



## BIOLOGY

### BOOKS - MAXIMUM PUBLICATION

### MORPHOLOGY OF FLOWERING PLANT

#### Exercise

1. which plant part is modified into pitcher in pitcher plants ?

- A. stem
- B. leaf
- C. flower
- D. root

**Answer: B**



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2. marginal placentation is generally found in the family

A. Solanaceae

B. fabaceae

C. liliaceae

D. cucurbitaceae

**Answer: B**



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3. non endospermic seeds are found in

A. pea

B. ground nut

C. beans

D. all of these

**Answer: D**



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4. Monocotyledonous seed possesses a cotyledon which is represented by

A. tegmen

B. endosperm

C. scutellum

D. aleurone

**Answer: C**



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5. which floral family has (9) + 1 arrangement of anther in the androecium

A. malvaceae

B. fabaceae

C. Solanaceae

D. liliaceae

**Answer: B**

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6. based on relationship, fill in the blanks

a)  $\propto \sqrt[3]{\text{Supp}}$  or  $t$ ,

$P \neq \text{uma} \top h$  or  $es: \dots\dots\dots$

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7. Observe the relationship between first two pairs and fill up the blanks.

Transpiration: Loss of water in the form of water vapour.

.....: Loss of water in the form of liquid.

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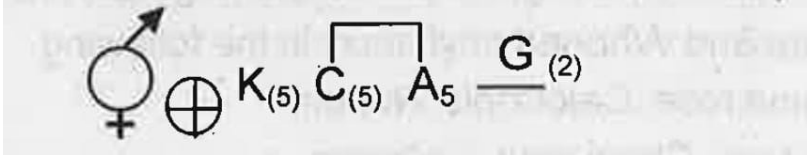
8. the arrangement of petals in the flower is known as .....

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9. when your teacher asks to write a few examples for root modification, a student wrote potato. is it correct? why?

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10. write the name of the family which has the given floral formula.



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11. observe the relationship between first two words and fill up the suitable word in the next place.

*SHOOT – PLUMULE: ROOT.....*

*OUTERINTEGUMENT – TESTA: INNERINTEGUMENT.....*

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12. observe the relationship between first two words and fill up the suitable word in the next place.

*SHOOT – PLUMULE: ROOT.....*

*OUTERINTEGUMENT – TESTA: INNERINTEGUMENT.....*



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**13.** observe the first pair in a and b and then complete the second pair.

a) gourd - Tendril

citrus - .....

b) Brinjal - Hypogynous flower

Rose - .....



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**14.** observe the first pair in a and b and then complete the second pair.

a) gourd - Tendril

citrus - .....

b) Brinjal - Hypogynous flower

Rose - .....



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15. identify the family having the given floral formula.



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16. " Stilt roots are adventitious and give mechanical support". how does prop root help the plant?

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17. " some flowers are called Perigynous". what do you mean by it?

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18. based on morphology pick up the odd one and state reason for your selection ( carrot, beetroot, potato, sweetpotato, radish).

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19. Phyllotaxy is the arrangement of leaves on the branch. identify the order of plants showing alternate, opposite and whorled phyllotaxy in the following.

- A. China rose, Calotropis, Nerium
- B. Nerium, China rose, Calotropis
- C. Nerium, Caltropis, China rose
- D. China rose, Nerium, Caltropis

**Answer: A**

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20. Identify the types of aestivation in the following diagrams. Justify your answer.





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21. "Potato is a stem and sweet potato is a root".- Justify the statement on the basis of external features only.



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22. Identify the given family. Write the floral formula, mention the economic importance.

- (a) Bisexual, actinomorphic
- (b) Perianth six
- (c) valvate aestivation
- (d) ovary superior, trilocular with many ovules



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23. Identify the given family. Write the floral formula, mention the economic importance.

- (a) Bisexual, actinomorphic
- (b) Perianth six
- (c) valvate aestivation
- (d) ovary superior, trilocular with many ovules

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24. Identify the given family. Write the floral formula, mention the economic importance.

- (a) Bisexual, actinomorphic
- (b) Perianth six
- (c) valvate aestivation
- (d) ovary superior, trilocular with many ovules

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25. Identify the given family. Write the floral formula, mention the economic importance.

