



## BIOLOGY

### NEET & AIIMS

## MORPHOLOGY OF FLOWERING PLANTS

### Example

1. Name the different parts of a typical root



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2. What is fibrous root?



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3. What are Pneumatophores ?



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4. What are root hairs?



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5. What is stem?



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6. What are stolons? Give example.



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7. What are the main functions of a stem?



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8. What is a leaf?



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9. What is the function of petiole?



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10. What is inflorescence?

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11. What is a thalamus?

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12. Name the four whoris present in a flower.

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**13.** Distinguish between epipetalous and epiphyllous stamens.



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**14.** What is staminode?



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**15.** Define placentation.



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**16.** What are parthenocarpic fruits?



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**17.** In maize seed, the outer covering of endosperm is proteinaceous and called as

(1) Scutellum (2) Pericarp (3) Aleurone layer (4) Coleoptile



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**18.** Give an account of the inflorescence seen in the members of Solanceae family.



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19. Give the floral formula of the potato family.



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## Exercise

1. Thick roots arising in *Ficus* to support heavy branches are called

- A. Stilt roots
- B. Prop roots
- C. Assimilatory roots
- D. Floating roots

**Answer: B**



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2. In *Amorphophallus* and *Crocus* vegetative reproduction occurs by means of

A. Offset

B. Rhizome

C. Corm

D. Both (1) & (2)

**Answer: C**



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3. Stem tendrils occur in

- A. Cucumber
- B. Watermelon
- C. Pumpkin
- D. All of these

**Answer: D**



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4. Thorn is a stem structure because it

- A. Develops from stipule

B. Arises from leaf directly

C. Develops from axillary bud

D. is structure of defence

**Answer: C**



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5. A. Cells of root meristematic zone has dense cytoplasm.

B. Chrysanthemum, Pineapple and jaseminum are examples of sucker. C. A fleshy bud is called bulbil. D. Root cap is absent in hydrohytes.

A. All are correct

B. All are correct, except B

C. A & B are correct

D. B & C are correct

**Answer: A**



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**6. Reduced, discoid and underground stem is found in**

A. Ginger

B. Turmeric

C. Potato

D. Onion

**Answer: D**



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7. Find odd one w.r.t. plants having green succulent stem

A. Opuntia

B. Euphorbia

C. Citrus

D. Both 1 and 2

**Answer: C**



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8. All given modification belong to adventitious roots, except

- A. Reproductive root of Asparagus
- B. Storage roots of sweet potato
- C. Conical roots of carrot
- D. Prop roots of banyan tree

**Answer: C**



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9. Which of the following function is not performed by underground stem?

A. Reproduction

B. Assimilation

C. Perennation

D. Storage

**Answer: B**



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**10.** Bud associated with the underground stem of potato is

A. Axillary

B. Apical

C. Adventitious

D. internodal

**Answer: A**



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**11. Leaf base expands into a sheath in**

A. Grasses

B. Legumes

C. Prickly poppy

D. Mimosa

**Answer: A**



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**12. Select and incorrect match:**

- A. Uniphinnate leaf-Neem
- B. Unifoliate leaf-silk cotton tree
- C. Bipinnate leaf-Mimosa
- D. Simple leaf-Banyan

**Answer: B**



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13. Petiole is modified into green leafy structure called

A. Phylloclade

B. Cladode

C. Cladophyll

D. Phyllode

**Answer: D**



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14. More than two leaves are present at each node in

A. Aistonia

B. Sunflower

C. Guava

D. Mustard

**Answer: A**



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**15. Leaf tendril is not seen in**

A. Pisum

B. Lathyrus

C. Cucurbits

D. Nepenthes

**Answer: C**



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**16.** Pendulous spike in leaf axis that bears unisexual flowers is called

- A. Panicle
- B. Catkin
- C. Spikelet
- D. Raceme

**Answer: B**



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17. Select an incorrect statement w.r.t. capitulum inflorescence of sunflower

- A. Main axis becomes a flat receptacle
- B. Florets are sessile and many in number
- C. Ray florets are bisexual
- D. Disc florets are actinomorphic

**Answer: C**



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18. Select an incorrect match:

A. Phyllode-Acacia

B. Leaf spine-Pea

C. Storage leaf-Onion

D. Leaf pitcher-Nepenthes

**Answer: B**



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**19.** All given statement w.r.t. cymose inflorescence are correct except

A. Centrifugal opening pattern of flowers

B. Unlimited growth of axis

C. Main axis terminates in a flower

D. Basipetal arrangement of flowers.

**Answer: B**



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20. Stamens represent the male flowers and pistil represents a female flower in

A. Cyathium

B. Spadix

C. Verticillaster

D. Hypanthodium.

**Answer: A**



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**21. Flower in angiosperms**

- A. Is a modified reproductive shoot
- B. Possess different floral appendages at successive nodes
- C. Have floral appendages which are modified leaves
- D. More than one option is correct.

**Answer: D**



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22. Which of the following aestivation involves non-uniform overlapping of petals?

A. Valvate

B. Twisted

C. Imbricate

D. Contorted

**Answer: C**



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23. Find odd one w.r.t. zygomorphic flower



A. Mustard

B. Pea

C. Glumohur

D. Bean

**Answer: A**



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**24.** Stamens are united to petals in

A. Lily

B. Calotropis

C. China rose

D. Verbena

**Answer: C**



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**25.** Syncarpous condition is seen in

- A. Lotus and rose
- B. Mustard and tomato
- C. Mustard and lotus
- D. Rose and tomato

**Answer: B**



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26. Large posterior petal is characteristic to vexillary aestivation found in members of

A. Solanaceae

B. Lillaceae

C. Fabaceae

D. Malvaceae

**Answer: C**



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27. When only the filaments of stamens are united into more than two bundles, the condition is called

A. Monadelphous

B. Diadelphous

C. Polyandrous

D. Polyadelphous.

**Answer: D**



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28. In which placentation type, the ovary is two to many chambered and the ovules arise from central axis?

A. Axile

B. Marginal

C. Parietal

D. Basal

**Answer: A**



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**29.** Select a correct match:

A. Didynamous stamen-Cassia

B. Tetradynamous stamen-Mustard

C. Epiphyllous condition-China rose

D. Syngenesious condition-Cucumber

**Answer: B**



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**30.** Flower is perigynous and the ovary is said to be half inferior in

A. Rose

B. Peach

C. Pisum

D. All of these

**Answer: D**



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**31.** Choose odd one w.r.t. parthenocarpic fruit

A. Mango

B. Banana

C. Oranges

D. Grapes

**Answer: A**



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32. Fruit developed from monocarpellary, superior and unilocular ovary, where the pericarp is fully fused with seed coat is

- A. Follicle
- B. Caryopsis
- C. Achene
- D. Capsule

**Answer: B**



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33. All given are dry fruits, except



A. Legume

B. Capsule

C. Caryopsis

D. Berry.

**Answer: D**



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**34. Select an incorrect match:**

A. Legume-Pea

B. Lomentum-Maize

C. Siliqua-Mustard

D. Drupe-Mango

**Answer: B**



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35. Edible part in pome fruit of apple is

A. Bract

B. Thalamus

C. Cotyledon

D. Endosperm

**Answer: B**



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36. Mesocarp and endocarp are edible in

- A. Pomegranate
- B. Banana
- C. Coconut
- D. Mango

**Answer: B**



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37. Syconus fruit develops from hypanthodium inflorescence, its fruitlets are \_\_\_\_\_ in nature.

A. Achenes

B. Nuts

C. Cocci

D. Samara

**Answer: A**



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**38.** Aleurone layer of maize seed stores \_\_\_\_\_ and is \_\_\_\_\_  
in ploidy.

