CONCEPT MAP INFLORESCENCE

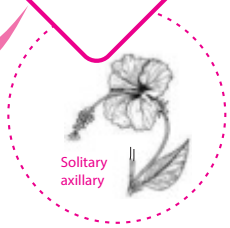
Inflorescence is the arrangement and distribution of flowers on the shoot system of a plant. The axis of the inflorescence is called peduncle, whereas the stalk of individual flower is called pedicel. A flattened peduncle is known as receptacle. Inflorescence is of five types- solitary, racemose, cymose, mixed and special.

Solitary

Flowers occur singly or are separated from other flowers of the same plant by vegetative regions.

Solitary terminal
Single flower occurs on the terminal part of a branch, *e.g.*, poppy.

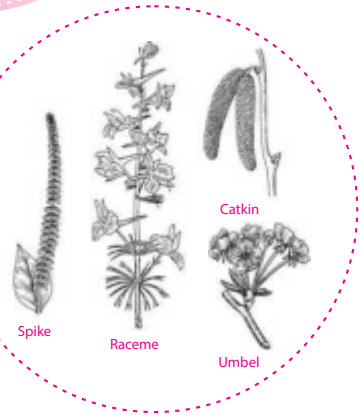
Solitary axillary
Single flower occurs in the axil of a leaf, *e.g.*, *Petunia*, China rose.



Racemose

It is an indeterminate inflorescence which shows indefinite growth. The arrangement of flowers is either **acropetal** (vertical orientation of axis) or **centripetal** (horizontal orientation of axis).

Compound racemose
Compound racemose inflorescence is an indefinite or indeterminate inflorescence in which the peduncle is **branched** repeatedly once or twice in a racemose fashion. It is of following types–
(a) **Compound raceme or panicle,** *e.g.*, goldmohur, *Cassia fistula*, *Yucca*.
(b) **Compound spike or spike of spikelets,** *e.g.*, wheat.
(c) **Compound spadix,** *e.g.*, coconut, date, banana.
(d) **Compound corymb,** *e.g.*, *Pyrus*, cauliflower.
(e) **Compound umbel,** *e.g.*, *Daucus carota*, fennel, *Coriandrum sativum*.
(f) **Compound capitulum,** *e.g.*, *Echinops*.



Simple racemose
Simple racemose inflorescence is an indefinite inflorescence in which the peduncle is **unbranched.**

Raceme
Peduncle is elongated having pedicellate flowers in an acropetal fashion, *e.g.*, *Lupinus*, *Raphanus*, *Linaria*.

Spike
An elongated peduncle bears sessile flowers in an acropetal fashion, *e.g.*, *Achyranthes*, *Callistemon*, *Adhatoda vasica*.

Spikelet
Spikelets are small and few flowered spikes which are surrounded at the base by two scales or glumes, *e.g.*, rice, bamboo, oat, etc.

Catkin
Pendulous spike which bears naked pistillate or staminate flowers, **(but not both)** *e.g.*, mulberry, poplar, *Salix*, *Quercus*.

Spadix
Spike with fleshy peduncle and having both male and female flowers. It is surrounded by a large green or coloured bract called **spathe,** *e.g.*, palm, *Colocasia*, *Musa*.

With long peduncle

With short peduncle

Umbel
All the pedicellate flowers arise from a single point in a centripetal fashion. The peduncle is very much reduced, *e.g.*, *Hydrocotyle*, *Prunus*.

Corymb
The main axis is comparatively short, and the lower flowers have much longer pedicels than the upper ones so that all the flowers are brought more or less to the same level, *e.g.*, *Iberis amara* .

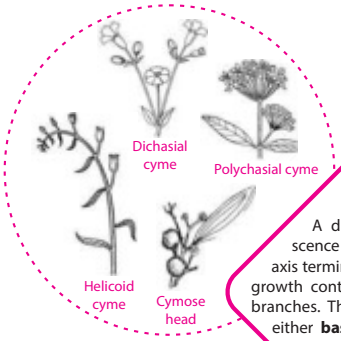
Corymbose raceme
The young flowers appear to be arranged like a corymb but in mature state the longer pedicels of the lower flowers do not bring them to the level of upper ones, *e.g.*, mustard.

With flattened peduncle

Capitulum
The flattened receptacle bears numerous sessile and small florets **(ray florets and disc florets)** in a centripetal manner, *e.g.*, *Zinnia*, Sunflower, *Cosmos*.

Cymose

A determinate inflorescence in which the tip of main axis terminates in a flower and further growth continues by one or more lateral branches. The arrangement of flowers is either **basipetal** (vertical orientation of axis) or **centrifugal** (horizontal orientation of axis).



Cymose head
Sessile or subsessile flowers are borne centrifugally around a receptacle, *e.g.*, *Albizzia*, *Anthocephalus cadamba*, *Acacia*.

Scapigerous Head
The leafless flowering axis known as **scape** bears clusters of flowers that form a head which is covered by **spaths**, *e.g.*, *Allium cepa*.

Biparous or Dichasial cyme
A terminal flower is subtended by two lateral branches which also end in flowers. The process is repeated. Inflorescence axis is multipodial, *e.g.*, *Spergula*, *Stellaria media*, *Clerodendrum*.

Multiparous or Polychasial cyme
More than two lateral branches continue the growth of inflorescence when the parent axis ends in a flower, *e.g.*, *Hamelia*, *Calotropis*, *Asclepias*.

Uniparous or Monochasial cyme
A single lateral branch arises from the peduncle of old flower which terminates in a flower. The lateral branch also terminates in a flower. It is of two types:
(a) **Helicoid cyme –** All the flowers are borne on the same side forming a sort of helix, *e.g.*, *Drosera*, *Begonia*, *Myosotis*.
(b) **Scorpioid cyme** - Flowers are alternately borne on both the sides, *e.g.*, *Tecoma*, *Ranunculus*, *Heliotropium*.

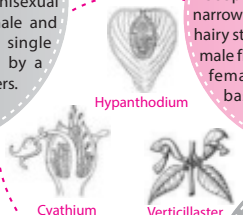
Mixed

Two or more types of inflorescences get mixed up to form a mixed inflorescences. It is of following types:
(a) **Panicle of spikelets,** *e.g.*, oat, rice.
(b) **Corymb of capitula,** *e.g.*, *Ageratum conyzoides*.
(c) **Umbel of capitula, raceme of capitula.**
(d) **Thyrsus,** *e.g.*, grapevine.

Special

Cyathium
The inflorescence looks like a flower. The bracts or the involucre become fused to form a cup shaped structure. The inflorescence contains pedicellate, achlamydeous, unisexual flowers of both the types, male and female. The cup encloses a single female flower surrounded by a large number of male flowers. *E.g.*, *Euphorbia pulcherrima*.

Hypanthodium
It has a flask-shaped fleshy receptacle which possesses a narrow apical opening guarded by hairy structure. The receptacle bears male flowers towards the pore and female flowers towards the base. *E.g.*, *Ficus religiosa*, *Ficus carica*.



Verticillaster
Two dichasial cyme inflorescences develop from axil of opposite leaves. They together form a false whorl around node, *e.g.*, *Ocimum*, *Leucus*.