



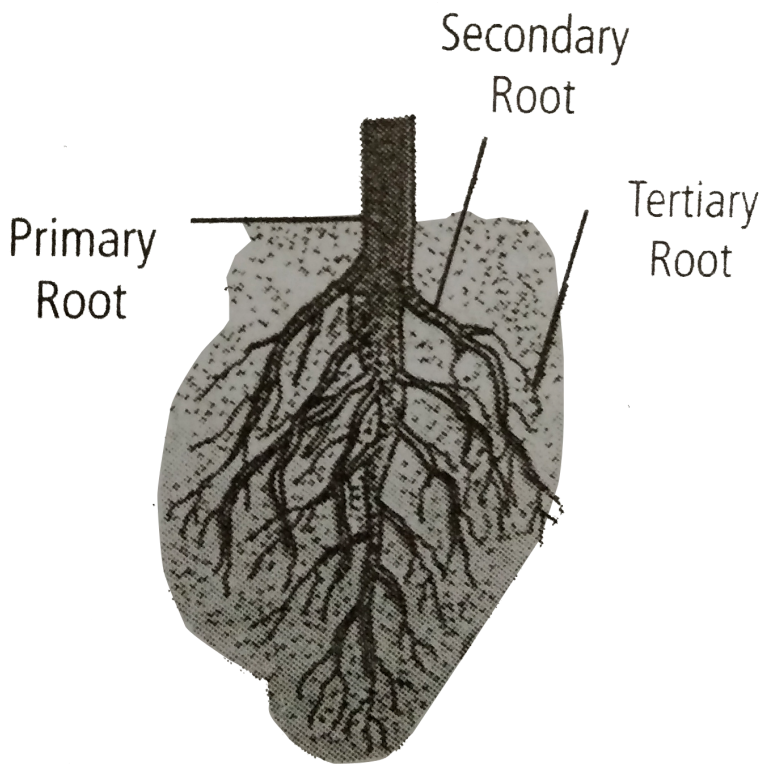
## **BIOLOGY**

### **BOOKS - MTG BIOLOGY (HINGLISH)**

### **MORPHOLOGY OF FLOWERING PLANTS**

#### **Morphology Of Flowering Plants**

1. Refer to the given figure and select the incorrect statements regarding this.



- A. this type of root system develops from radicle of embryo.
- B. Lateral roots arising from the main root are exogenous in origin.
- C. Rootlets are the ultimate root branches that bear root hair for absorption.
- D. Secondary and tertiary roots are borne in acropetal succession.

**Answer: B**



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2. Read the given statements and select the correct option.

Statement-1: Root cap protects the root meristem from the friction of the soil and its outer cells are continuously replaced by newer ones.

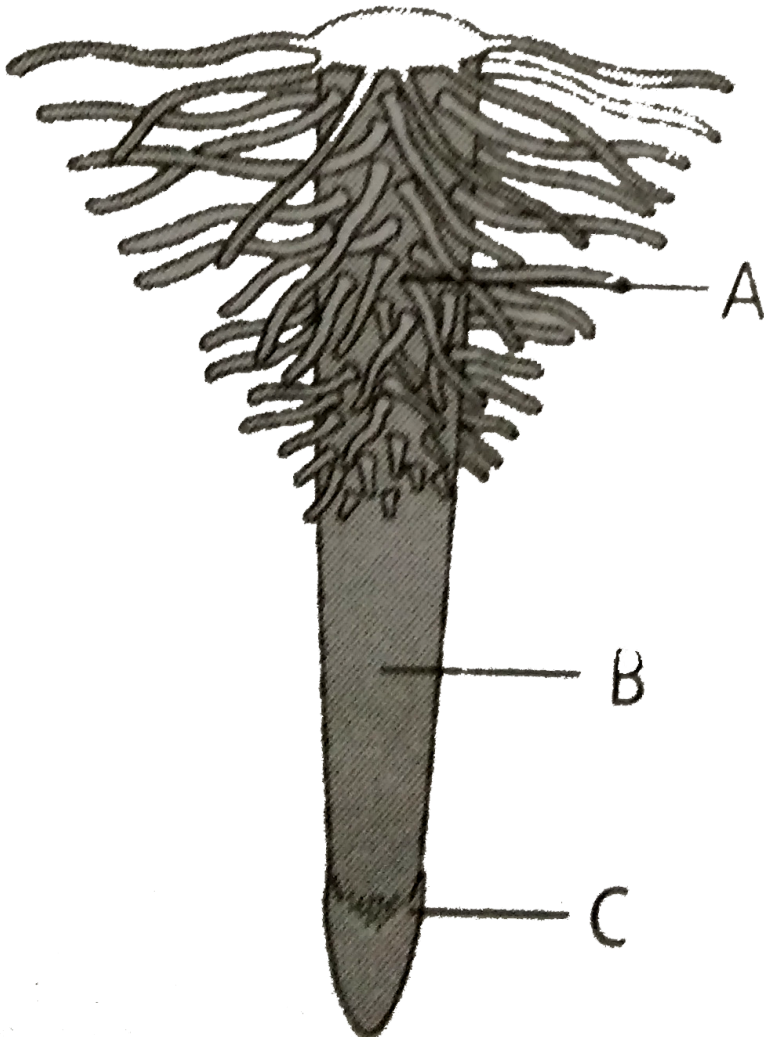
Statement 2 : The effect of the soil-friction damages the outer cells of root cap which are peeled off and replaced by new cells produced by root meristem.

- A. Both statements 1 and 2 are correct.
- B. Statement 1 is correct but statement 2 is incorrect.
- C. Statement 1 is incorrect but statement 2 is correct.
- D. Both statement 1 and 2 are incorrect.

**Answer: A**



3. Which of the following statements is correct with respect to the given figure showing different zones of a typical root?



- A. Part B mainly helps in absorption of water.
- B. Quiescent centre is present in part B
- C. Part A is most suitable for anatomical studies of root.
- D. Differentiation of cells can be observed in part C

**Answer: C**

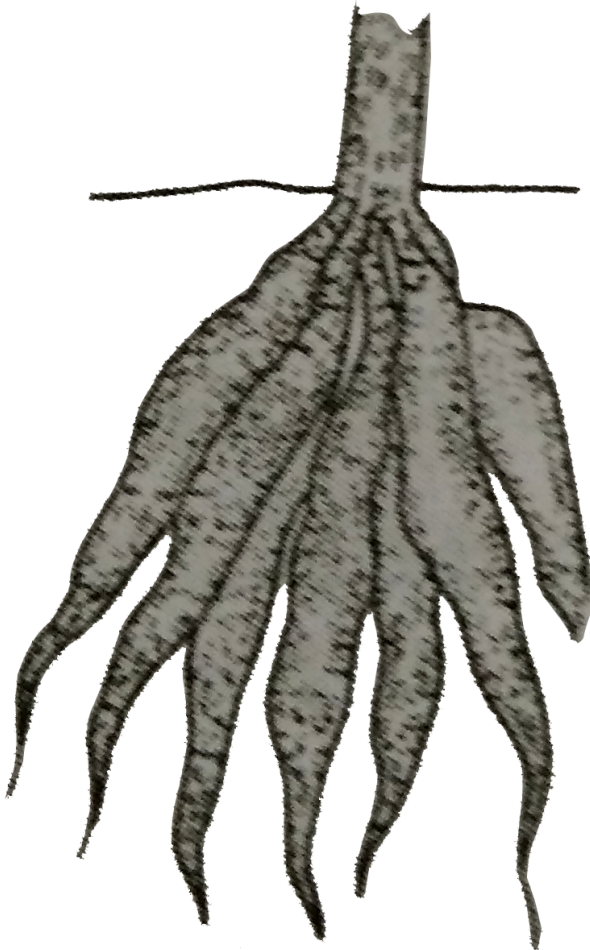
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**4. Edible roots are found in**

- A. rice
- B. wheat
- C. potato
- D. sweet potato

**Answer: D**

5. Identify the type of modified root and select the correct statements regarding it



- A. it is the tuberous root of Dahlia that stores inulin as reserve food
- B. It is modified taproot that occurs in Dahlia.
- C. It is a modified adventitious root that stores reserve food material.
- D. These roots are modified to provide mechanical support to the plant.

**Answer: C**

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6. Select the group of plants that possess stilt roots.

- A. Zea mays, Rhizophora mangal
- B. Pandanus odoratissimus, Ficus bengalensis

C. *Rhizophora mangal*, *Hedera helix*

D. *Ficus bengalensis*, *Pisum sativum*

**Answer: A**



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7. Select the mismatched pair

A. Tap root system - Dicots

B. Fibrous root system - monocots

C. Fasciculated roots - *Curcuma*

D. Stilt roots - Sugarcane

**Answer: C**



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8. Which of the following plants bears moniliform roots ?

A. Momordica

B. Curcuma

C. Dahlia

D. Asparagus

**Answer: A**



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9. Match column I with column II and select the correct option from the given codes.

