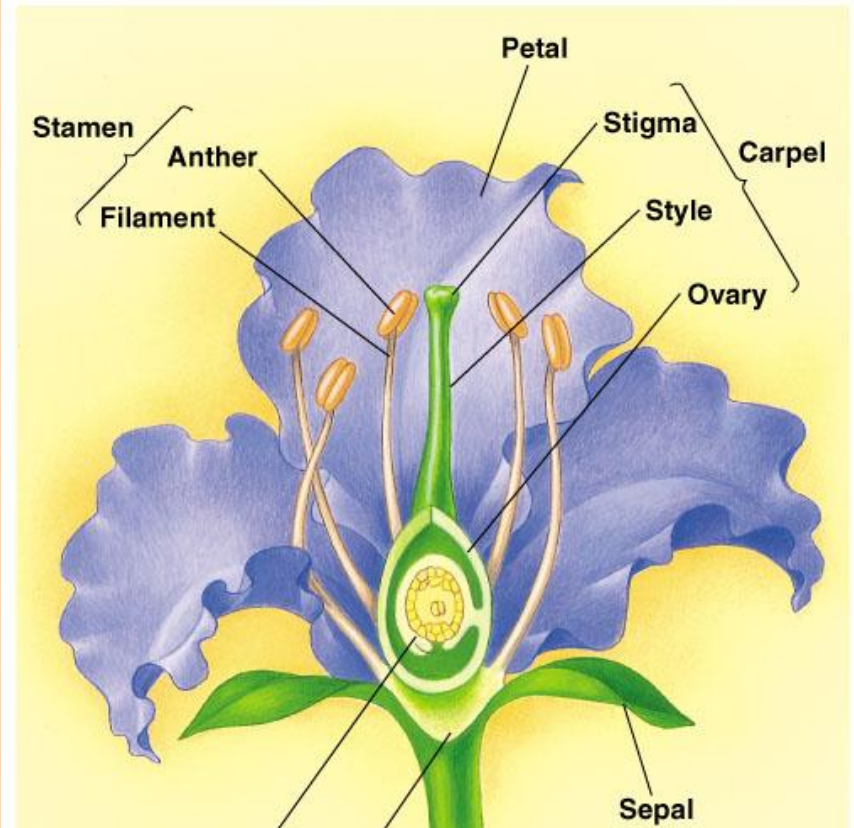
When calyx and Corolla are not distinguishable, the accessory whorl is known as Perianth

FLOWER

Fertile Whorls:

1. **Androecium:** Made up of Stamens, which form the male reproductive part.

2. **Gynoecium:** Made up of Carpels, which form female reproductive part



The Fertile whorls can also be called Essential Whorls

The flowers lacking male part known as pistillate, whereas those lacking female part as staminate

FLOWER

IMPORTANT TERMS

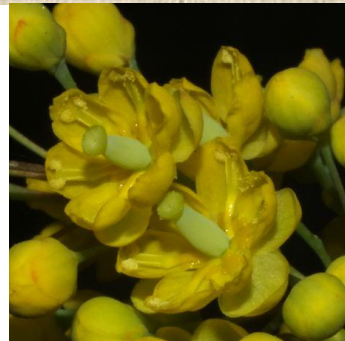
Complete Flower: Having All the 4 Floral Whorls

Incomplete Flower: Lacking 1 or more of floral whorls

Perfect Flower: Having both Stamens and Carpels

Imperfect Flower: Lacking either Stamens or Carpels,
but not both

Please note that every complete flower is a perfect flower but every perfect flower may not be complete.



FLOWER

IMPORTANT TERMS

Staminate Flower (Male): An incomplete, imperfect flower having only male reproductive part, i.e. Androecium (see below)

Carpellate/Pistillate Flower (Female): An incomplete, imperfect flower having only female reproductive part, i.e. Gynoecium (see below)

Any plant which bears both male and female flowers on it is called Monoecious while any plant which either has male or female flowers is known as Dioecious.

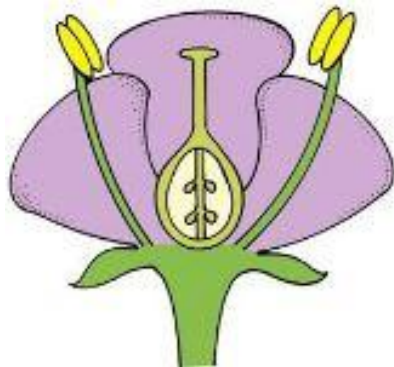


FLOWER

FLOWER TYPES BASED ON INSERTION OF FLORAL PARTS

The position of the gynoecium in relation to all the other floral parts is very important identification feature in taxonomy. Three categories of flowers are there:

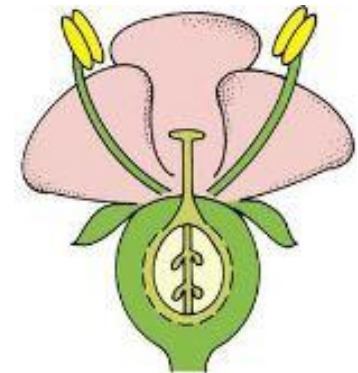
Hypogynous: All 3 whorls arising from below gynoecium, ovary is called Superior



Perigynous: All 3 whorls arise from cup-like hypanthium, which surrounds Semi-superior ovary



Epigynous: All 3 whorls arising above gynoecium, ovary is called inferior



FLOWER

FLOWER TYPES BASED ON SYMMETRY

When we consider the symmetry, two main categories are
(i) Assymetrical Flowers and (ii) Symmetrical Flowers

Symmetrical flowers may be Actinomorphic or Zygomorphic

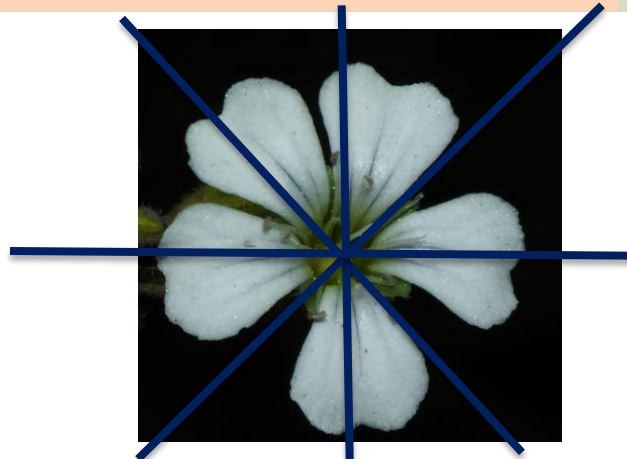
Asymmetrical

Which cannot be divided into equal parts from any plane



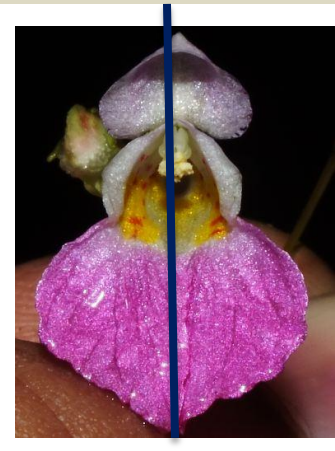
Radially Symmetrical

Can be divided in 2 mirror images in more than one plane.
(Actinomorphic)



Bilaterally Symmetrical

Can be divided into 2 mirror images in only one plane
(Zygomorphic)





THANKS A LOT!