

Topic :- Morphology of Flowering Plants

- 1 (d)
Inflorescence is the mode of arrangement of flowers in group on a specialised branch called peduncle (inflorescence axis). Pedicel is the stalk of individual flower.
- 2 (d)
Tetradynamous condition is the characteristic feature of *Brassica campestris* (mustard), in which out of six stamens four are long and two are short.
- 3 (d)
Adventitious roots of certain plants become green and carry out photosynthesis, such roots are called assimilatory or photosynthetic roots, e.g., *Tinospora*, *Trapa*, *Taeniophyllum*. In *Tinospora*, these are like green, hanging threads developing from the nodes during the rainy seasons and shrivel during the dry seasons and shrivel during drought. In banyan, prop roots or pillar roots are found, while *Cuscuta* is a total root parasite. In *Vanda*, epiphytic or hygrosopic roots are found these may also photosynthesize with the help of chloroplast contents present below the velamen coating.
- 4 (c)
The flower in family-Liliaceae is complete, actinomorphic, trimerous, hypogynous and the gynoecium is tricarpeal, syncarpous having superior ovary with axile placentation.
- 5 (b)
The members of family-Lamiaceae possess gynobasic style.
- 6 (b)
Uniparous/Monochasial : At each point, only one lateral branch is produced. It may be **scorpioid** (e.g., *Canna*, *Terminalia*)
Biparous : Two lateral branches develop at a time, e.g., *Carissa*, *Datura*, *Mirabilis*.
Multiparous : More than two lateral branches develop below the modified terminal bud from the axils of whorled leaves, e.g., *Nerium*, *Euphorbia*.
- 7 (c)
Smallest region of root is meristematic or growing point. In this, the cells are very small and actively dividing, having dense cytoplasm
- 8 (a)
Prop or Pillar Roots They are thick pillar-like adventitious root, which grow from and support heavy horizontal branches of banyan tree. Initially, these roots are areal and hygrosopic. As the root reaches to the soil, they become thick and pillar-like
- 9 (c)

Taeniophyllum is an epiphytic orchid with thick, flattened, photosynthetic roots. These roots are green aerial, adventitious, which prepare food materials by photosynthesis. The stem and leaves are absent.

10 (c)

Stolons are special kind of runners, which initially grow upwards like ordinary branches and then arch down to develop new daughter plants on coming in contact with the soil.

Sucker is a sub-aerial branch, that arise from the main stem. Initially, it grows horizontally below soil surface and later grows obliquely upward.

11 (a)

Trimerous flower, tricarpellary, syncarpous, superior ovary and axile placentation are the characteristics of family-Liliaceae.

12 (a)

Head or capitulum inflorescence consists of mono or dimorphic florets borne on a condensed axis, the receptacle. The florets are borne in acropetal manner but appear centripetal due to much condensation of the axis, e.g., *Launea*, *Ageratum*, *Vernonia*, *Dahlia*, *Helianthus*, *marigold*, etc.

13 (a)

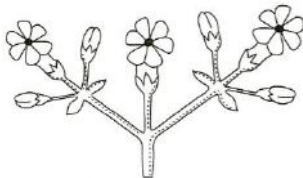
In the given diagram, there is no flower at the tip of shoot. So, it have indefinitely growth. The flower borne laterally



Racemose Inflorescence

PE

In cymose, the shoot tip ends with a terminal flower so it have limited growth



Cymose inflorescence

14 (a)

In *Wolffia* and *Utricularia* roots are generally absent.

15 (a)

Taproot system The first root produced from seed is called radicle. In dicotyledonous plant this root became more prominent and is known as tap root and many small branch I see root arise from this by forming tap root system

16 (a)

Achene develops from monocarpellary unilocular ovary but the fruit wall (pericarp) is not fused with seed coat, e.g., *rose*, *Mirabilis*, *Clematis*.

Legume developed from monocarpellary, unilocular superior ovary with marginal placentation, *e.g.*, family-Leguminosae.

17 **(d)**

China rose or gurhal (*Hibiscus rosa-sinensis*) belongs to family-Malvaceae. It has solitary axillary inflorescence.

18 **(b)**

In twisted aestivation, sepal/petals edges are overlapping each other (*i.e.*, on margin cover the other and its margin is covered by previous one), whereas in valvate the margins of sepals and petals only touch to each other.

19 **(b)**

In smilax, stipules become elongated and function as tendril. Spines of *Ziziphus* and *Acacia* are modified stipules.

20 **(b)**

Types of phyllotaxy

Alternate Single leaf arises at each node in alternate manner, *e.g.*, China rose

Opposite Pair of leaves arises at each node, *e.g.*, *Calotropis*

Whorled More than two leaves at each interval, *e.g.*, *Alstonia*

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	D	D	D	C	B	B	C	A	C	C
Q.	11	12	13	14	15	16	17	18	19	20
A.	A	A	A	A	A	A	D	B	B	B