A. Proteins , n

B. Cellulose, 2n

C. Proteins,3n

D. Fat,3n

**Answer: C**



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**39. Find odd one w.r.t. non-endospermic seeds**

A. Gram

B. Groundnut

C. Pea

D. Castor

**Answer: D**



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**40.** Scar on the seed coat through which the developing seeds are attached to the fruit is called

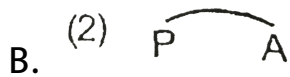
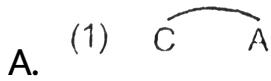
- A. Hilum
- B. kernel
- C. Epicotyl
- D. Caruncle

**Answer: A**



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41. Which of the given symbol represents epitepalous condition?



D. %

**Answer: B**



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42.  $C_{\times 4}A_{2+4}$  condition is characteristic to

A. Asteraceae

B. Brassicaceae

C. Fabaceae

D. Lillaceae

**Answer: B**



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**43. Select an incorrect match:**

A. Indigofera -Fabaceae

B. Helianthus-Asteraceae

C. Capsicum-Malvaceae



D. Aloe-Liliaceae

**Answer: C**



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**44.** To how many families the given below plants belong?

Ashwagandha, Colchicum, Nicotians, Crotonaria,

Raphanus, Arachis, Brassies, Solanum, Asparagus,

Sesbania

A. Two

B. Three

C. Four

D. Five

**Answer: A**



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**45.** Mark the incorrect option (w.r.t. Floral formula of lily family)

A.  $A_{(6)}$

B.  $\underset{+}{o}(\rightarrow)$

C.  $G_{(3)}$

D.  $\oplus$

**Answer: A**



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46. Obliquely placed ovary, swollen placenta and epipetalous stamens are features of family

A. Solanaceae

B. Liliaceae

C. Fabaceae

D. Brassicaceae

**Answer: A**



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47. Which of the given is/are fodder plants of fabaceae?

A. Sesbania

B. Trifolium

C. Witharia

D. More than one option is correct.

Answer: D

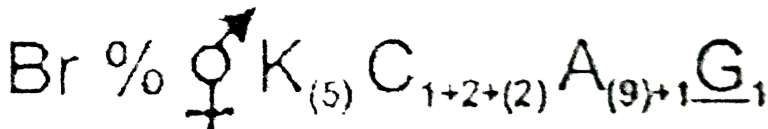


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48.

Floral

formula



belongs to

family

A. Solanaeaceae

B. Brassicaceae

C. Fabaceae

D. Liliaceae

**Answer: C**



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**49. Mark the odd one (w.r.t. poaceae)**

A. Orchids

B. Avena

C. Pennisetum.

D. Secale

**Answer: A**



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**50. Ornamental plants of illiaceae family is**

A. Lupin

B. Gloriosa

C. Sweet pea

D. Belladonna

**Answer: B**



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## Assignment Section A Objective Type Questions

1. Primary root is the direct elongation of the

- A. Pedical
- B. Radicle
- C. Plumule
- D. Stamen

**Answer: B**



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2. The type of roots present in mustard plant is

- A. Fibrous roots
- B. Adventitious roots
- C. Tap roots
- D. Nodulated roots

**Answer: C**



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3. Which of the following is not the lateral branches of the roots?

- A. Tertiary roots
- B. Secondary roots
- C. Primary root
- D. More than one option is correct.

**Answer: C**



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4. In wheat plant \_\_\_\_\_ root system is present.

A. Nodulated

B. Tap

C. Fibrous

D. Prop

**Answer: C**



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5. Which of the following is not the main function of the root system?

A. Provide anchorage to the plant parts

B. Synthesis of PGRs

C. Absorption of water and minerals from soil

D. Photosynthesis

**Answer: D**



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**6.** Which of the following region of root is responsible for the growth of the root in length ?

A. Root cap

B. Region of meristematic activity

C. Region of elongation

D. Region of maturation.

**Answer: C**



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7. Root hairs develop from

- A. Region of elongation
- B. Region of maturation
- C. Region of meristemati activity
- D. Root cap.

**Answer: B**



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8. The region or part of root that increases the surface area for water absorption is

- A. Root cap
- B. Zone of elongation
- C. Meristematic zone
- D. Root hair

**Answer: D**



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9. The tap roots of \_\_\_\_\_ gets modified to store food.

- A. Carrot

B. Onion

C. Ginger

D. Sweet potato

**Answer: A**



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**10.** Adventitious roots of \_\_\_\_\_ get swollen and store

A. Carrot

B. Turnip

C. Radish

D. Sweet potato

**Answer: D**



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**11.** Supporting roots coming out of the lower nodes of the sugarcane stem are called

- A. Prop roots
- B. Stilt roots
- C. Pneumatophores
- D. Fusiform roots

**Answer: B**



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12. In Rhizophora, roots are modified to form

- A. Tuberous roots
- B. Pneumatophores
- C. Stilt roots
- D. Storage roots

**Answer: B**



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13. The hanging structures that support banyan tree are called



- A. Prop roots
- B. Stilt roots
- C. Pneumatophores
- D. Root hair

**Answer: A**



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14. Stem develops from \_\_\_\_\_ of the embryo of a germinating seed.

- A. Radicle
- B. Plumule

C. Pedicel

D. Pneumatophore

**Answer: B**



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15. \_\_\_\_\_ are the regions of the stem that bear leaves.

A. internode

B. Nodes

C. Follar bud

D. Radical bud

**Answer: B**



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**16.** Stems of potato, ginger and turmeric are modified to

- A. Respiration
- B. Perform photosynthesis
- C. Store food
- D. Provide support

**Answer: C**



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17. In gourds, axillary buds develop spirally coiled structures called

A. Thorns

B. Tendril

C. Offsets

D. Suckers

**Answer: B**



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18. \_\_\_\_\_ protect Bougainvillea from grazing animals.

A. Tendrils

B. Suckers

C. Offsets

D. Thorns

**Answer: D**



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**19.** Stems are modified into flattened structures, which carryout photosynthesis in

A. Euphorbia

B. Opuntia

C. Bougainvillea

D. Colocasia

**Answer: A**



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**20.** Chlorophyll containing fleshy cylindrical structure found in Euphorbia re modified

A. Roots

B. Fruit

C. Leaves

D. Stem

**Answer: D**



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21. Chlorophyll containing fleshy cylindrical structures found in Euphorbia are modified

A. Roots

B. Fruit

C. Leaves

D. Stem

**Answer: D**



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22. Leaves originate from \_\_\_\_\_ and are arranged in an \_\_\_\_\_ order.

- A. Root apical meristem, acropetal
- B. Floral meristem, basipetal
- C. Shoot apical meristem, acropetal
- D. Internodes, basipetal.

**Answer: C**



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23. Which of the following is not part of a leaf?



A. pedicel

B. Leaf base

C. petiole

D. Lamina

**Answer: A**



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**24.** Leaf base may bear two lateral small leaf like structures called

A. Lamina

B. Pulvinus

C. Stipules

D. Sepals

**Answer: C**



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**25.** Swollen leaf base found in leguminous plants is called

A. Leaf blade

B. Petiole

C. Stipules

D. Pulvinus

**Answer: D**



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**26.** Which one of the following plants shows alternate phyllotaxy?

A. Sunflower

B. Guava

C. Nerium

D. Calotropis

**Answer: A**



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27. The petiole expand and become green to synthesize food in

- A. Solanum
- B. Opium sativum
- C. Venus-fly trap
- D. Australian Acacia

**Answer: D**



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28. Mark the incorrect statement

A. Flower is a modified shoot

B. In cymose inflorescence, the main axis terminates  
in a flower.

C. Flowers are borne on successive internodes on the  
stems and roots

D. When a shoot tip transforms into a flower, the  
flower is always solitary

**Answer: C**



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**29.** The four whorls of a flower are arranged on the

A. Thalamus

B. Petiole

C. Corolla

D. Stamens

**Answer: A**



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**30.** Radial symmetry is found in flowers of

A. Cassia

B. Chilli

C. Gulmohur

D. Canne

**Answer: B**



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**31.** The flower of which of the following plant is zygomorphic?