Column I

(Type of fleshy taproot)

(A). Conical

(B). Fusiform

(C). Napiform

(D). Tuberous

Column II

(Example)

(i) Brassica rapa

(ii) Dauscus carota

(iii) Raphanus Sativus

(iv) Mirabilis jalapa

A. A-(ii),B-(iii),C-(i),D-(iv)

B. A-(iii),B-(ii),C-(i),D-(iv)

C. A-(ii),B-(i),C-(iii),D-(iv)

D. A-(ii),B-(iii),C-(iv),D-(i)

**Answer: A**

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**10.** Select the incorrect statement out of the following.

A. Assimilatory roots capable of photosynthesis are present in

Tinospora and Trapa.

B. Haustoria of Cuscuta make connections with both xylem and

phoem tissues of host.

C. Reproductive roots of Ipomoea batata help in vegetative propagation

D. Epiphytic roots of Vanda possess well developed root caps and root hair.

**Answer: D**

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11. Given are some difference between an underground stem and a root. Select the option that identifies the incorrect pair of differences.

	<b>Underground stem</b>	<b>Root</b>
(i)	It is differentiated into nodes and internodes.	It is not differentiated into nodes and internodes.
(ii)	Scale leaves are present at the nodes.	Scale leaves are absent in roots.
(iii)	Axillary buds are present in the axil of scale leaves.	Axillary buds are present at root tips.
(iv)	Branches arise exogenously.	Branches arise endogenously.
(v)	Flowers and fruits are usually present.	Flowers and fruits are absent.
(vi)	These usually perform the function of food storage.	These always perform the function of food storage.

- A. (i),(ii) and (vi)
- B. (i),(ii) and (iii)
- C. (iii),(v) and (vi)
- D. (ii),(iii),(v) and (vi)

**Answer: C**



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12. Unbranched, erect, cylindrical stout axis with distinct nodes and internodes and with jointed appearance is called as

A. runner

B. sucker

C. culm

D. caudex.

**Answer: C**



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13. Which of the following plants possesses culm

A. Cuscuta

B. Zingiber

C. Bamboo

D. Cocos

**Answer: C**



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**14.** Match column I with column II and select the correct option from the given codes.

Column I

Column II

(A) Vegetative buds

(i) buds develop in axils of leaves

(B) Floral buds

(ii) Buds produce leafy shoots

(C) Axillary buds

(iii) Reproductive buds that produce flowers

(D) Accessory buds

(iv) Additional buds borne at leaf bases

A. (A)-(ii), (B)-(iii), (C)-(i), (D)-(iv)

B. (A) -(iii), (B)-(ii), (C)-(i), (D)-(iv)

C. (A)-(iv), (B)-(iii), (C)-(i), (D)-(iv)

D. (A)-(i), (B)-(ii), (C)-(iv), (D)-(ii)

**Answer: A**



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**15.** Read the given statements and select the correct ones.

- (i) Root caps are present in prop roots.
- (ii) Pneumatophores help to get oxygen for respiration.
- (iii) Edible part of ginger is underground stem.
- (iv) Hydrophytes usually possess a well developed root system.

A. (i) and (ii) only

B. (ii) and (iii) only

C. (i),(ii) and (iii)

D. (i),(ii),(iii) and (iv)

**Answer: C**



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**16.** Read the following statements and select the correct option.

Statement -1 : the stem tubers are the swollen ends of specialised underground stem branches, which help in vegetative propagation of the plant.

Statement-2 : *Solanum tuberosum* is an example of a stem tuber which stores inulin as the main reserve food material.

- A. Both statements 1 and 2 are correct.
- B. Statement 1 is correct but statement 2 is incorrect.
- C. Statement 1 is incorrect but statement 2 is correct.
- D. Both statement 1 and 2 are incorrect.

**Answer: B**

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17. Which of the following is not an example of corm

A. Colocasia

B. Freesia

C. Crocus

D. Zingiber

**Answer: D**



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18. The 'eyes' of the potato tuber represent

A. nodes

B. roots buds

C. flower buds

D. leaf buds.

**Answer: A**



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**19.** In Bougainvillea, weak stems rise up a support by clinging to it with the help of curved thorns, such plants are called as

- A. tendrils
- B. hooks
- C. offsets
- D. scramblers.

**Answer: D**



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**20.** In Opuntia, the function of photosynthesis is carried out by

A. cladode

B. phyllode

C. phylloclade

D. stipules.

**Answer: C**



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21. \_\_\_\_\_ are the green stems of limited growth which have taken over the function of photosynthesis from leaves.

A. Phylloclades

B. Cladodes

C. Phyllodes

D. Stem thorns

Answer: B

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22. Following table summarises the comparisons between phylloclades and cladodes (cladophylls).

	<b>Phylloclade</b>	<b>Cladode</b>
(i)	Both main stem and branches are modified to function like leaves.	Only the branches are modified to take over the function of leaves.

(ii)	Phylloclade has limited or definite growth.	Cladode has unlimited or indefinite growth.
(iii)	It consists of several nodes and internodes.	It is usually one internode long.
(iv)	True leaves are commonly caducous.	True leaves are either reduced to scales or modified to spines.
(v)	Examples: <i>Ruscus aculeatus</i> , <i>Asparagus</i> , etc.	Examples: <i>Opuntia</i> , <i>Euphorbia royleana</i> , etc.

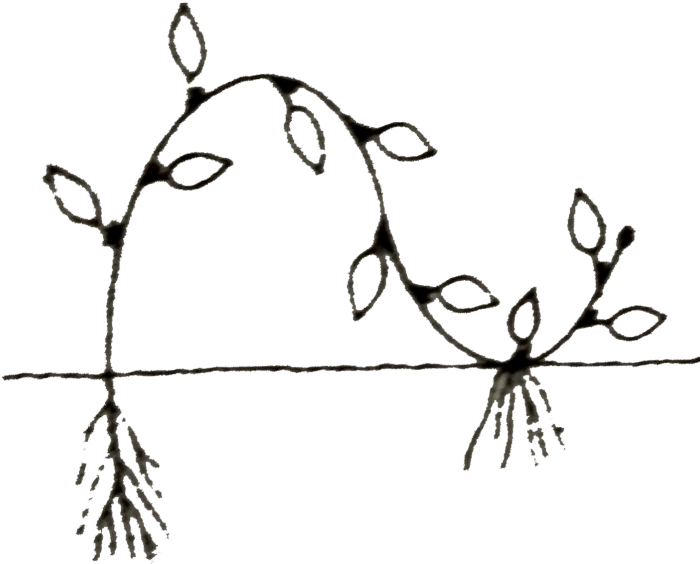
Pick up the wrong differences and select the correct option

- A. (i) and (ii)
- B. (ii) and (v)
- C. (iii) and (v)
- D. (ii) and (iv)

**Answer: B**

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23. With respect to the given figure, select the correct option



- A. It possesses one or more nodes
- B. It grows aerially for some distance and finally touches the ground
- C. It is present in *Fragaria*, *Jasminium*, etc.
- D. All of these

**Answer: D**

**24.** Match column I with column II and select the correct option from the given codes.

Column I

Column II

A. Thorns

(i) Vegetative propagation

B. Phylloclades

(ii) Defensive mechanism

C. Runners

(iii) Mechanical support

D. Haustoria

(v) Photosynthesis

A. A-(v), B-(iv), C-(iii), D-(ii), E-(i)

B. A-(ii), B-(v), C-(iii), D-(i), E-(v)

C. A-(ii), B-(v), C-(i), D-(iii), E-(iv)

D. A-(iii), B-(v), C-(iv), D-(i), E-(ii)

**Answer: C**



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25. \_\_\_\_\_ are one internodes long runners, usually found in rosette plants at the ground/water level.

- A. Trailers
- B. Offsets
- C. Stolons
- D. Rhizomes

**Answer: B**

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26. Select the mismatched pair out of the following

- A. Rhizome -*Druopteris*, *Nelumbo nucifera*
- B. Corm -*Crocus sativus*, *Amorphophallus*
- C. Sucker-*Curcuma domestica*, *Zingiber officinale*



D. Tuber-Helianthus tuberosus,Solanum tuberosum

**Answer: C**

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27. In some \_\_\_\_\_, the leaf base may become swollen and is called as \_\_\_\_\_.

- A. monocots, sheathing leaf base
- B. legumes, pulvinus
- C. legumes, sheathing leaf base
- D. monocots, pulvinus

**Answer: B**

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28. Which of the following represents the functions of veins in the leaves ?

- A. Transport of water and minerals
- B. Mechanical support
- C. Transport of organic food material
- D. All of these

**Answer: D**



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29. Reticulate venation is a characteristic of dicots. An exception to this generalisation is

- A. Calophyllum
- B. Ficus
- C. Hibiscus

D. Zizyphus.

**Answer: A**

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**30.** Parallel venation is a characteristic of monocots. Which of the following is an exception to this generalisation ?

