CBSE Class 11 Biology

Important Questions

Chapter 5

Morphology of Flowering Plants

1 Marks Questions

1. Which part of opuntia is modified to form spines?

Ans. Leaves

2 .Name our plant in which leaf is pinnately compound.

Ans. Neem, Rose, Aeacia.

3.In mangroves, Pneumatophores are the modified adventitious roots How are these roots. How to the plant?

Ans. pncumatohores in mangroves help in respiration.

4. Which part of mango fruit is edible?

Ans. Mesocarp

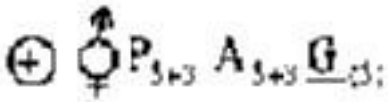
5. Why de various plant have different type of phyllotaxy?

Ans. For proper exposure of leaves to get sunlight.

6.Slate the main function of leaf tendril.

Ans. The leaf tendrils help the plant for climbing.

7. Which plant family represent the following floral formula.



Ans. Liliaceae

8. The endosperm is formed as a result of double fertilisation (triple fusion) What is its function.

Ans. Endosperm stores the food.

9. Which type of venation do you observe in dicot leaf?

Ans. Reticulate venation.

10. In pea flower, the a in corolla is known as vexillary. (live reason.

Ans. In peas, there are five petals. The largest one (standard) overlaps the two lateral petals (wings) which in turn overlap the two smallest anterior petals (keel).

11. What is the name given to the cotyledon in case of Monocots.

Ans.socutcullum.

12.Name one monocot & one dicot in which endosperm is present?

Ans. Monocot: Maize grain & Dicot: castir oil seed.

13.Why are date palm referred to as dioecious?

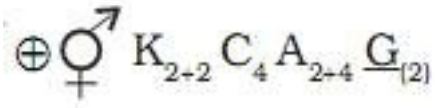
Ans. Because male & female flowers are borne on different plants.

14.What is placentation?

Ans. The arrangement of ovule in the ovary is called placentation.

15.Write floral formula of Brassica Campestris.

Ans.



16.Why are flowers of cucumber referred to as epigynous ?

Ans. Because the floral parts lie above the ovary & the ovary is inferior.

17.What is false fruit?

Ans. When floral parts other than ovary takes part in formation of fruit & become edible, it is called false fruit.

18.What is the term used for a plant bearing both male & female flowers.

Ans. Monoecious flowers

19.What are runners?

Ans. A long creeping stem with long internodes running horizontally on the surface of the soil is called a runner.

20.Why are flowers of mustard referred to as hypogynous.

Ans. Because ovary is situated at the top & other three whorls are inserted below the pistil.

21.Name the two layers of seed coat.

Ans. Testa & Tegmen.

22.Which family has characteristically a swollen axile placenta.

Ans. Solanaceae.

23.Why root system is poorly developed in aquatic plants.

Ans. Because in aquatic plants there no soil to anchor firmly rather, absorption of water occurs through diffusion hence root system is not completely developed.

24.Name two plants where seeds do not have endosperm?

Ans. Bean, gram, pea.

25.Which plants part has given rise to following modifications:-

(a) Spines of opuntia (b) Pitcher of Nepenthes.

Ans. (a)modified stem **(b)**modified leaf.

26.Why is leaf of Neem called unipinnately compound.

Ans. Leaf of Neem is called unipinnately compound because leaflets are found in pairs on either side of rachis.

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2 Marks Questions

1. Flower is a modified shoot. Justify.

Ans. The flower is considered to be a modified shoot because the internodes in a flower are highly condensed and the appendages such as sepals, petals, stamens and carpels (pistil) are generally large in number.

2.Name the type of mot for the following

(a) Roots performing the function of photosynthesis.

(b) Roots come above the surface of the soil to absorb air.

(c) The pillar like roots devclopc4 from lateral branches for providing mechanical support.

(d) Roots coming out of the lower nodes of the stem and provide the support to the plant.

Ans. (a) Assimilatory roots**(b)** Respiratory roots

(c) Prop roots**(d)** Stilt roots

3. Fill up the blank spaces (a), (b), (c) and (d) in the (able given below:

Type of flower	**Position of calyx, corolla and and roecium in respect of the ovary on thalamus**	**Type of ovary**
Hypogenous Perigynous	……(a)……	Superior ……(b)

.....(c) **.....**	On the rim, of the thalamus almost n the name level of ovary. .....(b).....	..... Inferior

Ans. (a) Floral parts are situated below the ovary

(b) Half inferior

(c) Epigynous

(d) floral parts are xitnated above the ovary

4. Provide (he scientific terms for (he following:

(i) The leaf without a petiole (stalk).

(ii) The flat and expanded portion of a leaf,

(iii) Orderly arrangement of leaves on the node.

(iv) Lateral appendages on either side c the loaf.

Ans. (i) Sensible

(ii) Lamina

(iii) Phyllotaxy

(v) Stipules

5.What is Rhizome? Give its two examples.

Ans. Rhizome is a prostrate & a thickened underground stem having distinct nodes, internodes scales, leaves as well as buds. It creeps horizontally under the ground eg. Ginger, turmeric.

6.Differentiate between epigynous & perigynous flowers.

Ans.

Epigynous flowers	Perigynous flowers
i) The thalamus is cup shaped & is fused with the ovary so that floral parts rise on the top of ovary.	i) The thalamus is cup-shaped structure around the ovary but is not fused & bears sepals, petals & stamens.
ii) Ovary is inferior eg. Apple, cucumber	ii) Ovary is half inferior eg. Rose.