- (a) Bisexual, actinomorphic
- (b) Perianth six
- (c) valvate aestivation
- (d) ovary superior, trilocular with many ovules

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26. Note the difference between the placenta and thalamus.

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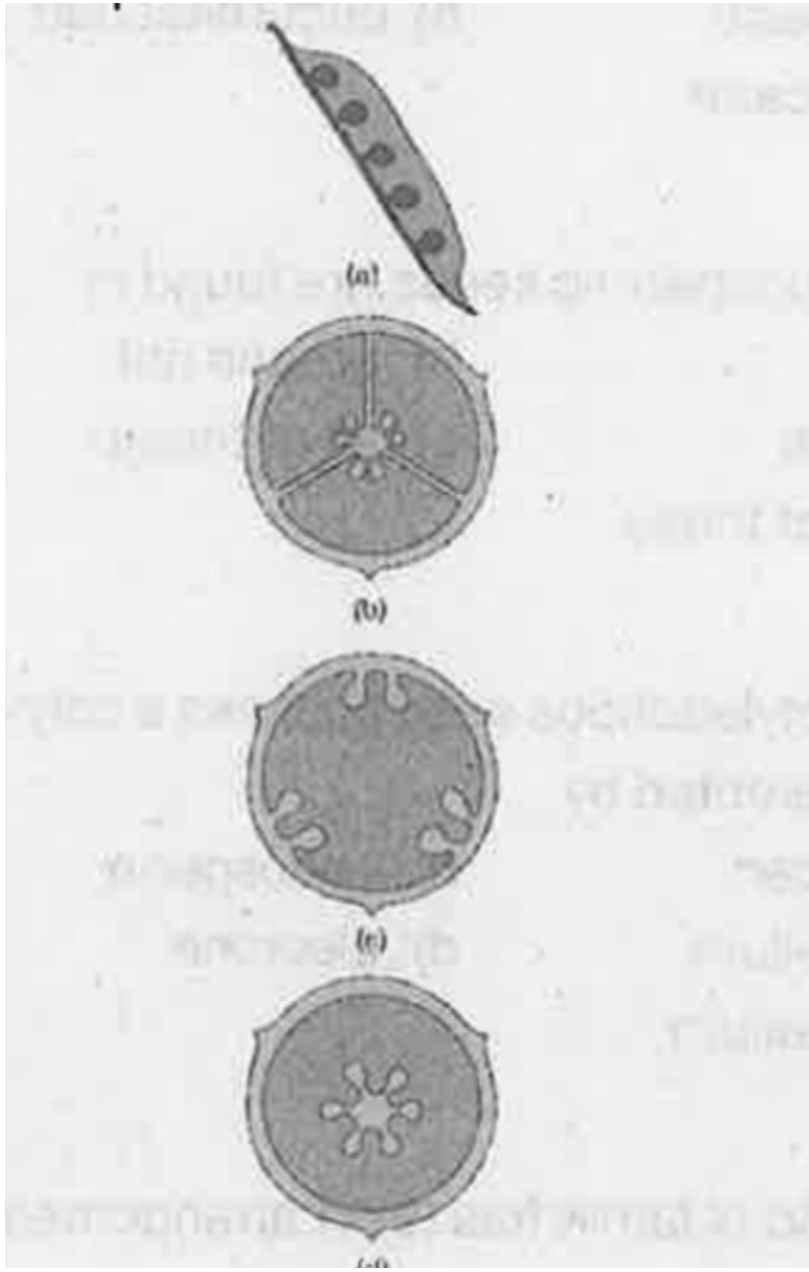
27. Based on the relationship, fill in the blanks.

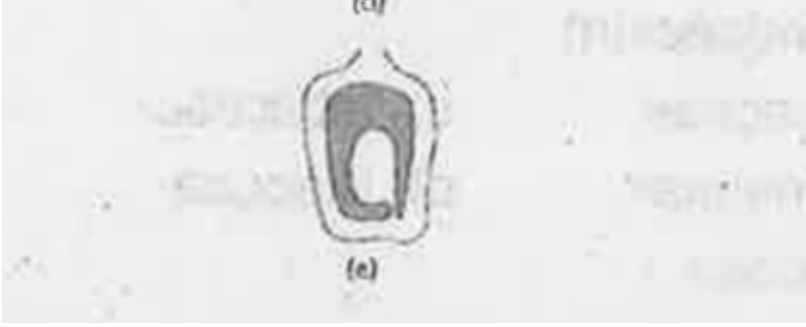
(a) Prop root: Support

Pneumatophore: .....