A. Smilax

B. Colocasia

C. Alocasia

D. All of these

**Answer: D**

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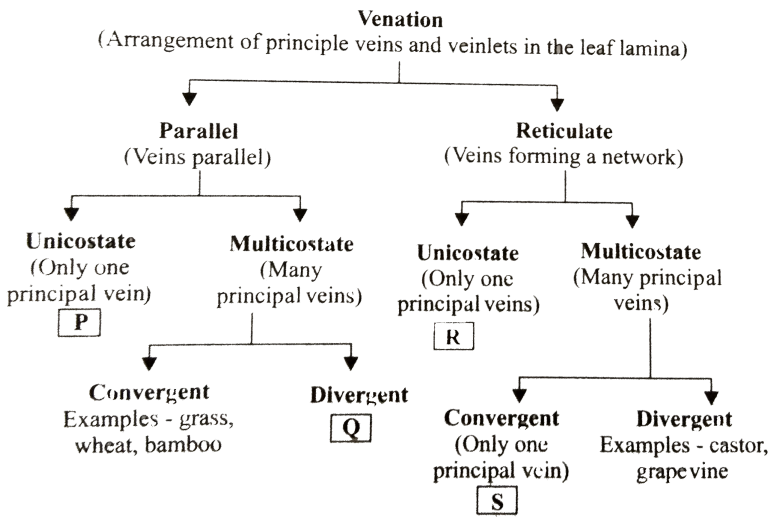
31. Which of the following kinds of venation is present in banana ?

- A. Reticulate unicostate
- B. Reticulate multicostate
- C. Parallel unicostate
- D. Parallel multicostate

**Answer: C**

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32. Study the following flow chart and select the correct option for P, Q, R and S.



A.

P	Q	R	S
Banana , Canna	Fan , palm	Mango,Peepal	Smilax,Zizyphus

B.

P	Q	R	S
Banana , Canna	Smilax,Zizyphus	Mango,Peepal	Fan , palm

C.

P	Q	R	S
Mango,Peepal	Banana , Canna	Fan , palm	Smilax,Zizyphus

D.

P	Q	R	S
Mango,Peepal	Fan , palm	Smilax,Zizyphus	Banana , Canna

**Answer: A**



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**33.** A simple leaf can be differentiated from the pinnae of a compound leaf on the basis of presence or absence of

- A. number of pinnae
- B. shape of lamina
- C. axillary bud
- D. lateral buds.

**Answer: C**



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**34.** Finely dissected leaf may be an adaptation of

- A. xerophytes

B. pssammophytes

C. halophytes

D. hydrogphytes.

Answer: D

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35. Study the given figures and identify the kind of phyllotaxy



- A. (i) Whorled (ii) Opposite (iii) Alternate
- B. (i) Alternate (ii) Opposite (iii) Whorled
- C. (i) Opposite (ii) Alternate (iii) Whorled

- D. (i) Opposite (ii) Whorled (iii) Alternate

**Answer: B**

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**36.** In spiral phyllotaxy, the number of leaves at each node is

- A. one
- B. two
- C. three
- D. many

**Answer: A**

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37. In \_\_\_\_\_ phyllotaxy, a pair of leaves arise at each node and lie opposite to each other as in \_\_\_\_\_ plants

- A. alternate, Hibiscus
- B. opposite, Hibiscus
- C. opposite, Calotropis
- D. Whorled, Calotropis

**Answer: C**

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38. Identify the group of plants possessing leaf tendrils

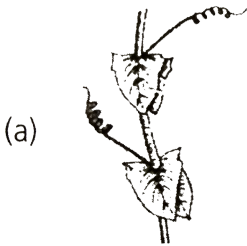
- A. Pea, Glory lily
- B. Cucumber, Pumpkin
- C. Water melon, Grapevine

D. All of these

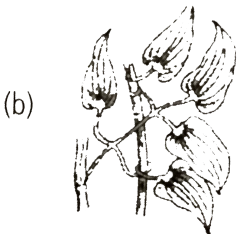
**Answer: A**

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**39.** Different parts of a leaf are modified into tendrils which helps the plant in climbing up. Identify the type of tendril that is seen in Clematis



A.



B.

(c)



C.

(d)



D.

**Answer: B**



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**40.** Leaf tip tendrils are present in

A. Smilax

B. Lathyrus

C. Pisum

D. Gloriosa.

**Answer: D**

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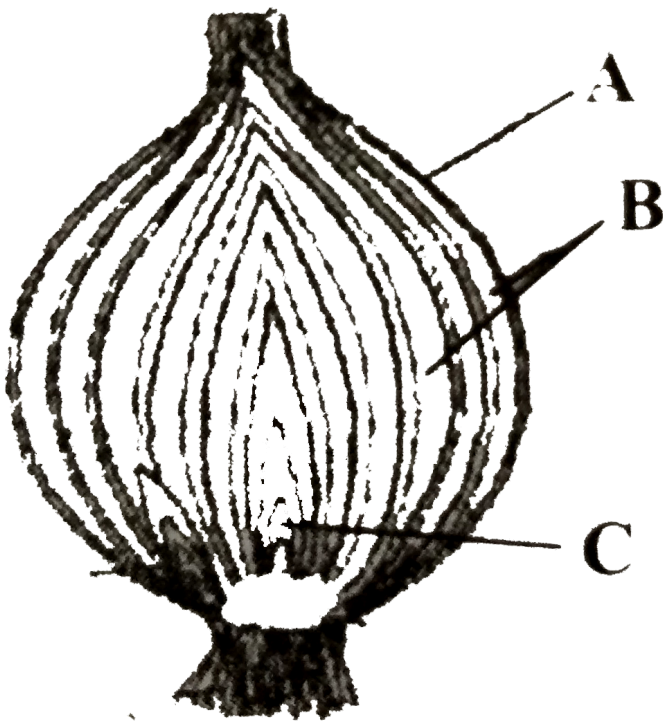
**41.** Spines present on the areoles of *Opuntia* represent

- A. stem
- B. leaves
- C. buds
- D. phyllodes

**Answer: B**

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**42.** The given figure represent the V.S. of bulbs of *Allium cepa* identify the different parts and select the correct options



- A.      A                  B                  C  
 Fleshy scales    Tunic    Terminal bud
- B.      A      B                  C  
 Tunic    Terminal bud    Fleshy scales
- C.      A      B                  C  
 Tunic    Fleshy scales    Terminal bud
- D.      A                  B                  C  
 Terminal bud    Fleshy scales    Tunic

Answer: C

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43. Which of the following represents the edible swollen portion of *Allium cepa* ?

- A. Aerial stem
- B. Underground stem
- C. Internodes
- D. Leaf bases

**Answer: D**

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44. Which of the following plants parts in garlic and onion are edible ?

- A. Underground stem
- B. Fleshy scale leaves

C. Tunic

D. Adventitious roots

**Answer: B**



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**45. Which of the following is an incorrect pair ?**

A. Phylloclades -Opuntia

B. Cladode- Ruscus

C. Phyllode - Asparagus

D. Stem tendrils = Grapevine

**Answer: C**



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46. Parkinsonia is a good example of

- A. phylloclade
- B. parachute mechanism
- C. phyllode
- D. winged fruits.

**Answer: C**



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47. Select the incorrect match with respect to the plant and the relative part modified for food storage.

- A. *Lathyrus odoratus* (Sweet potato) - Root
- B. *Solanum tuberosum* (Potato) - Stem
- C. *Allium cepa* (Onion) - Leaves



D. Dahlia (Dahlia) - Leaves

**Answer: D**

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**48.** Which plants part is modified into pitcher in pitcher plants ?

A. Root

B. Stem

C. Leaf

D. Flower

**Answer: C**

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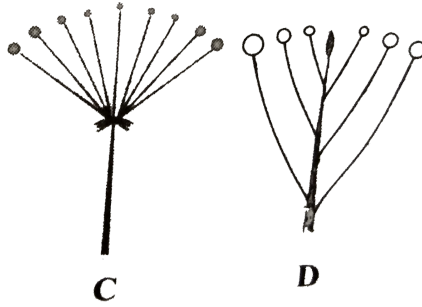
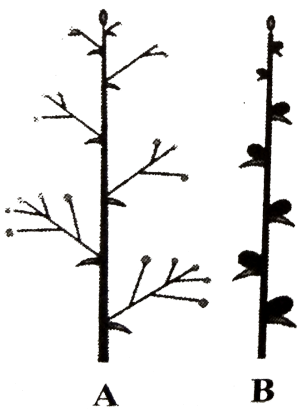
49. A small rootless aquatic herb in which a portion of leaf forms a tiny sac or bladder which traps water insects is

- A. Dionaea
- B. Utricularia
- C. Sarracenia
- D. Drosera.

**Answer: B**

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50. The given figure shows some types of inflorescences. Select the option that correctly identifies them.



- A. (A) (B) (C) (D)  
 Panicle Spike Corymb Catkin
- B. (A) (B) (C) (D)  
 Spike Panicle Corymb Catkin
- C. (A) (B) (C) (D)  
 Panicle Catkin Umbel Spike
- D. (A) (B) (C) (D)  
 Panicle Spike Umbel Corymb

**Answer: D**

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51. \_\_\_\_\_ inflorescence is a compact spike-like inflorescence with small unisexual flowers.

- A. Spike
- B. Corymb
- C. Catkin
- D. Umbel

**Answer: C**

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52. In \_\_\_\_\_ (i) type of inflorescence, main axis terminates in a flower, hence is limited in growth and flowers are borne in \_\_\_\_\_ (ii) Succession.