7.Give reason to justify that onion bulb is a modified stem?

Ans. Onion bulb is a modified, highly condensed & disc like. It has a large number of fleshy scale leaves. Terminal & auxiliary buds are present. On the lower posterior side a cluster of adventitious roots are present.

8.What is the difference between alternate & whorled phylotaxy.

Ans.

Alternate phyllotaxy	Whorled phyllotaxy
i) Only one leaf arises at each node.	i) More than two leaves arises at each node
ii) Leaves arises alternately on left & right sides of the stem	ii) Leaves arise in whorl from one point
iii) Eg. chinarose, mango	iii) Eg. Neruim

9.Define venation? What are two types of venation?

Ans. Veins arrangement in leaf lamina is called venation. There are two types of venation:-

(a) Parallel:- when veins are arranged parallel to each other on lamina

(b) Reticulate:- when veins forms a network on leaf lamina.

10.Why is leaf of Bombax categorized as palmately compound multifoliate leaf?

Ans. Leaf of Bombax is categorized as palmately compound multifoliate leaf because the petiole bears leaflets in its lips in pinnately compound leaf. Five or more leaflets are articulated on a long axis & the shape of leaf is like the palm of a hand in Bombax. This type of leaf is called digitate.

11.Explain with suitable examples of different types phyllotaxy

Ans. Phyllotaxy is the arrangement of leaves on the stem or branch. It can be of two types:-

(i).OPPOSITE PHYLLOTAXY:- Two leaves at each node opposite to each other. Eg. calotropis Guava.

(ii).WHORLED PHYLLOTAXY:- Where more than two leaves arise at each mode eg. nerium

12.“Flower is a modified shoot.” justify the statement.

Ans. “Flower is considered as modified shoot” because the internodes in a flower are highly condense & the appendages such as sepals, petals, stamens & carpels are generally large in number.

13.Distinguish between prop root & stilt roots.

Ans.

PROP ROOTS	**STILT ROOTS**
i) arises from horizontal aerial branches of a free stem	i) Arises from basal nodes of stem.
ii) Long & provide support to plant like pillars	ii) Short roots and grows downward obliquely to provide support to stem like rope of tent.
iii) Eg. banyan tree	iii) Maize, Jowar.

14.What is inflorescence? What are its two types?

Ans. The arrangement of flowers an the floral axis is called inflorescence. Inflorescence are of two major types:-

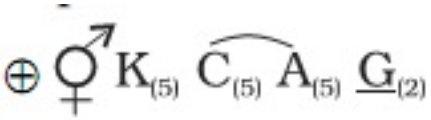
(a) Racemose inflorescence:- main axis continues to grow & flowers are borne laterally in acropetal succession.

(b) Cymose inflorescence: - main axis terminates in a flower hence, is limited in growth, flowers are borne in basipetal order.

15.Draw the floral formula & floral diagram of family solanaceae.

Ans.

Floral formula:-



Floral Diagram :-

16.Differentiate between true fruit & false fruit.

Ans.

TRUE FRUIT	**FALSE FRUIT**
i) it develops from the ovary	i) it develops from other parts along with the ovary
ii) No other part is involved in fruit	ii) Thalamus and perianth takes part in fruit

formation	formation.
iii) Eg. pea.	iii) Eg. apple.

17.Write the floral formula & draw the floral diagram of family Liliaceae.

Ans.

Floral formula: -

$$\oplus \female P_{3+3} A_{3+3} \underline{G}_{(3)}$$

Floral diagram: -

18.“Underground parts of a plant are not always roots” justify the statement.

Ans. Usually roots develop below the ground. But in potato, the stem gets modified into “tuber” like structure for the storage of reserve food material. These tubers develop & grow under the ground. Potato is a stem because it bears scale leaves, buds, nodes etc.

19.How would you differentiate leaflets of a compound leaf from simple leaves on a branch?

Ans.

SIMPLE LEAF	COMPOUND LEAF
i) Lamina is not divided into distinct lobes or leaflets.	i) Lamina is incised into two or more distinct leaflets.
ii) Axilliary bud is present in the axil of simple leaf.	ii) Bud is present in the axil of whole leaf.

iii) Simple leaves are in acropetal succession on stem	iii) Leaflets of compound leaf are not in acropetal succession.
iv) Base of leaf may have stipules	iv) Stipules may be present base of compound leaf
v) Simple leaves appear in one or more plane.	v) Leaflets in a compound leaf lie in one plane only.

20.Draw a well labeled diagram of V.S. of maize seed.

Ans.