A. Bean

B. Datura

C. Mustard

D. Canne

**Answer: A**



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32. Which of the following plant has a superior ovary?

A. Peach

B. Guava

C. China rose

D. Rose

**Answer: C**



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33. Which of the following plant has epigynous flower?



A. Cucumber

B. Brinjal

C. Mustard

D. Peach

**Answer: A**



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**34.** The ray florets of sunflower has

A. Superior ovary

B. Half inferior ovary

C. Half superior ovary

D. Inferior ovary.

**Answer: D**



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**35. Mark the incorrect match**

A. Calotropis- Valvate

B. Lady's finger-Twisted

C. Cassia-Valvate

D. Gulmohur - Imbricate

**Answer: C**

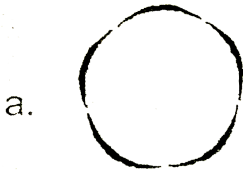


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36. Match the column-1 with column-ii w.r.t. aestivation

Column-I

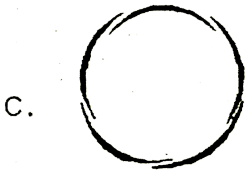
Column-II



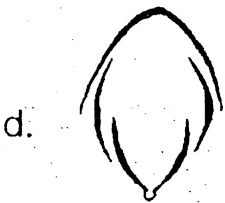
(i) Valvate



(ii) Vexillary



(iii) Twisted



(iv) Imbricate

A. a-ii,b-i,c-iv,d-iii

B. a-iii,b-ii,c-iv,d-i

C. a-iv,b-ii,c-iii,d-i

D. a-i,b-iii,c-iv,d-ii

**Answer: D**



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**37.** Carpels are fused in the flowers of

A. Lotus and rose

B. Tomato

C. Rose

D. Both 1 & 3

**Answer: B**



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**38.** Ovary containing the false septum occurs in

A. Primrose

B. Dianthus

C. Argemone

D. Pisum sativum

**Answer: C**



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39. In \_\_\_\_\_ Placentation, the placenta forms a ridge along the ventral suture of the of the ovary.

A. Axile

B. Basal

C. Free central

D. Marginal

**Answer: D**



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40. The stony hard part of the mango represents

A. Mesocarp

B. Epicarp

C. Endosperm

D. Endocarp

**Answer: D**



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**41.** Select the correct statement w.r.t. Mango and coconut

A. They develop from monocarpellary superior ovaries

B. They develop from monocarpellary inferior ovaries

C. They have fibrous epicarp

D. They have fleshy edible mesocarp

**Answer: A**



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**42.** The inner layer of the seed coat is called

A. Testa

B. Hilum

C. Micropyle

D. Tegmen

**Answer: D**



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43. Which of the following parts of the embryo contains radicle and plumule?

A. Cotyledon

B. Seed coat

C. Embryonal axis

D. Endosperm

**Answer: C**



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44. Which of the following plant has endospermic seed?

A. Bean

B. Gram

C. Pea

D. Castor

**Answer: D**



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**45.** While representing a floral formula. G stands for

A. Epigynous flower

B. Superior ovary

C. inferior ovary

D. Androecium

**Answer: B**



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**46. Select the correct option**

Column-I	Column-II
a. Br	(i) Corolla
b. K	(ii) Perianth
c. C	(iii) Calyx
d. P	(iv) Bracteate

A. a-iv,b-ii,c-iii,d-i

B. a-iv,b-i,c-iii,d-ii

C. a-iv,b-ii,c-i,d-ii

D. a-i,b-ii,c-iii,d-iv

**Answer: C**




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**47.** Actinomorphic nature of flower is represented by which of the following symbols?

A. A

B. %

C.  $\oplus$

D. (4) 

**Answer: C**



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48. Floral formula of family fabaceae is

A.  $(1) \oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{♀}}} K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$

B.  $(2) \% \overset{\curvearrowright}{\sigma} K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$

C.  $(3) \oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{♀}}} K_5 C_{1+2+2} A_{9+1} \underline{G}_1$

D.  $(4) \% \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{♀}}} K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$

Answer: D



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49. The floral formula of solanaceae (Chilli) is

A.  $(1) \oplus \overset{\curvearrowright}{\ominus} K_5 C_5 A_5 \bar{G}_2$

B.  $(2) \oplus \overset{\curvearrowright}{\ominus} K_{(5)} C_{(5)} A_{(5)} \underline{G}_{(2)}$

C.  $(3) \oplus \overset{\curvearrowright}{\ominus} K_{(5)} \widehat{C}_{(5)} A_5 \underline{G}_{(2)}$

D.  $(4) \oplus \ominus K_5 \widehat{C}_{(5)} A_{(5)} \underline{G}_{(2)}$

**Answer: C**



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**50.** Which of the following plants is used to extract the blue dye ?

A. Trifolium

B. Lupin

C. Indigofera

D. Cassia

**Answer: C**



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## Section B Objective Type Questions

1. The origin of root hairs and lateral roots is ,  
respectively ,

A. Exogenous and endogenous respectively

B. Endogenous and exogenous respectively

C. Both endogenously

D. Both exogenously

**Answer: A**



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**2. Find odd one w.r.t. radicle leaves**

A. Maize

B. Radish

C. Carrot

D. Turnip



**Answer: A**



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**3. Cussuta, Viscum and Orobanche are similar in having**

- A. Hygroscopic roots
- B. Assimilatory roots
- C. Epiphyllous roots
- D. Haustorial roots

**Answer: D**



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#### 4. Match the following

##### Column I

- a. *Cuscuta*
- b. *Rhizophora*
- c. *Vanda*
- d. *Pandanus*

##### Column II

- (i) Hygroscopic root
- (ii) Stilt root
- (iii) Haustorial root
- (iv) Respiratory root

A. a-i,b-iii,c-iv,d-ii

B. a-iii,b-iv,c-i,d-ii

C. a-iii,b-i,c-iv,d-ii

D. a-ii,b-iv,c-i,d-iii

**Answer: B**



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5. Stem modified into green, flattened branches of unlimited growth for assimilatory function is

A. Phyllode

B. Phylloclade

C. Cladode

D. Bulbil

**Answer: B**

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6. Leafless stem of onion which produces cluster of terminal flowers is called

A. Peduncle

B. Floral axis

C. Scape

D. Rachis

**Answer: C**



**Watch Video Solution**

7. Which is not a modification of stem ?

A. Tuber of potato

B. Pitcher of Nipenthes

C. Corn of Colocasia

D. Rhizome of ginger

**Answer: B**



**Watch Video Solution**

8. Reticulate venation is the feature of dicots but some monocots also exhibit this venation. The one following this type of venation is

A. Calophyllum

B. Smilax

C. Eryngium

D. Corymbium

**Answer: B**



**Watch Video Solution**

9. Thorns, spines and prickles work as \_\_\_ in plants .

A. Respiratory organs

B. Excretory organs

C. Organs of offense

D. Defensive organs

**Answer: D**



**Watch Video Solution**

10. Leaflet tendril and entire leaf tendril are found in respectively.

A. Cucurbita, Smilax

B. Pisum, Lathyrus aphaca

C. Passiflora, vitis

D. Luffa, Pisum

**Answer: B**



**Watch Video Solution**

11. Select an incorrect match

A. Whorled phyllotaxy-Alstonia, Nerium

B. Decussate phyllotaxy Quisqualis, Psidium, Syzygium

C. Alternate phyllotaxy- Mustard, China rose, Sunflower

D. Opposite phyllotaxy - Zinnia, Calotropis

**Answer: B**



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**12. Which of the following is not the modification of leaf?**

A. Tendril in Antigonon

B. Tendril in Clematis

C. Tendril in Gloriosa

D. Tendril in Nepenthes



**Answer: A**



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**13. Select a correct set.**

- |    | Plant     | Organ    | Function            |
|----|-----------|----------|---------------------|
| A. | Vanda     | Tap root | Moisture absorption |
|    | Plant     | Organ    | Function            |
| B. | Jasmine   | Offset   | Photosynthesis      |
|    | Plant     | Organ    | Function            |
| C. | Pineapple | Sucker   | Propagation         |
|    | Plant     | Organ    | Function            |
| D. | Nepenthes | Leaf tip | Photosynthesis      |

**Answer: C**



**Watch Video Solution**

14. Inflorescence with thick , fleshy axis and large-colored bract is

- A. Spathe
- B. Spadix
- C. Spikelet
- D. Hypanthodium.