- A. (i) racemose (ii) acropetal
- B. (i) racemose (ii) basipetal
- C. (i) cymose (ii) acropetal
- D. (i) cymose (ii) basipetal

Answer: D

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53. Identify the types of inflorescence shown in the figure and select the correct option for A and B .



**A**



**B**

- A. (A) Racemose (B) Racemose
- B. (A) Racemose (B) Cymose
- C. (A) Racemose (B) Racemose
- D. (A) Cymose (B) Cymose

Answer: B



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54. Match column I with column II and select the correct option from the given codes.

Column I

Column II

A. Pedicel

(i) Reduced leaf

B. Peduncle

(ii) Stalk of the flower

C. Bract

(iii) Stalk of the leaf

D. Petiole

(iv) Inflorescences axis

A. A-(ii),B-(iv),C-(i),D-(iii)

B. A-(iii),B-(iv),C-(i),D-(ii)

C. A-(iii),B-(ii),C-(i),D-(iv)

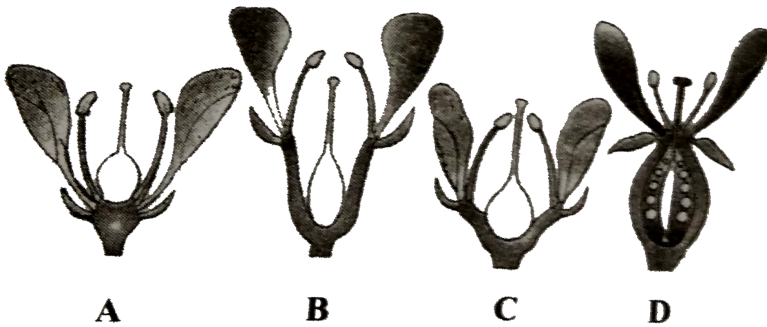
D. A-(ii),B-(iii),C-(i),D-(iv)

**Answer: A**



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55. Refer to the given figures, showing relative position of different floral parts on the thalamus and select the correct option .



- |    |            |            |            |            |
|----|------------|------------|------------|------------|
|    | (A)        | (B)        | (C)        | (D)        |
| A. | Hypogynous | Perigynous | Perigynous | Epigynous  |
|    | (A)        | (B)        | (C)        | (D)        |
| B. | Hypogynous | Epigynous  | Epigynous  | Perigynous |
|    | (A)        | (B)        | (C)        | (D)        |
| C. | Epigynous  | Hypogynous | Perigynous | Perigynous |
|    | (A)        | (B)        | (C)        | (D)        |
| D. | Hypogynous | Hypogynous | Perigynous | Epigynous  |

Answer: A

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56. If the gynoecium is present in the topmost position of the thalamus, then the flower is referred to as

- A. hypogynous
- B. perigynous
- C. epigynous
- D. none of these

**Answer: A**

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57. Read the given statements

- (i) Gynoecium occupies the highest position while the other floral parts are situated below it.
- (ii) Ovary is superior.
- (iii) Examples are Brassica, Hibiscus, brinjal, etc.



Which condition of flowers is being described by the above the statements ?

- A. Hypogyny
- B. perigyny
- C. epigyny
- D. none of these

**Answer: A**



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58. Ovary is said to be half inferior in which of the following conditions ?

- A. Hypogynous
- B. Perigynous
- C. epigynous

D. Both (b) and (c)

**Answer: B**

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59. In \_\_\_\_\_ flowers, margin of thalamus grows upward enclosing the ovary completely and getting fused with it.

A. hypogynous

B. perigynous

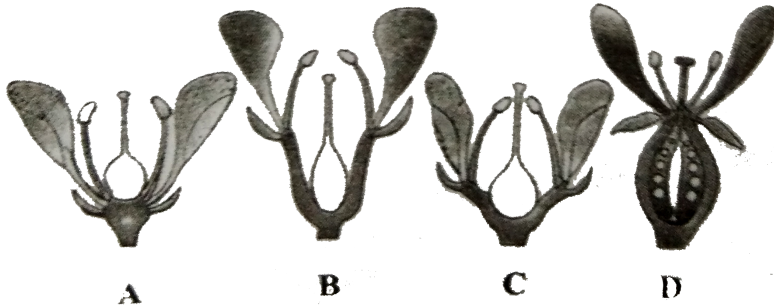
C. epigynous

D. Both (b) and (c)

**Answer: C**

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60. Based on the position of floral parts on thalamus, the flowers, are described as hypogynous, perigynous and epigynous. Which of the following floral forms (A-D) represents the flowers of Rosa and Prunus respectively ?



A. A and B

B. B and C

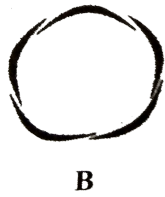
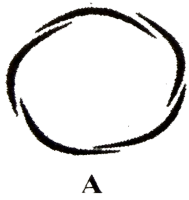
C. C and D

D. B and D

**Answer: B**

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61. Identify the different types of aestivation (A, B, C and D) and select the correct option.



- A. (A) (B) (C) (D)  
Valvate Twisted Imbricate Vexillary
- B. (A) (B) (C) (D)  
Imbricate Twisted Valvate Vexillary
- C. (A) (B) (C) (D)  
Twisted Imbricate Vexillary Valvate
- D. (A) (B) (C) (D)  
Twisted Imbricate Valvate Vexillary

Answer: D

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62. In \_\_\_\_\_ aestivation, sepals or petals in a whorl just touch one another at the margins, without overlapping, as is found in \_\_\_\_\_

A. valvate, Calotropis

B. Valvate, Hibiscus

C. twisted, Calotropis

D. twistedm Hibiscus

**Answer: A**

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**63.** The given figure represents vexillary aestivation. Select the suitable labels for P,Q and R

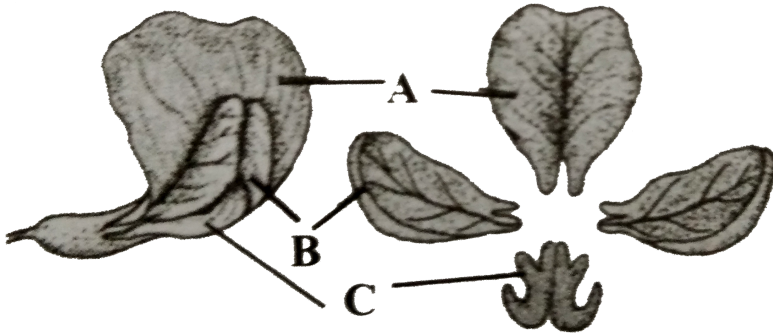


- A. (P) (Q) (R)  
Standard Wing Ala
- B. (P) (Q) (R)  
Standard keel Wing
- C. (P) (Q) (R)  
Wing keel Carina
- D. (P) (Q) (R)  
Standard Ala Carina

**Answer: D**

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64. Select the correct option for A,B and C in the given diagram of papilionaceous corolla.



- A. (A) (B) (C)  
Keel Wings Vexillum
- B. (A) (B) (C)  
Vexillum Keel Wings
- C. (A) (B) (C)  
Vexillum Wings Keel
- D. (A) (B) (C)  
Wings Keel Vexillum

Answer: C

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**65.** Find out the incorrect match

- A. Sterile staman- Staminode
- B. Stamens attached to petals - Epipetalous
- C. Stamens attached to perianth -Episepalous
- D. Free stamens - Polyandrous

**Answer: C**



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**66.** Select the incorrect pair out of the following

- A. Monadelphous - Hibiscus
- B. Diadelphous - Cucurbita
- C. Polyadelphous -Citrus
- D. Syngenesious - Helianthus



**Answer: B**



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**67.** Syngnesious condition of stamens is found in family

A. Asteraceae

B. Liliaceae

C. Cruciferae

D. Malvaceae.

**Answer: A**



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**68.** Monothealous condtion of stamens, i.e., Presence of a single anther lobe is characterstic of family

A. Cucurbitaceae

B. Malvaceae

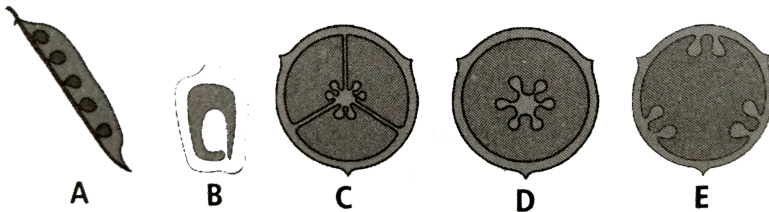
C. Asterceae

D. Brassicaceae

**Answer: B**

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69. Identify the different types of placentation shown in figure and select the correct option .



- A.      A          B          C          D          E  
Axile   Marginal   Free central   Parietal   Basal
- B.      A          B          C          D          E  
Marginal   Basal   Axile   Free central   Parietal

- |    |          |          |          |              |              |
|----|----------|----------|----------|--------------|--------------|
|    | A        | B        | C        | D            | E            |
| C. | Marginal | Axile    | Parietal | Free central | Basal        |
|    | A        | B        | C        | D            | E            |
| D. | Marginal | Parietal | Axile    | Basal        | Free central |

**Answer: B**



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70. In \_\_\_\_\_ placentation, a monocarpellary ovary bears a single longitudinal ovule along the junction of two fused margins.