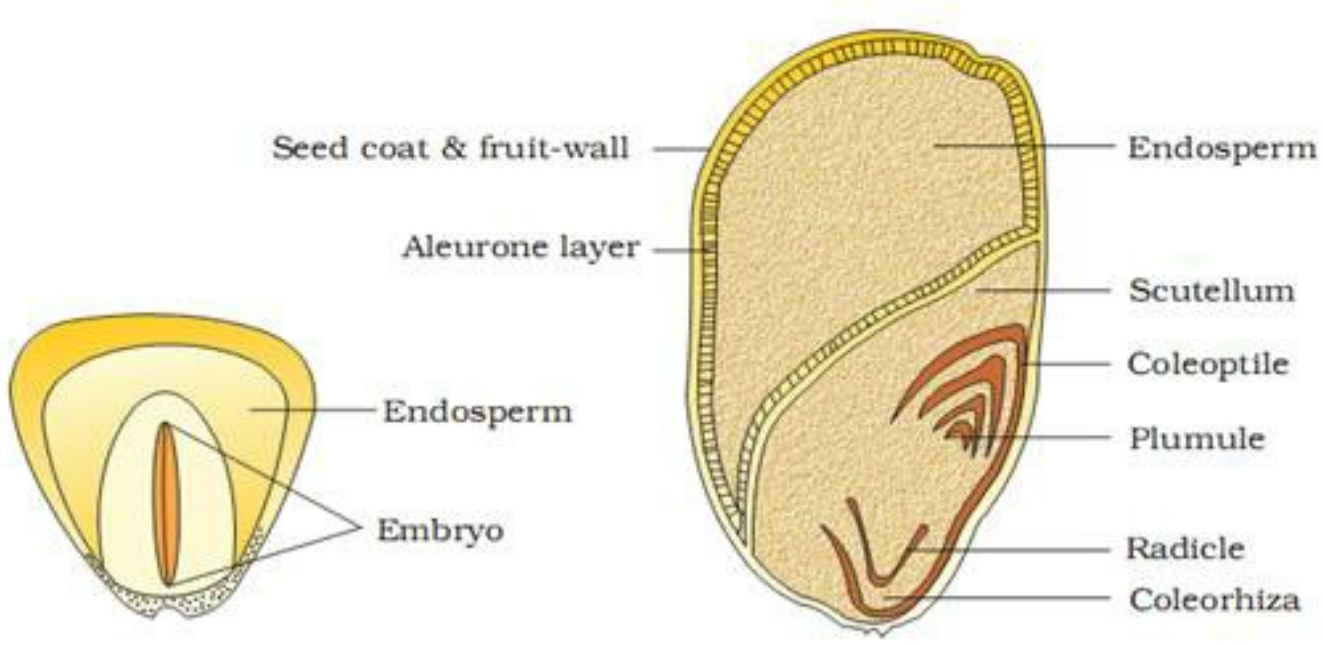


Figure 5.19 Structure of a monocotyledonous seed

21.Write differences between phyllode & phylloclade.

Ans.

PHYLLODE	**PHYLLOCLADE**
i) Modification of petiole	i) Modification of stem
ii) Bears an bud in its axil	ii) Developed in axial of leaf
	iii) Nodes internodes are found.

iii) Nodes internodes are not borne	
iv) Does not have leaves & flowers	iv) Has reduced bristles spiny leaves & flowers.

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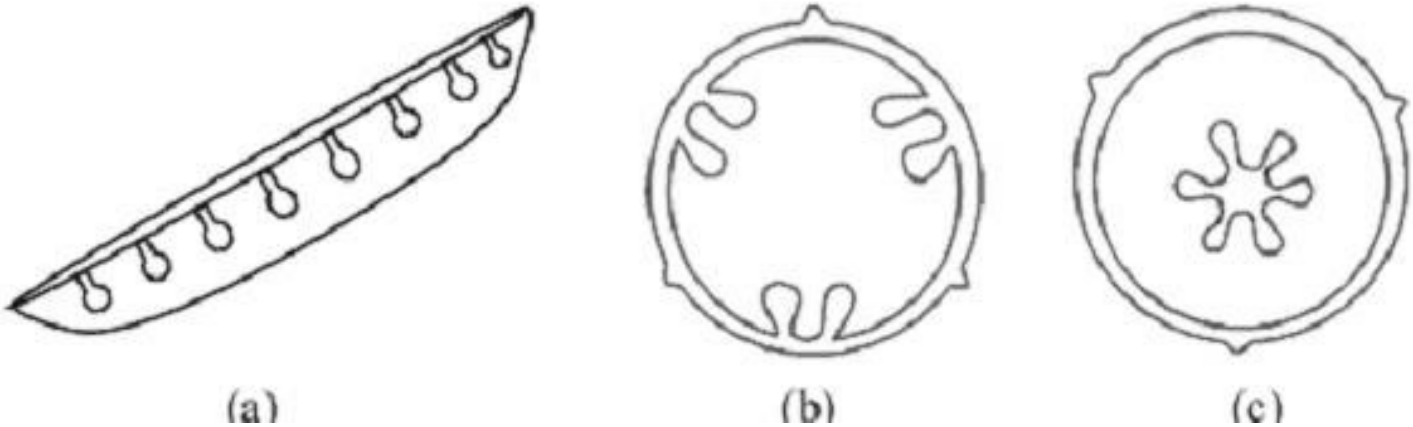
3 Marks Questions

1. Observe the given figure showing various types of placenta ion. Identify the type of plancentation. Give one example of each.



Ans. (a) Marginal placentrationPea

(ID) Parietal placenta ion - Mu Argemone

(c) Free central plancentation— Dianthus Primrose

2. Potato is a stem and sweet potato is a root.' Justify the statement on the basis of external features.

Ans. Potato is the swollen tip if an underground stem branch (sto1or IL ha nodes (eyes) which consist of One or more buds subtended by a leaf sear Adventitious roots also during sprouting. On the other hand Sweet potato is a swollen adventitious root (tuberous root) It has no nodes, intern- odes and buds like a stem.