**Answer: B**



[Watch Video Solution](#)

15. Bisexual sessile and bracteates flowers developing acropetally in

A. Raceme

B. Panicle

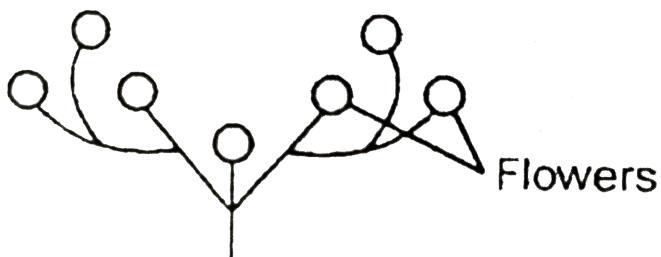
C. Spike

D. Corymbium

**Answer: C**

 [Watch Video Solution](#)

16. Which kind of inflorescence is shown in the figure given below?



- A. Simple dichasial cymose
- B. Verticilaster
- C. Simple monochasial cymose
- D. Polychasial cymose

**Answer: B**



**Watch Video Solution**

**17. Find the odd one (w.r.t. inflorescence axis elongation)**

- A. Umbel
- B. Spike
- C. Raceme

D. Catkin

**Answer: A**



**Watch Video Solution**

**18.** The type of inflorescence characterized by having dimorphic flower is

A. Catkin

B. Umbel

C. Corymb

D. Capitulum

**Answer: D**



[Watch Video Solution](#)

**19.** In Head or Capitulum inflorescence

- A. Ray florets: pistillate and neuter, actinomorphic
- B. Disc florets: bisexual, zygomorphic
- C. Ray florets: pistillate or neuter, zygomorphic
- D. Disc florets: pistillate, actinomorphic

**Answer: C**



[Watch Video Solution](#)

20. Monoadelphous condition and pentacarpellary ovary are present in

A. China rose family

B. Pea family

C. Potato family

D. Yucca family

**Answer: A**



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21. A. Citrus and Ricinus have synandrous condition.

B. In epitepalous condition, the cohesion occurs between

tepal and filament of stamen.

C. Tetradynamous condition consists of two long and four short stamen filaments.

- A. All are incorrect
- B. Only A is incorrect
- C. Only C is incorrect
- D. Only B is incorrect.

**Answer: A**



**Watch Video Solution**

**22.** Presence of staminode is characteristic feature of



A. Caesalpinoideae

B. Mimosoideae

C. Arecaceae

D. uphorblaceae

**Answer: A**



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**23. Match the following**

Column I

Column II

a. Amphisarca

(i) Aegle

b. Pepo

(ii) Cucumis

c. Drupe

(iii) Ananas

d. Sorosis

(iv) Juglans

A. a-i,b-ii,c-iv,d-iii

B. a-i,b-ii,c-iii,d-iv

C. a-iii,b-ii,c-i,d-iv

D. a-ii,b-i,c-iv,d-iii

**Answer: A**



**Watch Video Solution**

**24. Find incorrect matching**

A. Pome-Fleshy thalamus

B. Schizocarp-Mericarp

C. Balausta-Aril

D. Syconus-Hypanthodium

**Answer: C**



**Watch Video Solution**

**25.** Most common fruits of fabaceae and brassicaceae are respectively

A. Lomentum and Siliqua

B. Legume and Samara

C. Lomentum and Silicula

D. Legume and Siliqua

**Answer: D**



[Watch Video Solution](#)

26. In *Coriandrum*, the prolongation of thalamus beyond the carpel is called as

- A. Gynophore
- B. Gynandrophore
- C. Androphore
- D. Carpophore

**Answer: D**



[Watch Video Solution](#)

27. A dry dehiscent fruit which develops from multicarpellary, syncarpous superior ovary with axile placentation, is

A. Capsule

B. Siliqua

C. Achene

D. Lomentum

**Answer: A**



**Watch Video Solution**

28. Scutellum is a

- A. Food storing haploid structure in grass embryo
- B. Remnant of cotyledon in maize
- C. Shield shaped and large cotyledon of grasses
- D. Protective covering of plumule in grasses

**Answer: C**



**Watch Video Solution**

**29.** There are given some plants below , select among the options that, to how many families they belong? Plants are-Crotolaria, Atropa, Solanum, Arachis, Bambusa and Chrysanthemum

A. 4 families

B. 6 families

C. 2 families

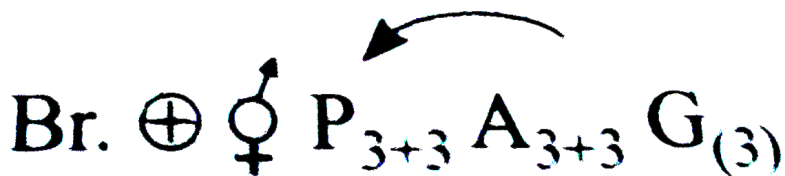
D. 3 families

**Answer: A**



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30. Floral formula



represents which one of the following groups of family ?

A. Croton and Astragalus

B. Lepidium and Iberis

C. Allium and Asparagus

D. Vetiveria and Cymbopogon

**Answer: C**



**Watch Video Solution**

**31. Find correct match**

**Column I**

- a. Sinigrin
- b. Carthamin
- c. Atropine
- d. Aloin

**Column II**

- (i) Liliaceae
- (ii) Brassicaceae
- (iii) Solanaceae
- (iv) Asteraceae



A. a-ii,b-iv,c-iii,d-i

B. a-ii,b-iv,c-i,d-iii

C. a-i,b-ii,c-iii,d-iv

D. a-i,b-ii,c-iv,d-iii

**Answer: A**



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**32.** Find out a set of common  $N_2$  fixing fodder plants

A. Trifolium, Atropa

B. Withania, Abrus

C. Sesbania, Trifollum

D. Aloe, Gloriosa

**Answer: C**



**Watch Video Solution**

**33.** Family fabaceae is concerned with

- A. Diadelphous stamen, marginal placentation  
obliquely placed ovary and vexillary corolla
- B. Diadelphous stamen, marginal placenta and large  
posterior petal
- C. Basal placentation, versatile stamens, spikelet  
inflorescence

D. Axile placentation, non-endospermic seed, legume fruit.

**Answer: B**



**Watch Video Solution**

**34.** Butterfly shaped corolla, monocarpellary ovary and zygomorphic flowers are found in family

- A. Caesalpinoideae
- B. Solanaceae
- C. Papilionaceae / Fabaceae
- D. Graminae

**Answer: C**



**Watch Video Solution**

**35.** Most primitive and advanced families of dicots are respectively

- A. Solanaceae and Asteraceae
- B. Leguminosae and Poaceae
- C. Ranunculaceae and Asteraceae
- D. Asteraceae and Cucurbitaceae

**Answer: C**



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## Section C Objective Type Questions

1. The term 'polyadelphous' is related to

- A. Gynoecium
- B. Androecium
- C. Corolla
- D. Calyx

**Answer: B**



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2. Many plants among Indigofera, Sesbania, Salvia, Allium, Aloe, mustard, groundnut, radish, gram and turnip have stamens with different in their flowers

A. Three

B. Four

C. Five

D. Six

**Answer: B**



[Watch Video Solution](#)

3. Radial symmetry is found in the flowers of

A. Brassica

B. Trifolium

C. Pisum

D. Cassia

**Answer: A**



**Watch Video Solution**

**4. Free-central placentation is found in**

A. Dianthus

B. Argemone

C. Brassica

D. Citrus

**Answer: A**



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5. Match Column-I with Column-II and select the correct option using the codes given below

