

Short Answers-I (3 marks each)

17. Potato is the swollen tip of an underground stem branch (stolon). It has nodes (eyes) which consist of one or more buds subtended by a leaf scar. Adventitious roots also arise during sprouting. On the other hand sweet potato is a swollen adventitious root (tuberous root). It has no nodes, internodes and buds like a stem.

18. The mode of arrangement of sepals or petals in a floral bud is known as aestivation.

China rose – twisted

Calotropis – valvate

Gulmohar – imbricate

Pea – vexillary

19. Type of phyllotaxy

Examples

(i) Alternate

China rose, mustard

(ii) Opposite

Calotropis, guava

(iii) Whorled

Nerium, *Alstonia*

20. (a) Actinomorphic Flower

Zygomorphic flower

(1) Two equal halves are formed by any vertical division passing through the centre.

Two equal halves are produced only by one vertical division.

(2) It has a radial symmetry.

It has a bilateral symmetry.

(b) Axicarpous Ovary

Syncarpous Ovary

(1) The flower has several free carpels (ovary).

The flower has fused carpels.

(2) On maturity it forms fruitlet of aggregate type.

On maturity it forms a single fruit.

(c) Racemose Inflorescence

Cymose Inflorescence

(1) The main axis has unlimited growth.

The main axis has a limited growth.

(2) Flowers are arranged acropetally i.e., the lower flowers are younger.

Flowers are arranged basipetally i.e., the lower flowers are older.

21. (a) Endosperm (b) Scutellum (c) Coleoptile (d) Coleorrhiza

(e) Aleurone layer

Function of (a) - Provide nutrition.