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28. Identify the type of placentation given below. Differentiate between apocarpous and syncarpous condition.





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**29.** In early morning, on the margins of leaves water drops are seen. Why does it occur?

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**30.** You are provided with the rhizome of a ginger plant.

(a) Name the part of the plant modified to form this structure.

(b) Write any three differentiating characters.

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**31.** You are provided with the rhizome of a ginger plant.

(a) Name the part of the plant modified to form this structure.

(b) Write any three differentiating characters.

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**32.** L.S of maize seed is given below . Observe the diagram and label the parts.



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**33.** Observe the following diagram and answer to the following questions.

(a) Name the part of the plant modified in 'A' and 'B'.

(b) Mention their functions.



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**34.** You are provided with the rhizome of a ginger plant.

(a) Name the part of the plant modified to form this structure.

(b) Write any three differentiating characters.

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**35.** How is pinnately compound leaf different from palmately compound leaf?

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**36.** Roots obtain oxygen from air in the soil for respiration. In the absence of deficiency of  $O_2$ , root growth is restricted or completely stopped. How do the plants growing in marshlands or swamps obtain their  $O_2$  required for root respiration?



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**37.** You are provided with the rhizome of a ginger plant.

- (a) Name the part of the plant modified to form this structure.
- (b) Write any three differentiating characters.

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**38.** Tendrils are found in the following plants. Identify whether they are stem tendrils or leaf tendrils.

- (a) Cucumber
- (b) Peas
- (c) Pumpkins
- (d) Watermelon

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**39.** Tendrils are found in the following plants. Identify whether they are stem tendrils or leaf tendrils.

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(d) Watermelon

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(c) Pumpkins

(d) Watermelon

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**41.** Tendrils are found in the following plants. Identify whether they are stem tendrils or leaf tendrils.

(a) Cucumber

(b) Peas

(c) Pumpkins

(d) Watermelon

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**42.** Write the floral formula of the flower having following description (Bisexual, Zygomorphic, Calyx 5 gamosepalous, Corolla 5 polysepalous, vexillary aestivation, Androecium 10 (stamens 9 united and 1 free), Gynoecium 1 carpel, ovary superior)

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43. Dicot and monocot leaves shows differences on their leaves mostly in the arrangement of veins explain it.

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44. observe the first pair in a and b and then complete the second pair.

a) gourd - Tendril

citrus - .....

b) Brinjal - Hypogynous flower

Rose - .....

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45. " some flowers are called Perigynous". what do you mean by it?

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**46.** How is pinnately compound leaf different from palmately compound leaf?

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**47.** when your teacher asks to write a few examples for root modification, a student wrote potato. is it correct? why?

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**48.** "Potato is a stem and sweet potato is a root".- Justify the statement on the basis of external features only.

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49. The floral formula of a family is given below. Give two examples for economically important plants.



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50. The mature seeds of plants such as gram and peas, possess no Endosperm. Why?

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51. Match followings.

(Group A)

A. Aleurone layer, B. Parthenocarpic fruit, C. Ovule, D. Endosperm

(Group B)

(i) without fertilization, (ii) Nutrition, (iii) Double fertilization, (iv) Seed

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52. the arrangement of petals in the flower is known as .....

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53. Modified adventitious roots in Banyan tree and and Maize plant are known in different names

(a) Which are they?

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54. The floral formula of a family is given below. Give two examples for economically important plants.



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**55.** The floral formula of a family is given below. Give two examples for economically important plants.