Column-I	Column-II
a. Pistils fused together (i)	Gametogenesis
b. Formation of gametes(ii)	Pistillate
c. Hyphae of higher Ascomycetes	(iii) Syncarpous
d. Unisexual female flower	(iv) Dikaryotic

A. a-iv,b-iii,c-i,d-ii



B. a-ii,b-i,c-iv,d-iii

C. a-i,b-ii,c-iv,d-iii

D. a-iii,b-i,c-iv,d-ii

**Answer: D**



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**6. Cotyledon of maize grain is called**

A. Scutellum

B. Plumule

C. Coleorhiza

D. Coleoptile

**Answer: A**



**Watch Video Solution**

7. Tricarpellary syncarpous gynoecium is found in flowers of

A. Poaceae

B. Liliaceae

C. Solanaceae

D. Fabaceae

**Answer: B**



**Watch Video Solution**

8. Which of the following is not a stem modification

A. Flattened structure of Opuntia

B. Pitcher of Nepenthes

C. Thorns of citrus

D. Tendrils of cucumber.

**Answer: B**



[Watch Video Solution](#)

9. Stems modified into flat green organs performing the functions of leaves are known as

A. Scales

B. Cladodes

C. Phyllodes

D. Phyllociades

**Answer: D**



**Watch Video Solution**

**10.** The standard petal of a papilionaceous corola is also called

A. Corona

B. Carina

C. Pappus

D. Vexillum

**Answer: D**



**Watch Video Solution**

11. Among china rose, mustard, Brinjal, potato, guava, cucumber onion and tulip, how many plants have superior ovary

A. Four

B. Five

C. Six

D. Three

**Answer: C**



**Watch Video Solution**

**12. Flowers are unisexual in**

A. Onion

B. Pea

C. Cucumber

D. China rose

**Answer: C**



**Watch Video Solution**

**13.** Leaves become modified into spines in :-

A. Silk Cotton

B. Opuntia

C. Pea

D. Onion

**Answer: B**



**Watch Video Solution**

**14.** Keel is the characteristic feature of flower of

A. Tomato

B. Tulip

C. Indigofera

D. Aloe

**Answer: C**



**Watch Video Solution**

**15. Perigynous flowers are found in**

A. Rose

B. Guava

C. Cucumber



D. China rose

Answer: A



Watch Video Solution



16.

is the

floral formula of

A. Brassica

B. Allium

C. Sesbania

D. Petunia

**Answer: D**



**Watch Video Solution**

**17. Which one of the following statements is correct**

- A. The seed in grasses is not endospermic
- B. Mango is a parthenocarpic fruit
- C. A proteinaceous aleurone layer is present in maize grain.
- D. A sterile pistil is called a staminode.

**Answer: C**



**Watch Video Solution**

18. An example of edible underground stem is

- A. Carrot
- B. Groundnut
- C. Sweet potato
- D. Potato

**Answer: D**



[Watch Video Solution](#)

19. Placenta and pericarp are both edible portions in

A. Apple

B. Banana

C. Tomato

D. Potato

**Answer: C**



**Watch Video Solution**

20. When the margins of sepals or petals overlap one another without any particular direction, the condition is termed as

A. Vexillary

B. Imbricate

C. Twisted

D. Valvate

**Answer: B**



**Watch Video Solution**

**21.** An aggregate fruit it is one which develops from

A. Multicarpellary syncarpous gynoecium

B. Multicarpellary apocarpous gynoecium

C. Complete inflorescence

D. Multicarpellary superior ovary.

**Answer: B**



**Watch Video Solution**

**22. Non-albuminous seed is produced in**

A. Maize

B. Castor

C. Wheat

D. Pea

**Answer: D**



**Watch Video Solution**

**23.** Seed coat is not thin, membranous in

A. Coconut

B. Groundnut

C. Gram

D. Maize

**Answer: A**



**Watch Video Solution**

**24.** Among bitter gourd. Mustard, brinjal, pumpkin, chinarose, lupin, cucumber, sunnehemp, gram, guava, bean, chilli, plum,petunia, tomato, rose,withania, potato,

onion, aloe and tulip how many plants have hypogynous flower

- A. Ten
- B. Fifteen
- C. Eighteen
- D. Six

**Answer: B**



**Watch Video Solution**

**25.** In china rose the flowers are

- A. Actionomorphic, epigynous with valvate aestivation



B. Zygomorphic, hypogynous with imbricate aestivation.

C. Zygomorphic, epigynous with twisted aestivation

D. Actinomorphic, hypogynous with twisted aestivation.

**Answer: D**

 [Watch Video Solution](#)

**26.** Placentation in tomato and lemon is

A. Marginal

B. Axile

C. Parietal

D. Free central

**Answer: B**



**Watch Video Solution**

**27. Vexillart aestivation is characteristic of th family**

A. Solanaceae

B. Brassicaceae

C. Fabaceae

D. Asteraceae

**Answer: C**



**Watch Video Solution**

**28. Phyllode is present in :-**

A. Australian Acacia

B. Opuntia

C. Asparagus

D. Euphorbia

**Answer: A**



**Watch Video Solution**

29. How many plants in the list given below have composite fruits that develop from an inflorescence. Walnut, poppy, radish, fig, pineapple, apple, totato, mulberry.

- A. Two
- B. Three
- C. Four
- D. Five

**Answer: B**



**Watch Video Solution**

30. How many plants in the list given below have composite fruits that develop from an inflorescence. Walnut, poppy, radish, fig, pineapple, apple, totato, mulberry.

- A. Two
- B. Three
- C. Four
- D. Five

**Answer: C**



**Watch Video Solution**

31. Which one of the following organisms is correctly matched with its three characteristics

A. Pea:  $C_3$  pathway, Endospermic seed, Vexillary aestivation

B. Tomato: Twisted aestivation, Axile placentation, Berry

C. Onion: Bulb, Imbricate aestivation, Axile placentation

D. Maize:  $C_3$  pathway, Closed vascular bundles, Scutellum

**Answer: D**



[Watch Video Solution](#)

32. How many plants in the list given below have marginal placentation : Mustard, Gram, Tulip, Asparagus, Arhar, Sun hemp, Chilli, Chochicine, onion, Moong, Pea, Tobacco, Lupin

A. Four

B. Five

C. Six

D. Three

**Answer: C**



[Watch Video Solution](#)

**33.** The 'Eyes' of the potato tuber are :-

A. Axiliary buds

B. Root buds

C. Flower buds

D. Shoot buds

**Answer: A**



**Watch Video Solution**

**34.** Which one of the following statements is correct?

A. Flower of tulip is a modified shoot



B. In tomato, fruit is a capsule

C. Seeds of orchids have oil-rich endosperm

D. Placentation in Primose is basal.

**Answer: A**



**Watch Video Solution**

**35. The floral formula of solanaceae (Chilli) is**

A. (1)  $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{K}_5} \text{C}_5 \text{A}_{(5)} \text{G}_2$

B. (2)  $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{K}_{(5)}} \text{C}_5 \text{A}_{(5)} \text{G}_{(2)}$

C. (4)  $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{K}_5} \text{C}_{(5)} \text{A}_{(5)} \text{G}_2$

D. (4)  $\oplus \overset{\curvearrowright}{\underset{\curvearrowleft}{\text{K}_{(5)}} \text{C}_{(5)} \text{A}_{(5)} \text{G}_2$