3. Define aestivation . Which type of aestivation is found in China rose, Caltrop's Gulmohar and pea

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

Chine rose — twisted Calotropis — valvate

Gulmohar — imbricate Pea — vexillary

4. Explain the different types of phyllotaxy. Give one example of each type.

Ans. Type of phyllotaxy Exaniples

(i) AlternateChina rose, mustard

(ii) OppositeCalotropis, guava

(iii) WhorlsNerium , Alstonia

5. differeutiate between :

(a) Actiuomorphic flower and Zygornorphic flower

(b) Apocarpous ovary and Syncarpous ovary

(c) Racemose inflorescence and Cymes inflorescence

Ans. (a) Actinomorphic FlowerZygomorphic flower

(1) Two equal halves are firmedTwo equal halves are by any vertical division paproduced only by one through the centrevertical division

(2) It has a radmi yrnmetryIt has a bilateral syrnmetry

(b) Apocarpous OvarySyncarpous Ovary

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

(2) On maturity it forms On maturity it forms a single fruit. Fruitlet of aggregate type.

(c) Recompose inflorescenceCymose Inflorescence

(1) The main axis hax unlimited growth. The main axis hax a Limited growth.

(2) flwers are arranged acropetally i.e,. flowers are arranged basipetally i.e., the lower flowers are younger.the lower l1owar ar oidet.

6. In the given structure Ma Monocotyledonous seed label the path a, b, c, d, e. (jive the function of part 'a'

Ans. (a) Endosperm

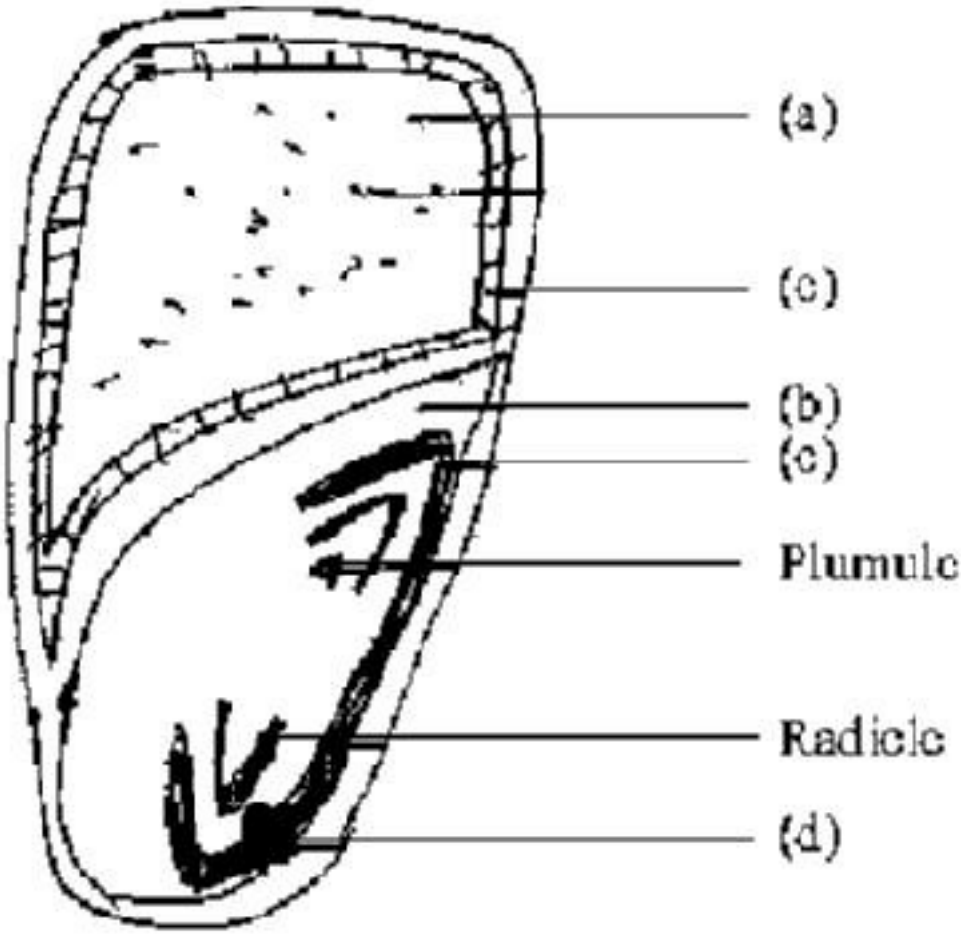
(b) Scutellum

(c) Colcoptile

(d) Colcorthiza

(e) Alcuronc layer

Function of(a) - Provide nutrition.



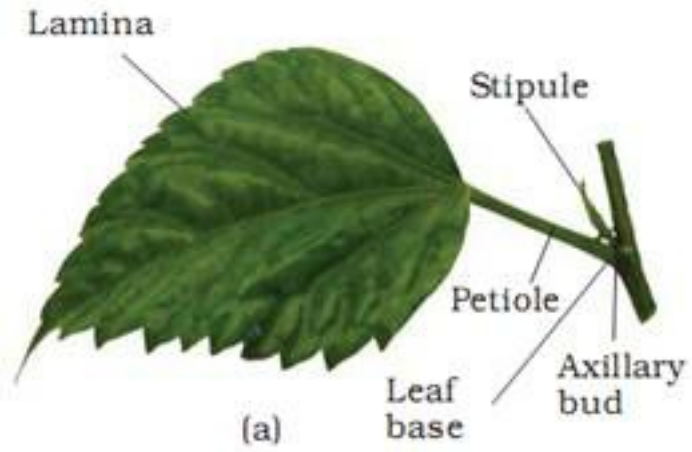
7.Describe that parts of a typical angiospermic leaf?