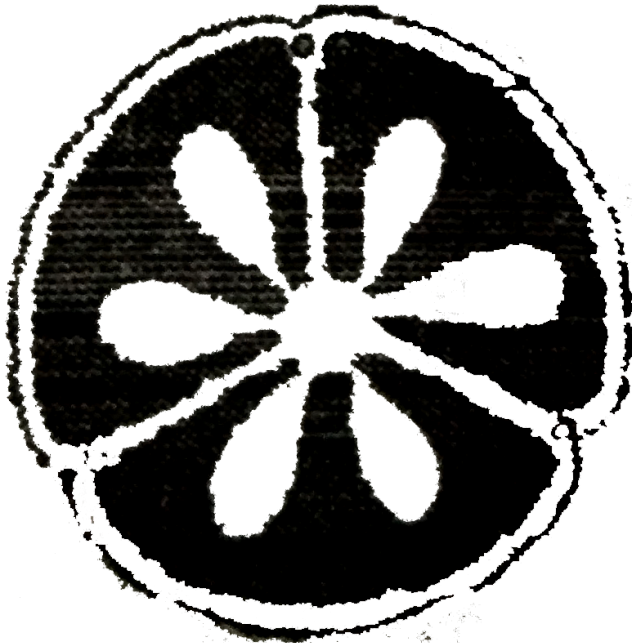
- A. axile
- B. parietal
- C. free central
- D. marginal

**Answer: D**



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71. Which kind of placentation is represented by the given figure ?



A. Marginal

B. Axile

C. Parietal

D. Basal

**Answer: B**

72. Which of the following figures represents a typical placentation as seen in *Hibiscus rosa sinensis* (China rose)?



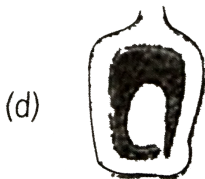
A.



B.



C.



D.

**Answer: A**



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73. Ovary is one-chambered but it becomes two-chambered due to the formation of false septum in

A. Brassica

B. Pisum

C. Hibiscus

D. Dianthus

**Answer: A**

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74. Match column I with column II and select the correct option from given codes.

Column I	Column II
A. Marginal	(i) Sunflower, marigold
B. parietal	(ii) Pea
C Axile	(iii) Mustard, Argemone
D. Free central	(iv) Hibiscus, Argemone
E. Basal	(v) Dianthus, Primorse

A. A-(ii),B-(iii),C-(iv),D-(v),E-(i)

B. A-(i),B-(iii),C-(ii),D-(v),E-(iv)

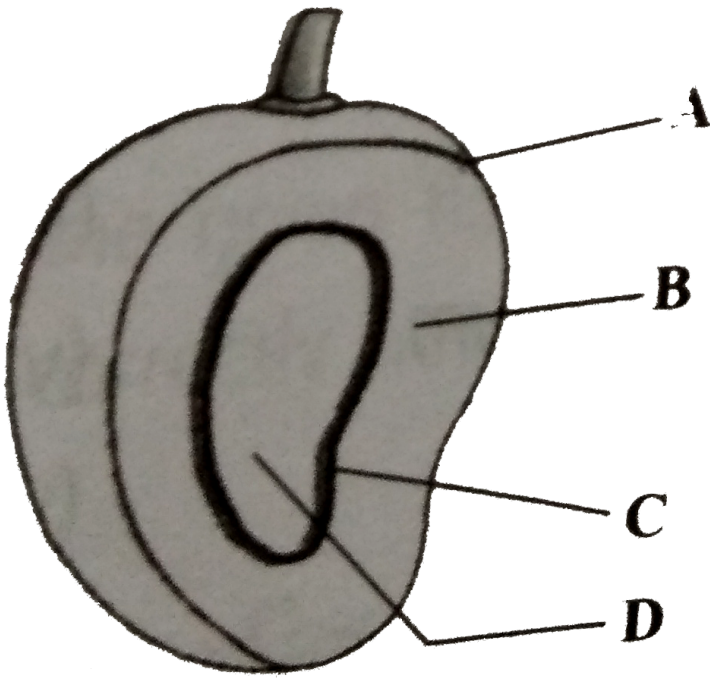
C. A-(i),B-(ii),C-(iii),D-(iv),E-(v)

D. A-(iii),B-(ii),C-(iv),D-(v),E-(i)

**Answer: A**

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**75.** Given figure represents a drupe of mango. Select the option that correctly identifies A, B, C and D



- A. (A) (B) (C) (D)  
 Pericarp Epicarp Mesocarp Endocarp
- B. (A) (B) (C) (D)  
 Epicarp Mesocarp Endocarp Seed
- C. (A) (B) (C) (D) (E)  
 Mesocarp Epicarp Endocarp Seed
- D. (A) (B) (C) (D) (E)  
 Epicarp Mesocarp Seed Endocarp

**Answer: B**

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76. Maize grain is a fruit known as

- A. cypsela
- B. caryopsis
- C. legume
- D. achene.

**Answer: B**

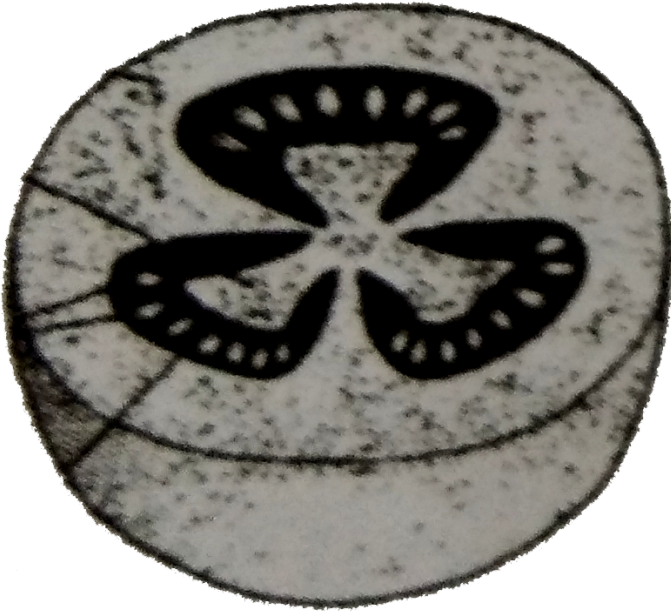
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77. Edible part of apple and pear is

- A. epicarp
- B. mesocarp
- C. endocarp
- D. thalamus

Answer: D

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78.

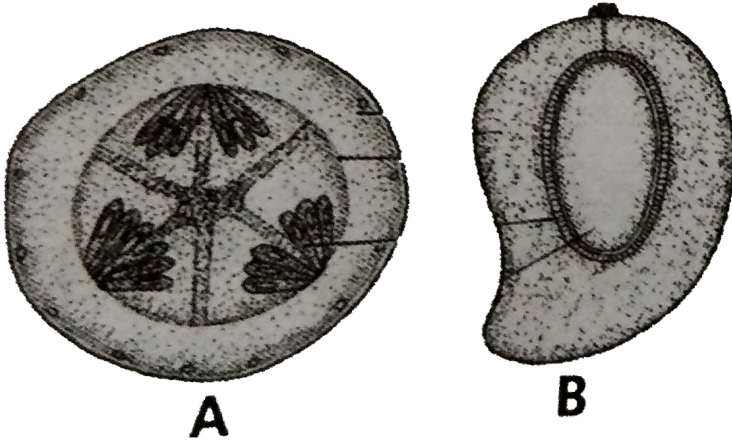
Select the incorrect the statements the given figure .

- A. it represents the baccate fruit of *Lycopersicum esculentum*.
- B. It is derived from a monocarpellary appcarpous gynoecium.
- C. It represents the true berry of tomato.

D. Both (b) and (c)

Answer: B

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79.

Identify the given types of fruit select the correct option.

A. A=pepo, B=Nut

B. A=Pepo, B =Drupe

C. A=Balausta, B=Drupe

D. A=Drupe, B=Pepo

**Answer: B**



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**80.** Select the mismatched pair out of the following

- A. Syconus - *Ficus carica*
- B. Sorosis - *Ananas comosus*
- C. Pome - *Mangifera indica*
- D. Cremocarp - *Coriandrum sativum*

**Answer: C**



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**81.** X is scar on the seed coat through which the following seeds were attached to the fruit, above the X is a small pore called Y.

Identify X and Y and select the correct option .