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**56.** Give the technical term of the following

- (a) Two leaves at each node
- (b) Flowers cannot be divided into two equal halves
- (c) Position of ovary is higher than other floral whorls
- (d) carpels are fused

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**57.** Give the technical term of the following

- (a) Two leaves at each node
- (b) Flowers cannot be divided into two equal halves



(c) Position of ovary is higher than other floral whorls

(d) carpels are fused



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**58.** Give the technical term of the following

(a) Two leaves at each node

(b) Flowers cannot be divided into two equal halves

(c) Position of ovary is higher than other floral whorls

(d) carpels are fused



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**59.** Give the technical term of the following

(a) Two leaves at each node

(b) Flowers cannot be divided into two equal halves

(c) Position of ovary is higher than other floral whorls

(d) carpels are fused



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**60.** Mention the statement given below are true or false

- (a) In axile placentation ovules are arranged in axis of single chambered ovary
- (b) In imbricate aestivation floral appendages are in irregular overlapping
- (c) In *Alstonia* phyllotaxy is whorled
- (d) Floral axis has definite growth in racemose type



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**61.** Mention the statement given below are true or false

- (a) In axile placentation ovules are arranged in axis of single chambered ovary
- (b) In imbricate aestivation floral appendages are in irregular overlapping

(c) In *Alstonia* phyllotaxy is whorled

(d) Floral axis has definite growth in racemose type



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**62.** Mention the statement given below are true or false

(a) In axile placentation ovules are arranged in axis of single chambered ovary

(b) In imbricate aestivation floral appendages are in irregular overlapping

(c) In *Alstonia* phyllotaxy is whorled

(d) Floral axis has definite growth in racemose type



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**63.** Mention the statement given below are true or false

(a) In axile placentation ovules are arranged in axis of single chambered ovary

(b) In imbricate aestivation floral appendages are in irregular overlapping

(c) In *Alstonia* phyllotaxy is whorled

(d) Floral axis has definite growth in racemose type

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**64.** justify the following statements on the basis of external features  
underground parts of plant are not always roots.

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**65.** justify the following statements on the basis of external features  
flower is a modified shoot.

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**66.** What is meant by modification of root? What type of root is found in  
banyan  
turnip  
mangrove tree

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**67.** What is meant by modification of root? What type of root is found in  
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turnip  
mangrove tree

 [Watch Video Solution](#)

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mangrove tree

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**69.** What is meant by modification of root? What type of root is found in  
banyan  
turnip  
mangrove tree

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**70.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

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**71.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

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72. some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

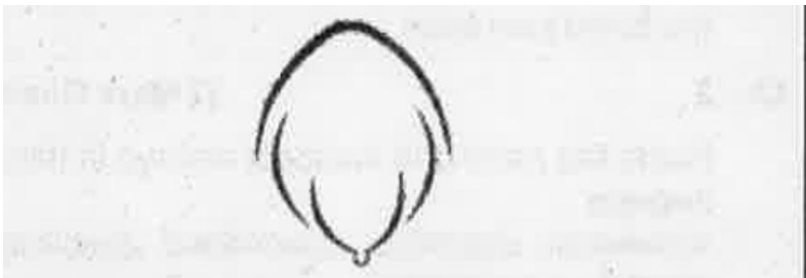
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73. a particular flower of a family is characterized by this type of aestivation.

identify the family.

write the floral formula

mention two economic importance of the family







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74. observe the relationship between first two words and fill up the suitable word in the next place.

*SHOOT – PLUMULE: ROOT..... .*

*OUTERINTEGUMENT – TESTA: INNERINTEGUMENT.....*



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75. observe the relationship between two words and fill up the suitable word in the fourth place.

*NEPENTHES – PITCHER: UTRICULARIA..... .*

*OVULE – Seed: OVARY – ..... .*



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76. observe the relationship between first two words and fill up the suitable word in the next place.