Ans. A typical angiospermic foliage leaf possesses the following parts.

(i)LEAF BASE:- It is the region in the stem, from which leaf arises. Its main function is to attach the leaf with the stem are a branch.

(ii)PETIOLE:- The stalk of a leaf is called petiole. The leaves having petiole is called petiolate. As in banyan leaf, some leaves may lack petioles.

(iii)LAMINA:- The green, flattened part of the leaf attached with petiole is known as "lamina". It is the part which performs photosynthesis, respiration & transpiration. There is a "midrib" in the middle of the lamina. The midrib in compound leaf is called rachis. The lamina may be of different shapes in different kinds of leaves.



8.Differentiate between a maiz grain & a bean seed?

Ans.

MAIZE GRAIN	**BEAN SEED**
i) It is single seeded fruit called the caryopsis	i) It is a true seed formed inside a fruit called the pod or legume.
ii) The fruit wall or the pericarp is fused with testa.	ii) The pericarp is free from testa.
iii) There is one seed coat which inseperably fused with pericarp	iii) There are two seed coats called testa & tegmen They are fused with each other.
iv) The grain is endospermic	iv) The seed is non endospermic.

v) The grain has no hilum, micropyle & chalaza on its surface.	v) The chalaza, hilum & micropyle are clearly visible.
vi) There is no ridge like raphe	vi) The raphe is clearly risible.
vii) The plumule & radical are protected by distinct sheath called the coleoptinct sheath called the coleoptiles & coleorhizae respectively	vii) The plumale & radical are not covered by any such protective sheath.
viii) The cotyledon acts as the absorbing structure that absorbs food from endosperm & transfers it to embryo.	viii) The cotyledons are merely food storage organs.

9.Describe the arrangement of floral members in relation to their insertion on thalamus.

Ans. Based on the position of calyx, corolla & the androecium in respect of ovary on the thalamus, flowers may be explained into 3 kinds.

(a).HYPOGYNOUS FLOWERS:- Gynoecium located at highest position & rest whorls of flower lies below it. eg. mustard, chinarose.

(b).PERIGYNOUS FLOWERS:- The gynoecium is situated in center, other parts of flower lie on the rim of thalamus almost at same level, Ovary is half inferior eg. plum, rose.

(C)EPIGYNOUS FLOWERS:- The margins of thalamus grows upwards enclosing the ovary fully & getting to it, rest parts of the flower arises above the ovary. i.e. Ovary is inferior in these flowers. Eg. Guava, sunflower, cucumber.

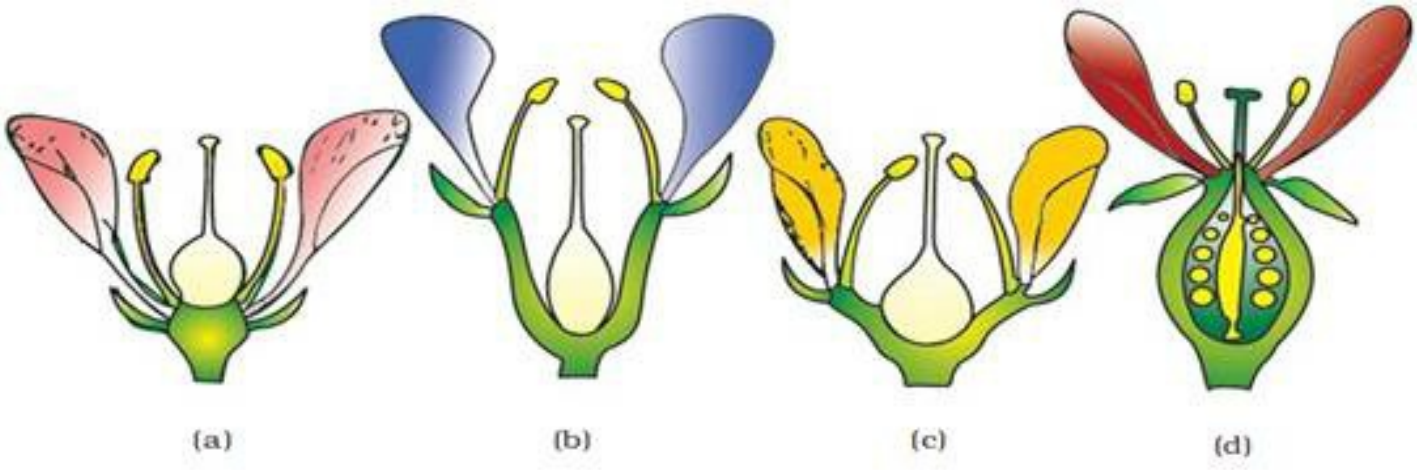


Figure 5.13 Position of floral parts on thalamus : (a) Hypogynous (b) and (c) Perigynous (d) Epigynous

10.How is herbaceous stem different from a woody stem?

Ans.

HERBACEOUS STEM	WOODY STEM
i) Annual or biennial & short- lived	i) Always perennial & long. Lived.
ii) Green, soft and fleshy and on bending does not break.	ii) Brown or grey & hard and break on bending
iii) The protective superficial layer epidermis forms the outer covering.	iii) Thy epidermis is replaced by corky layer or bark.
iv) Stomata are present throughout its length for gaseous exchange	iv) It develops dot- like pores called lenticels for gaseous exchange
v) Buds often naked	v) buds are often protected by scales
vi) They consist of primary permanent tissues.	vi) They consist of secondary permanent tissues.