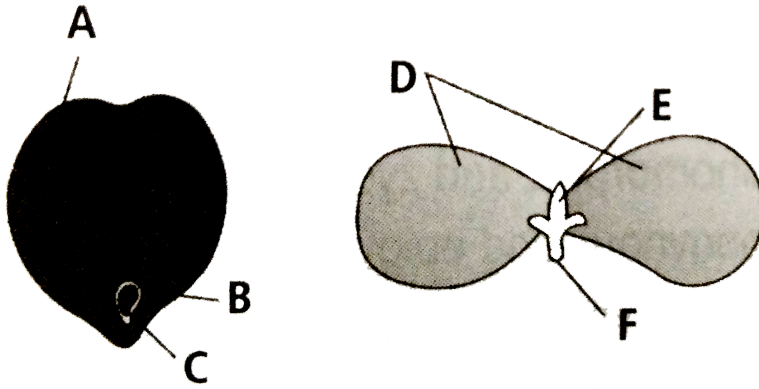
- A. X                      Y  
Micropyle              Hilum
- B. X                      Y  
Hilum                  Micropyle
- C. X                      Y  
Testa                  Tegmen
- D. X                      Y  
Chalaza                Micropyle

**Answer: B**

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**82.** Refer to the given figures showing structure of dicotyledonous seed and select the option that correctly identifies any of the labelled

parts



A. A-Seed coat,B-Cotyledon,C-Plumule

B. D-Micropyle,E-Hilu,,F-Rdicle

C. B-Hilum,E-Plumule,F-Radicle

D. C-Cotyledon,D-Micropyle,E-Radicle

**Answer: C**

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83. Endospermic seeds are found in

A. barley

B. castor

C. pea

D. both (a) and (b)

**Answer: D**



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**84.** In albuminous seeds, food is stored in \_\_\_\_\_ and in exalbuminous seeds, food is stored in \_\_\_\_\_.

A. endosperm, cotyledons

B. cotyledons, cotyledons

C. cotyledons, endosperm

D. endosperm, endosperm

**Answer: A**



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**85.** Cereals, castor and coconut possess \_\_\_\_\_ seeds.

- A. endospermic
- B. zoospermic
- C. non-albuminous
- D. none of these

**Answer: A**



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**86.** Monocotyledonous seeds possess a single cotyledon which is represented by



- A. tegmen
- B. endosperm
- C. scutellum
- D. aleurone.

**Answer: C**

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**87.** Coeorrhiza and coleoptile are the protective sheaths covering\_\_\_\_\_and\_\_\_\_\_respectively.

- A. radicle,plumule
- B. plumule,radicle
- C. plumule,hypocotyl
- D. epicotyl,radicle

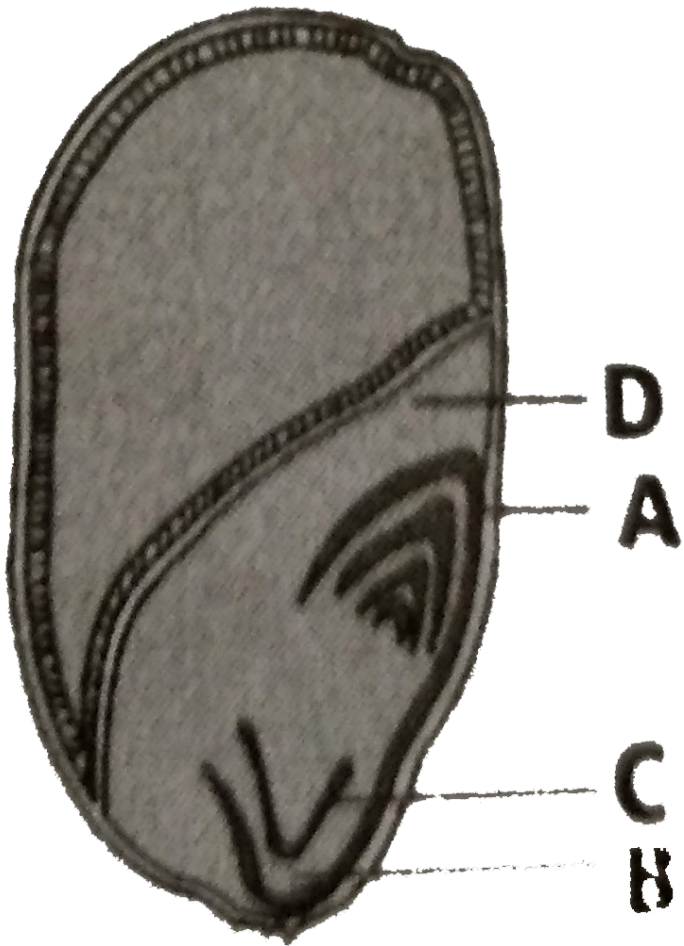
**Answer: A**



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**88.** Given figure represents longitudinal section of a monocotyledonous embryo.

Identify the parts labelled as A,B, C and D from the list (i-vii) and select the correct option



(i) Scutellum

(ii) Coleoptile

(iii) Shoot apex

(iv) Epiblast

(v) Radicle

(vi) Root Cap

(vii) Coleorhiza

- |    |       |       |       |       |
|----|-------|-------|-------|-------|
|    | A     | B     | C     | D     |
| A. | (i)   | (vi)  | (vii) | (ii)  |
|    | A     | B     | C     | D     |
| B. | (ii)  | (vii) | (v)   | (i)   |
|    | A     | B     | C     | D     |
| C. | (iv)  | (iii) | (vi)  | (vii) |
|    | A     | B     | C     | D     |
| D. | (iii) | (vii) | (vi)  | (ii)  |

**Answer: B**



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**89.** Which floral conditions are represented by the symbols  $\oplus$  and  $\%$  respectively ?

- A. Zygomorphic and actinomorphic flowers
- B. Actinomorphic and zygomorphic flowers
- C. Hypogynous and epigynous flowers

D. Bisexual and unisexual flowers

Answer: B

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90. Which of the following symbols denotes presence of tepals and epitepalous stemens in a flower ?

A. 

B. 

C. 

D. 

**Answer: B**



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**91.** Marginal placentation is generally found in family

- A. Leguminosae
- B. Cucurbitaceae
- C. Malvaceae
- D. Brassicaceae

**Answer: A**



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**92.** Identify the correct feature of the family to which given floral formula belongs.

$$\% \begin{matrix} \text{♂} \\ \text{♀} \end{matrix} K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$$

- A. Presence of actinomorphic flowers and cruciform corolla
- B. Androecium is commonly diadelphous or monadelphous
- C. Presence of cymose inflorescence
- D. fruit is a berry or capsule

**Answer: B**

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**93.** Add the missing floral organs in the given floral formula of Family Fabaceae.

$$\% \begin{matrix} \text{♂} \\ \text{♀} \end{matrix} K_{(5)} \text{---} A_{(9)+1} \underline{G}_1$$

A.  $C_{1+2+2}$

B.  $C_{1+2+(2)}$

C.  $C_{1+2+3}$

D.  $C_5$

**Answer: B**

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**94.** Which floral family has (9)+1 arrangements of enters in the androecium ?

A. Malvaceae

B. Rutaceae

C. Fabaceae

D. Caesalpinaceae



Answer: C



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95. Match column I with column II and select the correct option from the given codes

Column I

(Members of Fabaceae)

A. Gram, sem, moong, soybean

B. Soybean, groundnut

C. Indigofera

D. Sunhemp

E. Sesbania, Trifolium

F. Dalbergia sissoo

G. Glycyrrhiza glabra

Column II

(Economic importance)

(i) Timber

(ii) Medicine

(iii) Fodder

(iv) Fibres

(v) Dye

(vi) Edible oil

(vii) Pulses

A. A-(i),B-(ii),C-(iii),D-(iv),E-(v),F-(vi),G-(vii)

B. A-(vii),B-(vi),C-(v),D-(iv),E-(iii),F-(i),G-(ii)

C. A-(ii),B-(iv),C-(vi),D-(i),E-(iii),F-(v),G-(vii)

D. A-(i),B-(iii),C-(v),D-(vii),E-(ii),F-(iv),G-(vi)

**Answer: B**



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**96.** A plant has a butterfly shaped flower with one standard, two wing like and two keel petals. The plants belongs to the family

- A. Papilionaceae
- B. Asteraceae
- C. Malvaceae
- D. Rubiaceae

**Answer: A**



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**97.** Persistent calyx is the character of plants belonging to Family

A. Solanaceae

B. Malvaceae

C. Cruciferae (Brassicaceae)

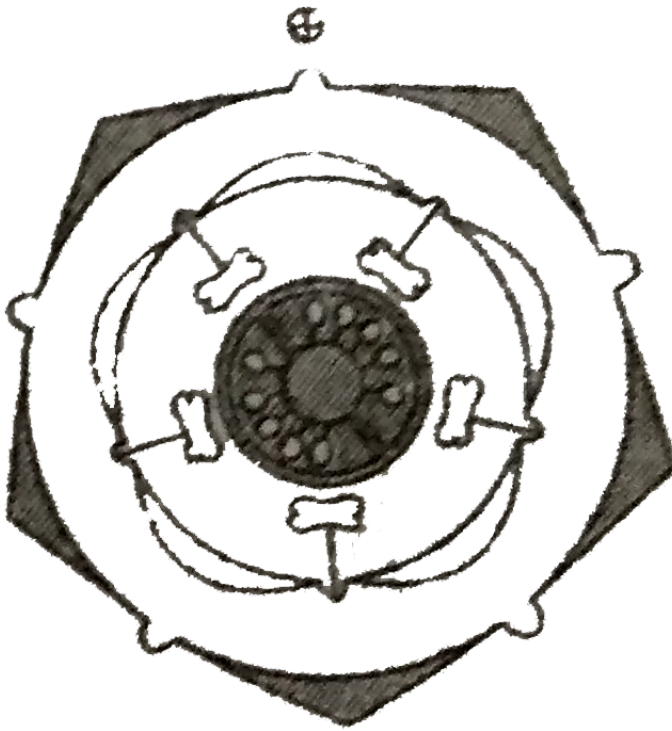
D. Compositae.