**Answer: C**



**Watch Video Solution**

**36.** A drupe develops in

A. Tomato

B. Mango

C. Wheat

D. Pea

**Answer: B**



**Watch Video Solution**

37. Flowers are Zygomorphic in

A. Datura

B. Mustard

C. Gulmohur

D. Tomato

**Answer: C**



**Watch Video Solution**

38. Whorled, simple leaves with reticulate venation are present in

A. China Rose

B. Alstonia

C. Calotropia

D. Neem

**Answer: B**



**Watch Video Solution**

**39.** Which one of the following pairs is wrongly matched while the remaining three are correct ?

A. Bryophyllum-Leaf buds

B. Agave-Bulbils

C. Penicillium-Conidia

D. Water hyacinth-Runner

**Answer: D**



**Watch Video Solution**

40. Sweet potato is homologous to

A. Ginger

B. Tumip

C. Potato

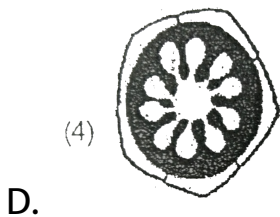
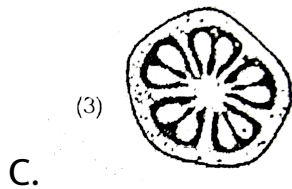
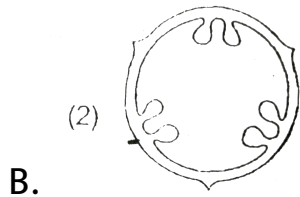
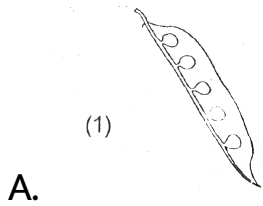
D. Colocasia

**Answer: B**



**Watch Video Solution**

41. Which one of the following diagrams represents the placentation in *Dianthus*



**Answer: D**



**Watch Video Solution**

**42.** The ovary is half inferior in flowers of

A. Guava

B. Peach

C. Cucumber

D. Cotton

**Answer: B**



**Watch Video Solution**

43. The technical term used for the androecium in a flower of China rose (*Hibicus rosa-sinensis*) is

A. Polyadelphous

B. Monadelphous

C. Diadelphous

D. Polyandrous

**Answer: B**



**Watch Video Solution**

44. The scutellum observed in a grain of wheat or maize is comparable to which part of the seed in other



monocotyledons

A. Plumule

B. Cotyledon

C. Endosperm

D. Aleurone layer

**Answer: B**



**Watch Video Solution**

**45.** Keel is characteristic of the flower of

A. Bean

B. Gulmohur

C. Cassia

D. Calotropis

**Answer: A**



**Watch Video Solution**

**46.** In unilocular ovary with a single ovule the placentation is

A. Axile

B. Marginal

C. Basal

D. Free central

**Answer: C**



**Watch Video Solution**

**47.** The ovary is half inferior in flowers of

A. Cucumber

B. Guava

C. Plum

D. Brinjal

**Answer: C**



**Watch Video Solution**

**48.** Which of the following is a xerophytic plant in which the stem is modified into a flat green and succulent structure?

A. Opuntia

B. Casuarina

C. Hydrilla

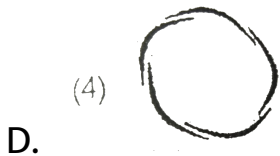
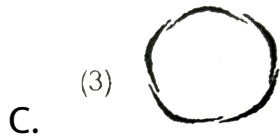
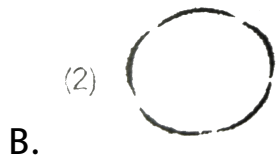
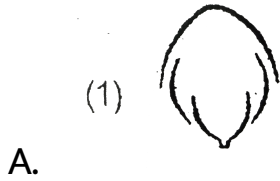
D. Acacia

**Answer: A**



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49. Aestivation of petals in the flower of cotton is correctly shown in

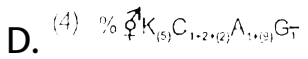
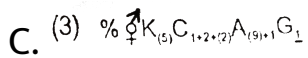
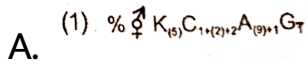


**Answer: D**



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50. The correct floral formula of soyabean is :-

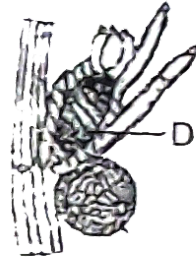
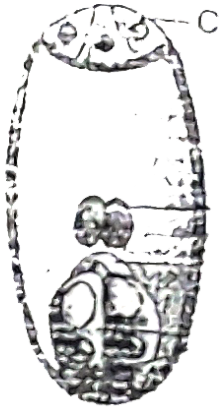
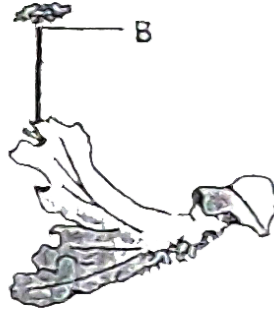
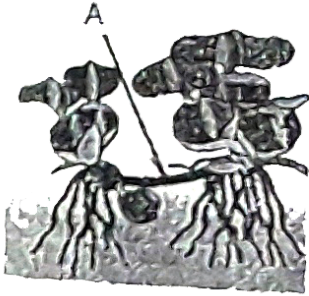


**Answer: C**

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51. Examine the figures (A-D) given below and select the right option out of 1-4 in which all the four structures A,B,C and D are identified correctly

Structures :



A. *A* *B* *C* *D*  
Rhizome Sporangium Polar cell Globule

B.

*A* *B* *C* *D*  
Runner Archegoniophore Synergid Antheridium

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Offset	Antheridiophore	Antipodals	Oogonium

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Sucker	Seta	Megaspore mother cell	Gemma cup

**Answer: C**



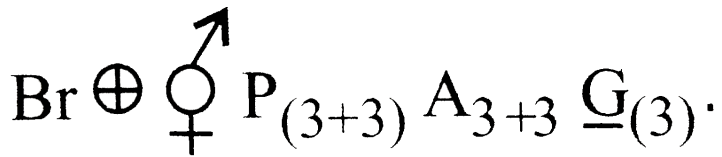
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**52.** Consider the following four statements (i),(ii),(iii) and (iv)

(i) In vexillary aestivation, the large posterior petal is called standard, two lateral ones are called wings and two small anterior petals are termed as keel

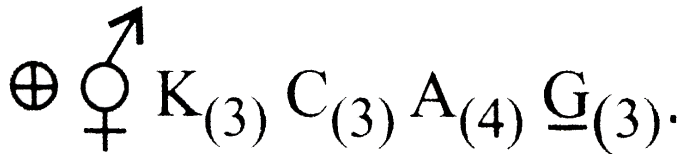


(ii) The floral formula for Liliaceae is



(iii) In pea flower, the stamens are monadelphous

(iv) The floral formula for Solanceae is



The correct statement are

A. A and C

B. A and B

C. B and C

D. C and D

**Answer: B**



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**53.** Vegetative propagation in Pistia occurs by

- A. Stolen
- B. Offset
- C. Runner
- D. Sucker

**Answer: B**



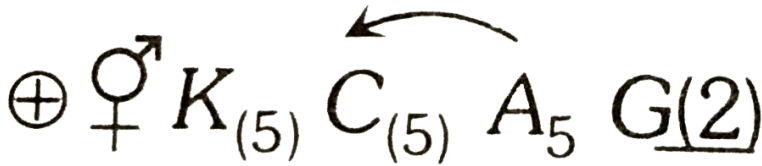
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54.

The

floral

formula



is that of

A. Soybean

B. Sunnhemp

C. Tobacco

D. Tulip

**Answer: C**



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55. A fruit developed from hypanthodium inflorescence is called

- A. Sorosis
- B. Syconus
- C. Caryopsis
- D. Hesperidium.