11.How do various leaf modifications help plants?

Ans. The normal functions of leaves are photosynthesis, respiration & transpiration. Besides these function the leaves have to perform other functions. Hence, they modify themselves in different ways as follows:-

(i)TENDRIL:- In some plants the entire leaf or part of it gets modified to coiled thread like

structure called tendrils . Tendrils help the plants to climb up eg. pea, clematis.

(ii)SPINES:- In many plants the leaves or their apices are modified into thin sharp & pointed structure known as spines. They help in defence eg. opuntia, yucea. Etc.

(iii)SCALE LEAVES:- In onion mostly all the leaves are present in the form of fleshy scale leaves.

(iv)PITCHER:- It is the modification of leaf in insectivorous plant in which the lamina takes the form of a pitcher, apex in the form of a lid to trap the insects. There are number of digestive glands in the inner walls of the pitcher. These glands secrete a fluid which digests insects eg. Nepenthes.

(v)PHYLLODE :- The petiole becomes green, flattened & leaf like & is called phyllode eg. Australian Acacia.

12.Differentiate between Tuber & Bulb.

Ans.

TUBER (POTATO)	**BULB (ONION)**
i) Stem is very well developed	i) Stem is reduced to a disc.
ii) Adventitious roots absent	ii) Adventitious roots are present.
iii) Potato plant can bear numerous tubers	iii) Only one bulb develops in one onion plant.
iv) Food is stored in stem.	iv) Food is stored in fleshy scale leaves.
v) Food stored in the form of starch.	v) Food not stored in the form of starch.
vi) Buds external	vi) Buds internal
vii) Distinct nodes & internodes are present	vii) Nodes & internodes are indistinct
viii) Scale leaves found in the nodal region are very small.	viii) Scale leaves are fleshy & conspicuous
ix) The tuber is a total stem.	ix) The bulb is a shoot.

13.Give four types of underground stem & give examples for each.

Ans. FOUR TYPES OF UNDERGROUND STEMS:-

(i)RHIZOME:- The stem is prostate, thickened & grows horizontally under the soil. Stem is much branched & each branch ends in terminal bud. Adventitious roots arise in profusion eg. fern, water lily, turmeric.

(ii)BULB :- Highly condensed & discoidal stem. Terminal bud in the centre produces aerial root that produces flowers. From base of stem adventitious roots develop. Leaves store food material. Terminal bud & scale leaves are present eg. onion garlic.

(iii)CORM:- Condensed form of rhizome with auxiliary buds & scale leaves. It is swollen base of underground stem axis. Nodes & internodes are present eg. zimikand, saffron, colocasia.

(iv)TUBER:- It grows horizontally & swells at the apex. Adventitious roots arise during sprouting. It has many buds that grow into new plants eg. potato, Halianthus

14.Compare Trailer, runner & sucker.

Ans.

TRAILER	**RUNNER**	**SUCKER**
i) Semi aerial creeping stem it does not roots at intervals	i) Prostate, sub-aerial stem. It is green & root at intervals.	i) Underground non green stem.
ii) Does not participate in perennation	ii) Does not participate in perennation.	ii) Helps in perennation.
iii) No help in vegetative propagation.	iii) Helps in vegetative propagation.	iii) Helps in vegetative propagation.

15.What do you mean by "modification of roots". Describe some of the modifications of tap roots giving suitable example.

Ans. The functions other than normal functions of roots eg. fixation, absorption & conduction are to be carried out by roots. These are called modifications of roots. The modifications of top roots includes:-

(a).FUSIFORM:- This roots is swollen in the middle & tapers at both the ends gradually eg. Raddish.

(b).NAPIFORM:- The shape of this root becomes almost spherical but tapers abruptly downward eg. turnip.

(c).CONICAL:- The shape becomes cone like eg. carrot.

(d).TUBEROUS:- It is a swollen root having no specific shape eg. mirablis, Trichosanthes.

16.What is aestivation? What are its different types give examples.

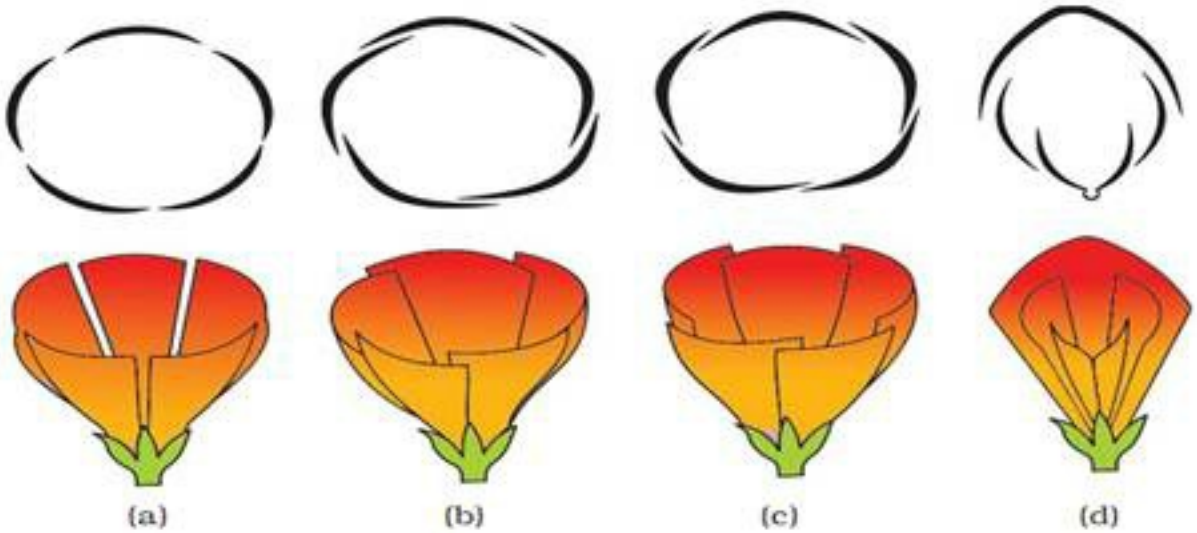
Ans. (a)valvate:-petals or sepals meet eacf other at the edge.