**Answer: A**



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**98.** Study carefully the given floral diagram and select the option which correctly represents the related floral formula.



A.  ${}^0\overset{\circlearrowleft}{\underset{\circlearrowright}{\oplus}}K_{(5)}C_{1+2+(2)}A_5\bar{G}_{(2)}$

B.  $\oplus\overset{\circlearrowleft}{\underset{\circlearrowright}{\oplus}}K_{(5)}\overset{\frown}{C_5}A_5\underline{G}_{(2)}$

C.  $\oplus\overset{\circlearrowleft}{\underset{\circlearrowright}{\oplus}}P_{5+5}A_{(5)}\underline{G}_{(2)}$

D.  $\oplus\overset{\circlearrowleft}{\underset{\circlearrowright}{\oplus}}K_{(5)}\overset{\frown}{C_{(5)}}A_5\underline{G}_{(2)}$

Answer: D



99. The floral formula  belongs to the family

- A. Fabaceae
- B. Asteraceae
- C. Solanaceae
- D. Liliaceae

**Answer: C**

100. Identify the family which shows the following diagnostic features.

Flowers pentamerous, gynoecium-bicarpellary, syncarpous, ovary placed obliquely, placentation axile, placenta swollen.

- A. Solanaceae

B. Leguminosae

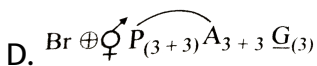
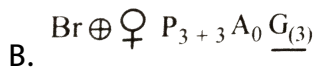
C. Papilionaceae

D. Liliaceae

Answer: A

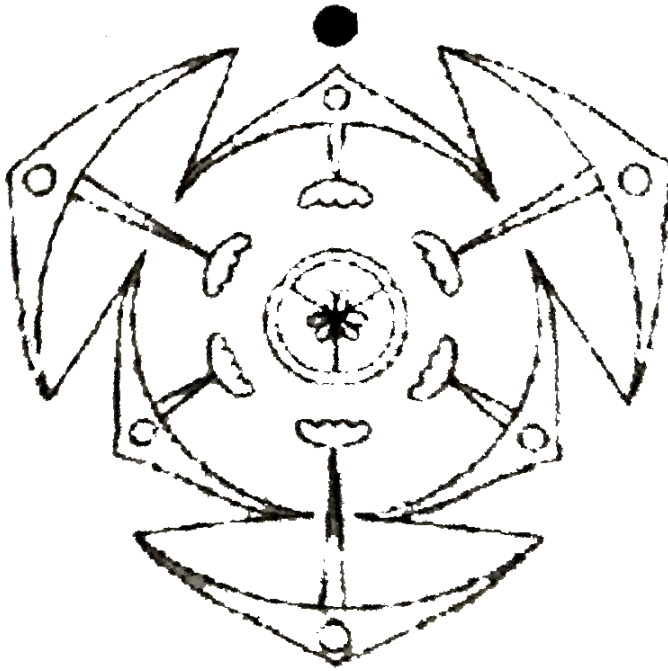
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101. which of the following floral formulae corresponds to Family Liliaceae ?



Answer: D

102. Study carefully the given floral diagram and select the option which correctly represents the related floral formula.



A.  $\oplus \overset{\text{♂}}{\underset{\text{♀}}{\text{O}}} \overset{\text{---}}{\text{P}_{(3+3)}} \text{A}_{3+3} \underline{\text{G}}_{(3)}$

B.  $\oplus \overset{\text{♂}}{\underset{\text{♀}}{\text{O}}} \text{P}_6 \text{A}_6 \underline{\text{G}}_{(3)}$

C.  $\oplus \overset{\text{♂}}{\underset{\text{♀}}{\text{P}}} P_{5+5} A_{(5)} \underline{G}_{(2)}$

D.  $\oplus \overset{\text{♂}}{\underset{\text{♀}}{\text{K}}} K_{(5)} \overset{\text{♂}}{\underset{\text{♀}}{\text{C}}} C_{(5)} \overset{\text{♂}}{\underset{\text{♀}}{\text{A}}} A_{(5)} \underline{G}_{(2)}$

Answer: A

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103. Identify the missing words (A,B,C and D) and select the correct option.

Family	Inflorescence	Flower	Stamens /tepals	Gynoecium
Fabaceae	A	B	10	D
Solanaceae	Solitary, axillary or cymose	Actinomorphic	5	Bicarpellary
Lilliaceae	Solitary, cymose or racemose	Actinomorphic	C	Tricarpellary

- A.  $\begin{matrix} A & B & C & D \\ \text{Racemose} & \text{Zygomorphic} & 3 + 3 & \text{Monocarpellary} \end{matrix}$



- |    |          |               |          |                 |
|----|----------|---------------|----------|-----------------|
|    | <i>A</i> | <i>B</i>      | <i>C</i> | <i>D</i>        |
| B. | Racemose | Actinomorphic | 5        | Bicarpellary    |
|    | <i>A</i> | <i>B</i>      | <i>C</i> | <i>D</i>        |
| C. | Cymose   | Zygomorphic   | 3 + 3    | Tricarpellary   |
|    | <i>A</i> | <i>B</i>      | <i>C</i> | <i>D</i>        |
| D. | Cymose   | Actinomorphic | 5        | Multicarpellary |

**Answer: A**

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**104.** Which of the following is a correct combination of family and its respective members ?

- A. Fabaceae-Colchicum autumnale, Trifolium alexandrinum
- B. Solanaceae-Withania somnifera, Petunia
- C. Liliaceae-Sesbania, Asparagus
- D. Asteraceae-Sonchus asper, Nicotiana tabacum

**Answer: B**

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**105.** Select the pair which contains monocotyledonous families.

- A. Solanaceae and Brassicaceae
- B. Fabaceae and Asteraceae
- C. Liliaceae and Poaceae
- D. None of these

**Answer: C**

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**106.** Roots are modified to perform specific functions other than their normal functions. The given figure shows modification of the roots of

mangrove plant. Select the incorrect option regarding it.



- A. The stilt roots of red mangrove help in breathing
- B. The root system is highly entangled, huge and extensive under the water.

- C. A large number of animals such as small fishes, crustaceans, seahorses, etc. find shelter in this root system
- D. Besides providing mechanical support, these roots also perform photosynthetic functions in the plant.

**Answer: D**

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**107.** Read the following statements.

(i) In *Limnophila heterophylla*, the lamina of submerged leaves is very much dissected while the lamina of aerial leaves is entire. This variation in the form of lamina is referred to as \_\_\_\_\_.

(ii) Potato tubers, when exposed to light, turn green due to the increased production of a glycoalkaloid named \_\_\_\_\_.

(iii) In \_\_\_\_\_, ovary arises from the bottom of the cup-shaped thalamus and androperianth arises from the rim of the cup-shaped thalamus.

(iv) Underground stems can be differentiated from roots by \_\_\_ of axillary buds on the nodes.

Select the correct fill-ups out of the following for the above statements

- A. (i) developmental heterophylly (ii) solanine (iii) Rosa (iv) presence
- B. (i) environmental heterophylly (ii) solanine (iii) Prunus (iv) presence
- C. (i) environmental heterophylly (ii) chlorophyll (iii) Prunus (iv) absence
- D. (i) adaptive heterophylly (ii) lycopene (iii) Cucurbita (iv) absence

**Answer: B**

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**108.** Consider the following statements.

(i) In Gynandropsis, Passiflora, etc., thalamus is elongated and shows well developed nodes and internodes.

(ii)The floral buds in Agave, Allium , etc. , may sometimes get modified into vegetative buds or bulbils.

(iii)Sepals are concerned with protection of flowers in bud condition and petals help to attract insects for pollination.

(iv)Stamens and carpels serve as the male and female reproductive organs respectively.

Which of the following combinations of above statements provides an evidence that flower is a modified shoot ?