*SHOOT – PLUMULE: ROOT.....*

*OUTERINTEGUMENT – TESTA: INNERINTEGUMENT.....*

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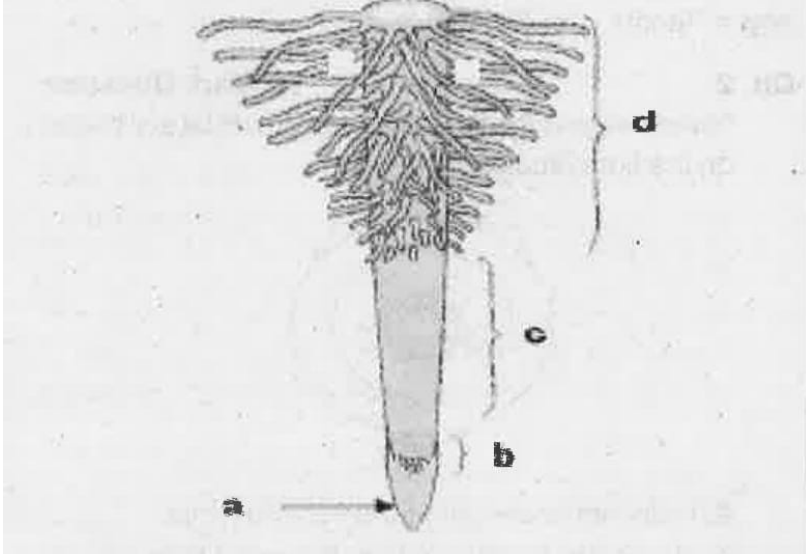
77. observe the relationship between two words and fill up the suitable word in the fourth place.

*NEPENTHES – PITCHER: UTRICULARIA.....*

*OVULE – Seed: OVARY – .....*

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78. label the regions of the root tip in the given diagram.



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79. the arrangements of ovules within the ovary is known as placentation.

what does the term placenta refer to? name and draw various types of placentation in the flower as seen in T.S. or V.S.

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**80.** the arrangements of ovules within the ovary is known as placentation.

what does the term placenta refer to? name and draw various types of placentation in the flower as seen in T.S. or V.S.

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**81.** Identify the types of aestivation in the following diagrams. Justify your answer.



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**82.** the arrangements of ovules within the ovary is known as placentation.

what does the term placenta refer to? name and draw various types of placentation in the flower as seen in T.S. or V.S.

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**83.** Identify the given family. Write the floral formula, mention the economic importance.

- (a) Bisexual, actinomorphic
- (b) Perianth six
- (c) valvate aestivation
- (d) ovary superior, trilocular with many ovules

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**84.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

- a. write its floral formula.
- b. identify the family
- c. list any two economically important plants belonging to this family.

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**85.** mark the statement true or false

Ovary in epigynous flower is superior.

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**86.** differentiate between

Racemose and cymose inflorescence.