Arranged without overlapping

(b)Twisted:-petals or sepals show overlapping is done by one margin of each petal over the margin of adjacent petals

(c)IMBRICATE:- If margins of sepals or petals overlaps one another but not in a particular direction eg. cassia & gulmohar.

(d)VEXILLARY:- There are five petals the largest overlaps the two lateral petals which in turn overlaps the two smallest anterior petals eg. bean, pea.



Types of aestivation in corolla : (a) Valvate (b) Twisted (c) Imbricate (d) Vexillary

17.Describe the sub- aerial modifications of stem.

Ans. The main function of sub-aerial modification of stems is vegetative propagation. They are of following types:-

(i)RUNNERS:- These stems are long & thin with branches which creep along the ground & develop root at the nodes. Many such branches are produced by mother plant & they spread out in all direction. They may break off & start living as independent plants eg. oxalis, doob grass.

(ii)STOLON:- This is also a thin lateral branch which arises from the base of stem. It grows upward & bent down again developing roots at the tip & producing a bud. The bud grows into a new plant eg. mint, strawberry.

(iii)OFFSET:- This is a thickened horizontal branch arising in the axil of a lower leaf. It is a short branch which produces a cluster of leaves above & tufts of roots below. Offset can break off from mother plant & start living independent life. Eg. Water lettuce, water hyacinth.

(iv)SUCKER:- The sucker is a lateral branch which develops from underground part of stem. It grows upward in obliquely manner & directly give rise to new plant eg. banana, pineapple.

18.Explain with examples. What are the different modifications of adventitious roots?

Ans. MODIFICATIONS OF ADVENTITIOUS ROOTS:-

(i)TUBEROUS:- It is swollen root & shapeless occurring singly eg. sweet potato.

(ii)FASCICULATED:- Several tuberous roots arise from the same place in a cluster eg. dahlia, Asparagus.

(iii)BEADED ROOTS:- These roots have swollen parts at frequent intervals eg. portulaca, vitis.

(iv)PROP ROOTS:- These are pillars like roots hanging vertically downward from aerial branch of plant eg. Banyan tree.

(v)STILT ROOTS:- The roots are short which grow obliquely from near the base of the main stem & they provide anchorage & support to the stem eg. sugarcane, maize, sorghum.

(vi)PARASITIC ROOTS:- These roots penetrate into the host cells & absorb nutrients from host tree eg. cuscutta.

(vii)ASSIMTLATORY ROOTS:- Adventitious roots in certain plants become green to carry out photosynthesis & are called assimilatory roots eg. tinospora, trapa.

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Important Questions
Chapter 5
Morphology of Flowering Plants

5 Marks Questions

1.Describe various stem modifications associated with food storage, climbing and protection.

Ans. Stem Modifications:

• Fur food storage Ginger (Rhizome), potato (Tuber), Onion (Bulb). Colocasia (Corm).

• For climbing (support Skin tendril (cucumber, grapevine, watermelon)

• For protection Thorn (Bougainvillea, Citrus, Drama)

Description Refer page 6 NCERT, Text Book of Biology for Class X

2. Give the distinguishing features of gynoccium of family Fabaccace, Solanaccac and Liliaccae. Draw floral diagrams of Fabaccac and Solanaccac.

Ans. Gynoecium:

Family Fabaceae: Ovary superior monocarpellary, unilocular w many ovules, style single.

Faniily Solonaceae: Ovary superior, bicarpellary, syncarpous, bilocular,. placenta swollen with many ovules.

Fam Liliaceae: Ovary superior, tricarpellary syncarpous, trilocular with many ovules, axile placentation

3.Describe the various types of placentations found in flowering plants & represent diagrammatically.

Ans. The various types of placentations found in flowering plants are:-

(i)MARGINAL:- Ovary one chambered and ovules lies along the margin of the ovary eg. pea & gram

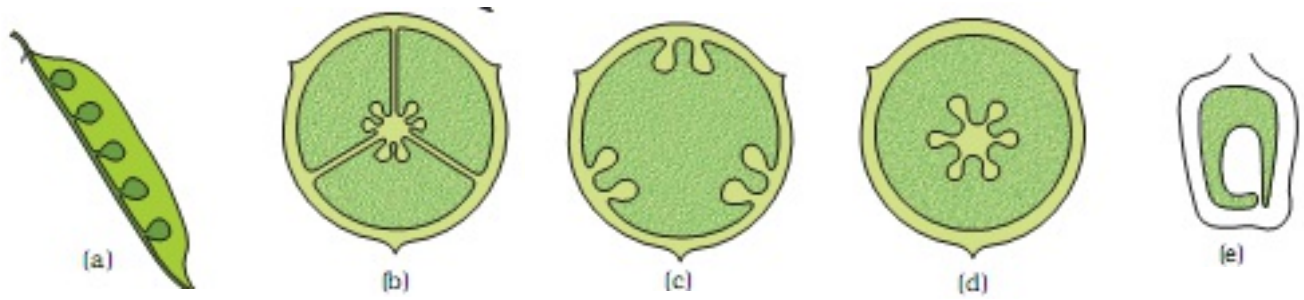
(ii)PARIETAL:- Ovary one chambered and ovules lies at the level of the fusion of the fusion of the carpels. Eg. mustard.