**Answer: B**



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56. Vegetative propagation in mint occurs by

A. Offset

B. Rhizome

C. Sucker

D. Runner

**Answer: C**



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**57.** Cotyledons and testa respectively are edible parts in

A. Walnut and tamarind

B. French bean and coconut

C. Cashew nut and litchi

D. Groundnut and pomegranate

**Answer: D**



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58. An example of axile placentation is

A. Dianthus

B. Lemon

C. Marigold

D. Argemone

**Answer: B**



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59. Thorn of Bougainvillea and tendril of Cucurbita are examples of :

- A. Retrogressive evolution
- B. Analogous organs
- C. Homologous organs
- D. Vestigial organs

**Answer: C**



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60. The fruit is chambered, developed from inferior ovary and has seeds with succulent testa in

- A. Cucumber
- B. Pomegranate
- C. Orange
- D. Guava

**Answer: B**



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61. Dry indehiscent single-seeded fruit formed from bicarpellary syncarpous inferior ovary is



A. Cremocarp

B. Caryopsis

C. Cypsela

D. Berry.

**Answer: C**



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**62.** Endosperm is consumed by developing embryo in the seed of

A. Maize

B. Coconut

C. Castor

D. Pea

**Answer: D**



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**63.** Replum is present in the ovary of flower of

A. Pea

B. Lemon

C. Mustard

D. Sunflower

**Answer: C**



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**64.** The fleshy receptacle of syconus of fig encloses a number of

A. Mericarps

B. Achenes

C. Samaras

D. Berries

**Answer: B**



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65. Pineapple (anasas) fruit develops from

A. A unilocular flower

B. A multipistillate syncarpous flower

C. A cluster of compactly borne flowers on a common  
axis

D. A multilocular monocarpellary flower.

**Answer: C**



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66. In which of the following fruits is the edible part the aril ?

A. Custard apple

B. Pomegranate

C. Orange

D. Litchi

**Answer: D**



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67. Pentamerous actinomorphic flowers, bicarpellary ovary with oblique septa, and fruit a capsule or berry, are

characteristic features of

A. Asteraceae

B. Brassionceae

C. Solanaceae

D. Liliaceae

**Answer: C**



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**68.** What type of placentation of seen in sweet pea

A. Basal

B. Axile

C. Free central

D. Marginal

**Answer: D**



**Watch Video Solution**

**69.** Which of the following represents the edible part of the fruit of Litchi -

A. Pericarp

B. Mesocarp

C. Juicy aril

D. Endocarp

**Answer: C**



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70. Angiosperm to which the largest flower belong is

- A. Total root parasite
- B. Partial root parasite
- C. Total stem parasite
- D. Partial stem parasite

**Answer: A**



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71. Clinging roots occur in

- A. Screw pine
- B. Podostemon
- C. Trapa
- D. Orchid

**Answer: D**



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72. Pneumatophores are found in-

- A. The vegetation which is found in marshy and saline lake
- B. The vegetation which is found in acidic soil
- C. Xerophytes
- D. Epiphytes

**Answer: A**



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**73.** In a longitudinal section of a root, starting from the tip upward, the four zones occur in the following order

A. Root cap, cell division, cell enlargement, cell maturation

B. Root cap, cell division, cell maturation, cell enlargement

C. Cell division, cell enlargement, cell maturation, root cap

D. Cell division, cell maturation, cell enlargement, root cap.

**Answer: A**



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74. A potato bears fruit, has a column of vascular tissue and a tap root system. This plant is a/an

- A. Angiosperm and dicot
- B. Gymnosperm and dicot
- C. Angiosperm and monocot
- D. Gymnosperm and monocot

**Answer: A**



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75. Eye of potato is

- A. Axiliary buds
- B. Accessory bud
- C. Adventitious bud
- D. Apical bud

**Answer: A**



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**76.** How many plants among China rose, Ocimum, sunflower, mustard, Alstonia, guava, Calotropis and Nerium (Olender) have opposite phyllotaxy

- A. Two

B. Three

C. Four

D. Five

**Answer: B**



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**77.** The lid of pitcher in pitcher plant, is the modification of  
of

A. Leaf apex

B. Leaf base

C. Petiole

D. Lamina

**Answer: A**



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**78.** A pair of insectivorous plants is

A. Dionaea and Viscum

B. Venus fly trap and Rafflesia

C. Drosera and Rafflesia

D. Nepenthes and bladderwort

**Answer: D**



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79. The ability of the venus fly trap of capture insects is due to

- A. Specialized "muscle-like" cells
- B. Chemical stimulation by the prey
- C. A passive process requiring no special ability of the part of the plant
- D. Rapid turgor pressure changes

**Answer: D**



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80. In a cymose inflorescence the main axis

A. Terminates in a flower

B. Has unlimited growth

C. Bears a solitary flower

D. Has unlimited growth but lateral branches end in  
flowers

**Answer: A**



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81. Inflorescence is racemose in

A. Soyabean

B. Brinjal

C. Tulip

D. Aloe

**Answer: A**



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**82.** Hypanthodium is a specialized type of

A. Fruit

B. Inflorescence

C. Thalamus

D. Ovary

**Answer: B**



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**83.** Hair are found in the inflorescence of Zea mays are the modification of:

A. Style

B. Stigma

C. Spathe

D. Filaments

**Answer: A**



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**84.** Floral features are chiefly used in angiosperms identification because

A. Flowers can be safely pressed

B. Reproductive parts are more stable and conservative than vegetative parts

C. Flowers are nice to work with

D. Flowers are of various colours

**Answer: B**



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85. Tetradyamous condition occurs in

- A. Cruciferae
- B. Malvaceae
- C. Solanaceae
- D. Liliaceae

**Answer: A**



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86. Anthesis is a phenomenon which refers to

- A. Reception of pollen by stigma

- B. Formation of pollen
- C. Development of anther
- D. Opening of flower bud

**Answer: D**



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**87.** Pappus in sunflower family is the modification of

- A. Hairs
- B. Anthers
- C. Calyx
- D. Corolla

**Answer: C**



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**88.** How many plants in the list given below have composite fruits that develop from an inflorescence.

Walnut, poppy, radish, fig, pineapple, apple, totato, mulberry.

A. Two

B. Three

C. Four

D. Five

**Answer: B**



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**89.** Which of the following is a 'true fruit'?

A. Banana

B. Pineapple

C. Apple

D. Pear

**Answer: A**



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90. Coir is the commercial product of coconut's

A. Endocarp

B. Endosperm

C. Pericarp

D. Mesocarp

**Answer: D**



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91. Aril represents edible part in

A. Mango

B. Apple

C. Banana

D. Litchi

**Answer: D**



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**92.** Which of the following will lose its economic value, if it fruits are produced by induced parthenocarpy?

A. Orange

B. Banana

C. Grape

D. Pomegranate

**Answer: D**



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**93.** Edible part of coconut is

A. Endosperm

B. Pericarp

C. Mesocarp

D. Fleshy aril

**Answer: A**



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94. Geocarpic fruit is

- A. Carrot
- B. Radish
- C. Ground nut
- D. Turnip

**Answer: C**



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95. Which is correct pair for edible part ?

A. Tomato-thalamus

B. Maize-cotyledons

C. Guava-mesocarp

D. Date palm-mesocarp

**Answer: D**



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**96.** Edible part of banana is

A. Epicarp

B. Mesocarp and less developed endocarp

C. Endocarp and less developed mesocarp

D. Epicarp and mesocarp

**Answer: C**



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**97.** Edible part of mango is

A. Mesocarp

B. Epicarp

C. Endocarp

D. Epidermis

**Answer: A**



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98. Geocarpic fruit is : -

A. Potato

B. Peanut

C. Onion

D. Garlic

**Answer: B**



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99. juicy hair-like structures observed in the lemon fruit develop form

A. Exocarp

B. Mesocarp

C. Endocarp

D. Mesocarp and endocarp

**Answer: C**



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**100.** Select correct statement w.r.t. hard walled berry.

A. Multiseeded fruit developing from superior ovary.

B. Edible part is juicy unicellular hairs

C. Develops from  $G\bar{3}$



D. Develops from  $G_3$

**Answer: C**



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**101.** Scutellum in a caryopsis represents

- A. Outermost layer of endosperm
- B. A sheath that protects the radicle
- C. The place where the seed is attached to raphe
- D. A cotyledon

**Answer: D**



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102. An example of a seed with endosperm, perisperm and caruncle is

A. Castor

B. Cotton

C. Coffee

D. Lily

**Answer: A**



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**103.** Among flowers of Calotropis, tulip, Sesbania, Asparagus, Colchicine, Sweet pea, petunia, Indigofera, Mustard, Soybean, Tobacco and groundnut how many plants have corolla with valvate aestivation.