- A. (i) and (ii)
- B. (ii) and (iii)
- C. (iii) and (iv)
- D. (i) and (iv)

**Answer: A**



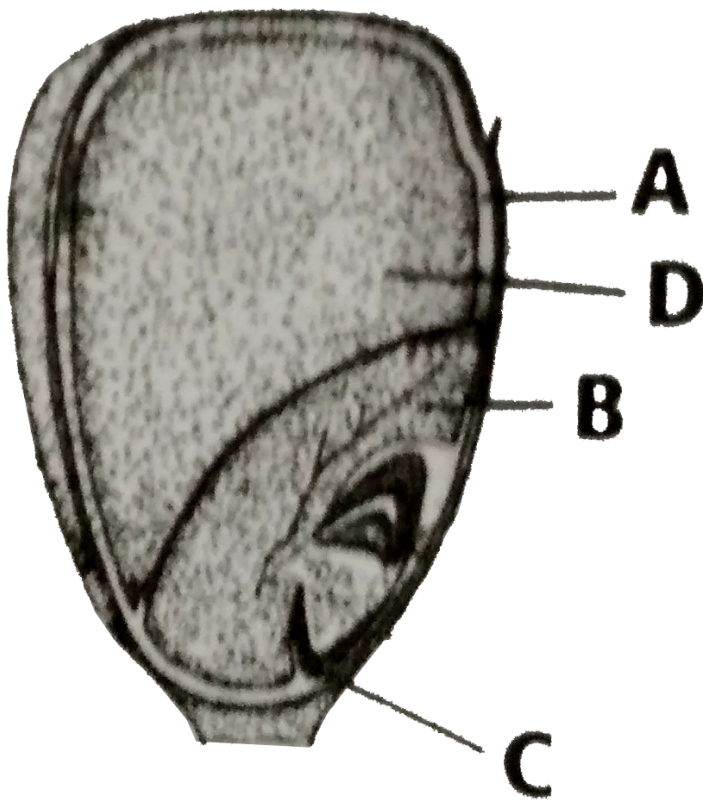
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**109.** In the given figure of maize grain certain regions are labelled as A,B,C and D. Match them with the codes (1,2,3 and 4) given below and select the correct option

(1) The main nutritive tissue (2) Shield shaped cotyledon

(3) Protection sheath of radicle

(4) The proteinaceous layer



A. A-(1), B-(3), C-(4), D-(2)

B. A-(2), B-(3), C-(1), D-(4)

C. A-(1), B-(2), C-(3), D-(4)

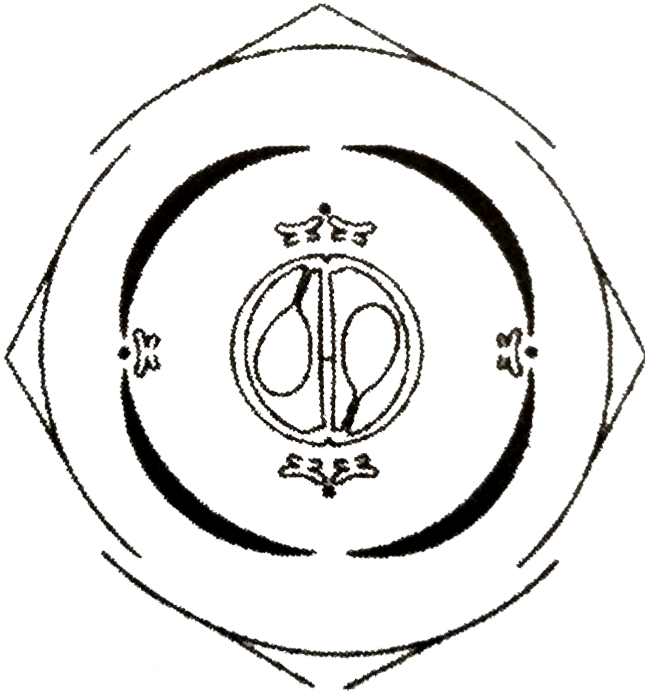
D. A-(4), B-(2), C-(3), D-(1)

**Answer: D**

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**110.** Which of the following features characterise the family represented by the given floral diagram ?





- A. Cruciform corolla with quincuncial aestivation
- B. Stamens with didynamous condition
- C. Bicarpellary, syncarpous ovary with parietal placentation
- D. Inflorescence usually cymose

**Answer: C**

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**111.** Rearrange the following zones as seen in the root in vertical section and choose the correct option.

A. Root hair zone , B. Zone of meristems

C. Root cap zone , D. Zone of maturation

E. Zone of elongation

A. C,B,E,A,D

B. A,B,C,D,E

C. D,E,A,C,B

D. E,D,C,B,A

**Answer: A**



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112. In an inflorescence where flowers are borne laterally in an acropetal succession, the position of the youngest floral bud shall be

- A. proximal
- B. distal
- C. intercalary
- D. anywhere

**Answer: B**

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113. The mature seeds of plants such as gram and peas, possess no endosperm, because

- A. these plants are not angiosperms
- B. there is no double fertilisation in them

C. endosperm is not formed in them

D. endosperm gets used up by the developing embryo during seed development.

**Answer: D**

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**114.** Roots developed from parts of the plant other than radicle are called

A. tap roots

B. fibrous roots

C. adventitious roots

D. nodular roots

**Answer: C**



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**115.** Venation is a term used to describe the pattern of arrangement of

- A. floral organs
- B. flower in inflorescence
- C. veins and veinlets in a lamina
- D. all of them

**Answer: C**



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**116.** Endosperm, a product of double fertilisation in angiosperm is absent in the seeds of

- A. coconut

B. orchids

C. maize

D. castor

**Answer: B**



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**117.** Many pulses of daily use belong to one of the families below (tick the correct answer)

A. Solanaceae

B. Fabaceae

C. Liliaceae

D. Poaceae

**Answer: B**

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**118.** The placenta is attached to the developing seed near the

- A. testa
- B. hilum
- C. micropyle
- D. chalaza

**Answer: B**

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

- A. Trifolium
- B. Indigofera

C. Lupin

D. Cassia

**Answer: B**



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**120.** Match the followings and choose correct option.

Group A

Group B

A. Aleurone layer

(i) Without fertilisation

B. Parthenocarpic fruit

(ii) Nutrition

C. Ovule

(iii) Double fertilisation

D. Endosperm

(iv) Seed

A. A-(i),B-(ii),C-(iii),D-(iv)

B. A-(ii),B-(i),C-(iv),D-(iii)

C. A-(iv),B-(ii),C-(i),D-(iii)

D. A-(ii),B-(iv),C-(i),D-(iii)

**Answer: B**





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**121.** Assertion: Fibrous root system consists of large number of fine, fibrous roots developing from the base of the stem.

Reason: Fibrous root system is found in dicots only.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: C**



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**122.** Assertion: Avicennia has pneumatophores.

Reason: Pneumatophores help the plant to get oxygen for respiration.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: A**

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**123.** Assertion: Stems of some plants protect them from browsing animals.

Reason: Axillary buds of stems of these plants are modified into thorns.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: A**

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**124.** Assertion: In some leguminous plant, the leaf base is swollen.

Reason: The swollen leaf base is called pulvinus.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: B**

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**125.** Assertion: Leaves of monocot plants generally possess reticulate venation.

Reason: Leaves of dicot plants generally, possess parallel venation.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion and reason are false.

**Answer: D**

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**126.** Assertion: The alternate type of phyllotaxy is the arrangement of leaves in which a single leaf arises at each node in alternate manner.

Reason: The alternate type of phyllotaxy is seen in China rose and mustard plant .

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion and reason are false.

**Answer: B**

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**127.** Assertion: Thy cymose type of inflorescence has limited growth.

Reason: In cymose inflorescence the main axis terminates in a flower.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion and reason are false.

**Answer: A**

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**128.** Assertion: In some flowers like lily, perianth is a term used when calyx and corolla are not distinct.

Reason: Calyx and corolla are the reproductive organs.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: C**



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**129.** Assertion: In imbricate aestivation, out of five petals, one is completely internal, one is completely external and in each of the remaining three petals, one margin is internal and the other is external

Reason: Ascending imbricate aestivation is found in Cassia and gulmohur.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.



**Answer: B**



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**130.** Assertion: Monoadelphous stamens are found in pea.

Reason: In pea, stamens are united into one bunch or one bundle.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: D**



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**131. Assertion:**The placentation in which the placenta forms a ridge along the ventral suture of ovary and ovules are borne on this ridge forming two rows is called parietal placentation.

**Reason:**The marginal placentation has ovules developed on the inner wall of the ovary or on peripheral part.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: D**

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**132.** Assertion:Fruit is the mature or ripened ovary developed after fertilisation.

Reason:Fruit formed without fertilisation of the ovary is called parthenocarpic fruit.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: B**



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**133.** Assertion: The outermost covering of a dicotyledonous seed is the seed coat.

Reason: The seed coat has two layers-outer testa and inner endosperm.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: C**



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**134.** Assertion:  $\underline{G}$  is the symbol for inferior ovary.

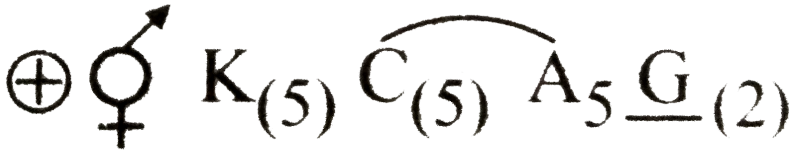
Reason: Adhesion is indicated by enclosing the figure within bracket.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: D**

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135. Assertion: The floral formula of Family Solanaceae is



Reason: This floral formula of Solanaceae tells that flower is bisexual, sepals five, petals five, stamens five and gynoecium trilocular, trilobular with many ovules.

- A. If both assertion and reason are true and reason is the correct explanation of assertion.
- B. If both assertion and reason are true but reason is not the correct explanation of assertion.
- C. If assertion is true but reason is false.
- D. If assertion and reason are false.

**Answer: C**

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