(iii)AXILE:- Ovary many chambered and ovules are attached to the central column eg. onion & lemon.

(iv)FREE CENTRAL:- Ovary one chambered and at the centre it bears many ovules eg. Dianthus, Primula.

(v) BASAL:- Ovary one chambered and ovules develop on the thalamus eg. sunflower.

(vi)SUPERFICIAL:- Ovary is multilocular & syncarpous. Ovules develop on the minor surface of the ovary. Eg. Nymphea.



Types of placentation :(a) Marginal (b) Axile (c) Parietal (d) Free central (e) Basal

4.What is a flower? Describe the parts of typical angiospermic plants with the help of a diagram.

Ans. The flower can be defined as a modified shoot bearing nodes & modified floral leaves. It consists of following parts:-

(i).CALYX:- It is the outermost whorl of flower. It is green. Leaf- like structure it may be polysepalous (sepals free) or gamosepalous (sepals united) calyx may be regular or irregular.

(ii).COROLLA:- It is the second whorl of the flower inside the sepals. The petals are usually brightly coloured. The insects are attracted due to colour of the petals so they help in pollination. The narrow stalk like lower portion of petal is called a claw & the upper

extended portion is known as limb.

(iii).ANDROECIUM:- It represents as male reproductive parts. It consists of stamens in each stamen there are three parts:-

(a) Anther:- Knob like bilobed structure containing pollen grains. Each lobe contains two chambers called pollen sac.

(b) Connective:- A strip of tissue, which connects the anther lobe is called connective.

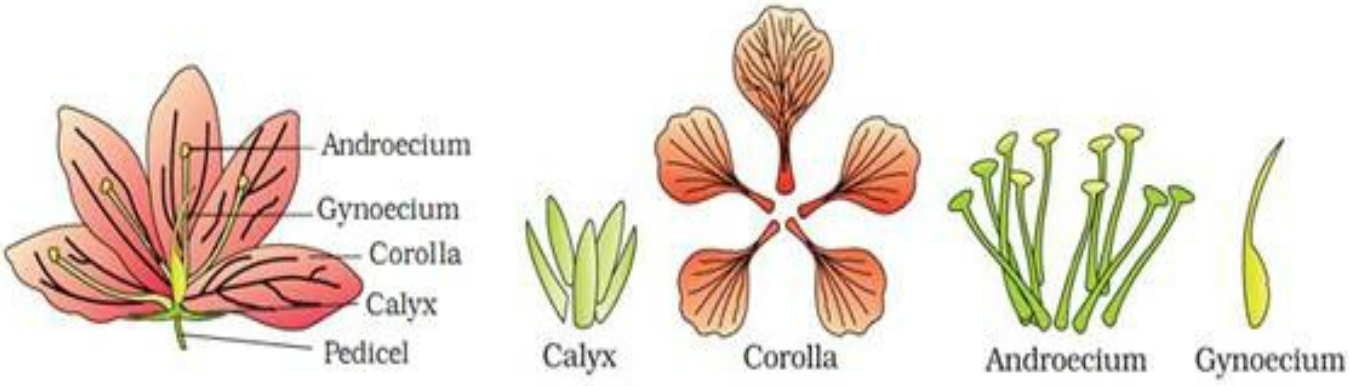
(c) Filament:- a slender stalk by which anther lobes are attached is called filament.

(iv).GYNOECIUM:- It is the female part of the flower it is made up of three parts

(a) Stigma:- upper part of pistil which receives pollen grains

(b) Style: - The stalk between stigma & ovary.

(c). Ovary:- basal part containing ovules.



5.Describe the aerial modifications of stem.

Ans. AERIAL MODIFICATIONS OF STEM INCLUDES:-

1.STEM TENDRIL:- Stem tendrils are thin leafless slender & spirally coiled structures which develop from auxiliary buds. They help the plant such as cucumber, water melon, grape vine etc. to climb.

2.STEM THORN:- sometimes the auxiliary buds grows into hard, woody straight & pointed structures called thorns. It arises in the axil of leaf or at the tip of branch. Sometimes thorn

bears leaves also. They are commonly found on plants eg. citrus durantha, Bougainvillea etc.

3.PHYLLOCLADE:- It is the green flattened or cylindrical stem which takes the form and function of leaf. They contain chlorophyll & carry photosynthesis. They have many nodes & internodes. Their true leaves are reduced, spines or scales. It is commonly found in xerophytic plants eg. opuntia, epiphyllum etc.

4.CLADODE:- This is a phylloclade of limited growth which develops, from the node of the stem or branch & in the axil of a scale leaf eg. asparagus, Ruscus, asculentus etc. cladodes are green flat & leaf like structures which carry on photosynthesis.

5.BULBILS:- This is a modified vegetative or floral bud meant for the production of a new plant. It detaches itself from mother plant & grows into an independent plant. Bulbils are found in oxalis, Agava american, Lilium etc.