- A. Five
- B. Six
- C. Seven
- D. Eight

**Answer: C**



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104. Which is expressing right appropriate pairing:

A. Brassicaceae-Sunflower

B. Malvaceae-Cotton

C. Papilionaceae-Catechu

D. Liliaceae-Wheat

**Answer: B**



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105. Bicarpellary gynoecium and oblique ovary occurs in

A. Mustard

B. Banana

C. Pisum

D. Brinjal

**Answer: D**



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## Section D Assertion Reason Type Questions

1. Assertion : In head inflorescence , florets are arranged centrifugally .

Reason : There are always two types of florets in head.



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**2. A:** Staminal tube is present in Malvaceae.

**R:** It is due to monadelphous condition.

**R.** It is due monadelphous condition.



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**3. A:** Prop roots are rope like showing oblique growth.

**R:** Prop roots are adventitious roots for extra-support and assimilation.



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4. A: The storage region of maize grain is whitish or yellow.

R: it is rich in protein granules.



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5. Assertion : There are two alae in *Pisum sativum* flower.

Reason : Both alae are covered by largest petal .



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6. A: Corm grows vertically beneath soil surface.

R: It bears nodes, internodes, buds & green leaves.



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**7. A:** In Smilax, stipule changes into tendril & helps in climbing.

**R:** Parallel venation is found in this plant.

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**8. A:** Androecium of Cucurbita is synandrous.

**R:** Anthers as well as filaments of stamens are united throughout their whole length.

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**9. A:** Nucellus remains persistent in the seeds of black pepper.

**R:** It is haploid parenchymatous tissue.



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**10. A:** Epiphyllous roots arise from the margins of leaf lamina.

**R:** Epiphyllous roots help in vegetative reproduction.



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**Try Yourself**

1. Which of the following is not a part of root system?

A. Root cap

B. Node

C. Root hair

D. Meristematic zone

**Answer: B**



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2. Which of the following is an incorrect statement?

A. Roots are positively geotropic

B. Roots are always positively phototropic

C. Roots are negatively phototropic

D. Both 1 and 2

**Answer: B**



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3. The radicle elongates and forms\_\_\_\_\_

A. Primary root

B. Secondary root

C. Rootlets

D. Tertiary root

**Answer: A**



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4. Monocotyledon plants generally contain \_\_\_\_\_.

- A. Tap root system
- B. Naked seeds
- C. Fibrous root system
- D. Archegonia

**Answer: C**



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5. Which of the following is not a storage root?

- A. Tap root of carrot
- B. Tap root of turnip
- C. Adventitious root of sweet potato
- D. Roots of banyan tree

**Answer: D**



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6. Which of the following is not the main function of a root?

- A. Respiration

B. Anchorage

C. Synthesis of plant growth regulators

D. Absorption of water and minerals.

**Answer: A**



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7. The region of root responsible for growth of root in length is

A. Region of maturation

B. Root cap, cell division, cell maturation, cell enlargement

C. Meristematic zone

D. Zone of elongation

**Answer: D**



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**8.** The apex of root is protected by the

A. Root hair

B. Root cap

C. Meristematic cells

D. Cells present in the region of maturation.

**Answer: B**



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**9. Nodes and internodes are present in the**

- A. Leaf apex
- B. Fibrous root
- C. Tap root
- D. Stem

**Answer: D**



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10. \_\_\_\_\_ are modified to form tendrils in cucumber

A. Terminal buds

B. Axillary buds

C. Thorns

D. More than one option is correct.

**Answer: B**



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11. Mark the incorrect match.

A. Offset-Pistia

B. Tendril-Euphorbia

C. Thorn-Citrus

D. Sucker-Pineapple

**Answer: B**



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**12.** Axillary buds in Bougainvilleae get modify into woody, straight and pointed structure called

A. Suckers

B. Stolons

C. Tendrils

D. Thorns

**Answer: D**



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**13.** In *Chrysanthemum*, the lateral branches originate from the

- A. Basal and aerial portions of the main stem
- B. Apical and underground portions of the main stem
- C. Basal and underground portions of the main stem
- D. Apical and aerial portions of the main stem.

**Answer: C**



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14. The spirally colled, sensitive structure that provide support to weak plants are

- A. Offsets
- B. Thorns
- C. Tendris
- D. Stoions

**Answer: C**



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15. The alternate type of phyllotaxy is found in

A. China rose

B. Alstonia

C. Calotropis

D. Guava

**Answer: A**



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16. Phyllodes are observed in

A. *Pisum sativum*

B. *Allium cepa*

C. *Allium sativum*

D. Australian Acacia

**Answer: D**



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**17. Parallel venation occurs in**

A. Banana

B. Peepal

C. Hibiscus

D. Mango

**Answer: A**



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**18.** Incision in the leaf does not reach the midrib in

- A. Simple leaf
- B. Bioinnately compound leaf
- C. Tripinnately compound leaf
- D. More than one option is correct.

**Answer: A**



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19. What all changes occur when shoot apical meristem converts into floral meristem?



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20. Define cymose inflorescence.



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21. Superior ovary occurs in

A. Hypogynous flower

B. Pengynous flower

C. Epigynous flower



D. Ray florets of sunflower

**Answer: D**



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22. Which of the following is an accessory organ of flower?

A. Calyx

B. Stamen

C. Gynoecium

D. Carpel

**Answer: A**



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23. What are epigynous flowers? Give example



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24. Half inferior ovary occurs in the flowers of

- A. Mustard
- B. Guava
- C. Cucumber
- D. Plum

**Answer: A**



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25. Leaf like structure that protect the flower in bud stage are called

A. Petals

B. Carpeis

C. Sepals

D. Stamens

**Answer: C**



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26. Calyx having fused sepals is called

- A. Polysepalous
- B. Polypetalous
- C. Gamosepalous
- D. Gamopetalous

**Answer: D**



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27. Define apocarpous and syncarpous condition.



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28. The individual leaf segment of the corolla is called

A. Petals

B. Sepal

C. Stamen

D. Carpel

**Answer: B**



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29. In which of the following plant the type of placentation is free central?

A. Mustard

B. Garden pea

C. Dianthus

D. Wheat

**Answer: C**



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**30.** The type of placentation that occurs in sunflower is

A. Marginal

B. Free central

C. Parietal

D. Basal

**Answer: B**



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**31.** Which of the following is the edible part of the mango?

A. Epicarp

B. Mesocarp

C. Endocarp

D. Seed

**Answer: B**



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32. Fruit is a mature of ripened \_\_\_\_\_ developed after fertilisation

- A. Ovule
- B. Ovary
- C. Female gametophyte
- D. Seed

**Answer: C**



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**33.** In maize seed the plumule is enclosed by a sheath called as

- A. Testa
- B. Tegmen
- C. Coleoptile
- D. Coleorhiza

**Answer: C**



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**34.** The small pore present above the hilum at one end of the seed is called



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35. The type of placentation occurring in the individuals of the family Liliaceae is

A. Axile

B. Free central

C. Basal

D. Marginal

**Answer: A**



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36. The type of venation present in the leaves of the individuals belonging to the family Solanaceae is

- A. Parallel
- B. Furcate
- C. Reticulate
- D. Both 1 and 2

**Answer: C**



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37. Which of the following plant is a source of dye?

A. Sunhemp

B. Trifolium

C. Indigofera

D. Pea

**Answer: C**



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**38.** Coichicine is obtained from

A. *Colchicum luteum*

B. *Colchicum autumnale*

C. *Asparagus*

D. *Allium cepa* (onion)

**Answer: B**



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