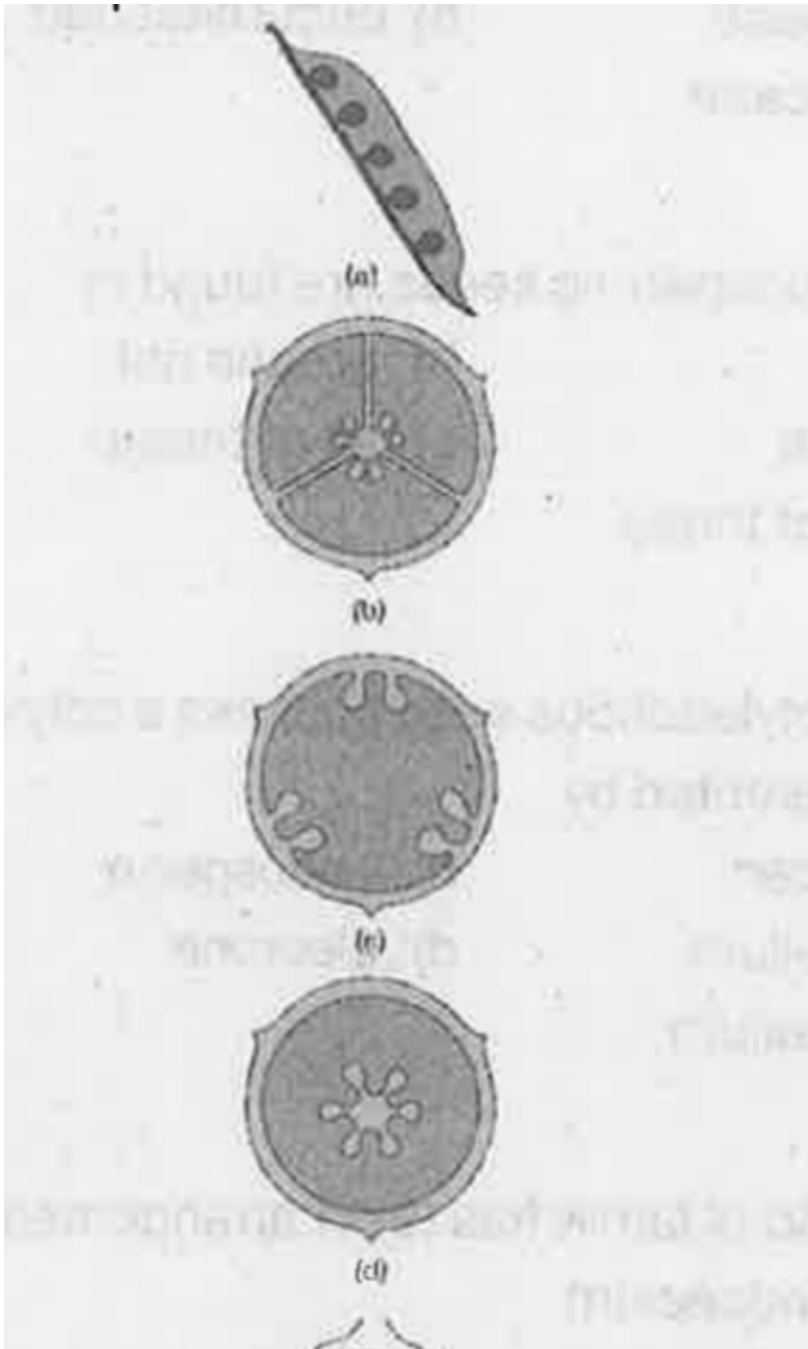
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**87.** differentiate between

Fibrous and adventitious root.

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88. Identify the type of placentation given below. Differentiate between apocarpous and syncarpous condition.





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**89.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

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**90.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and



epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.



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**91.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

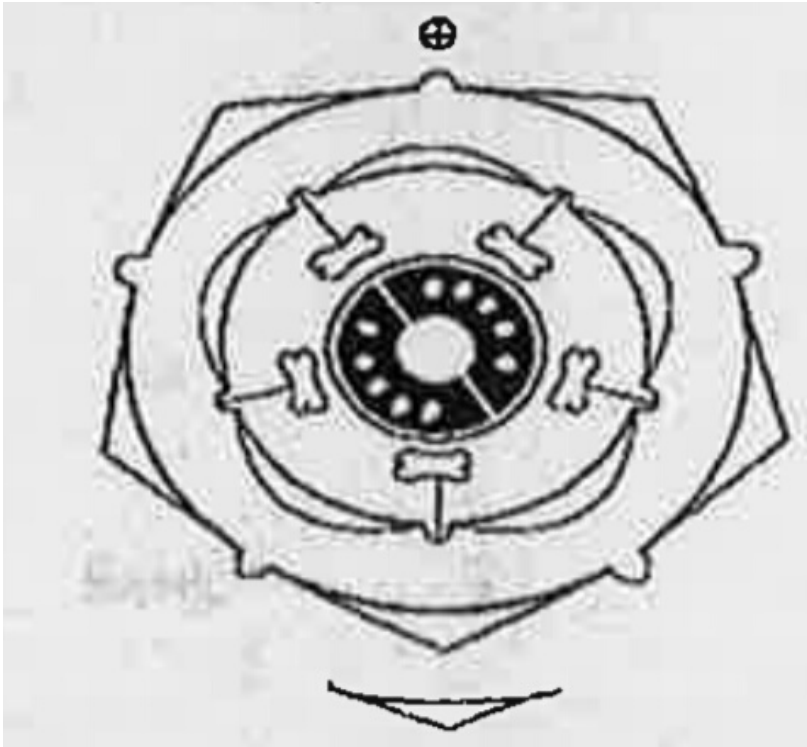


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**92.** Given below is the floral diagram drawn by Anil based on the floral bud of plant.

Help him to complete the floral formula.

Name the family to which this plant belongs.

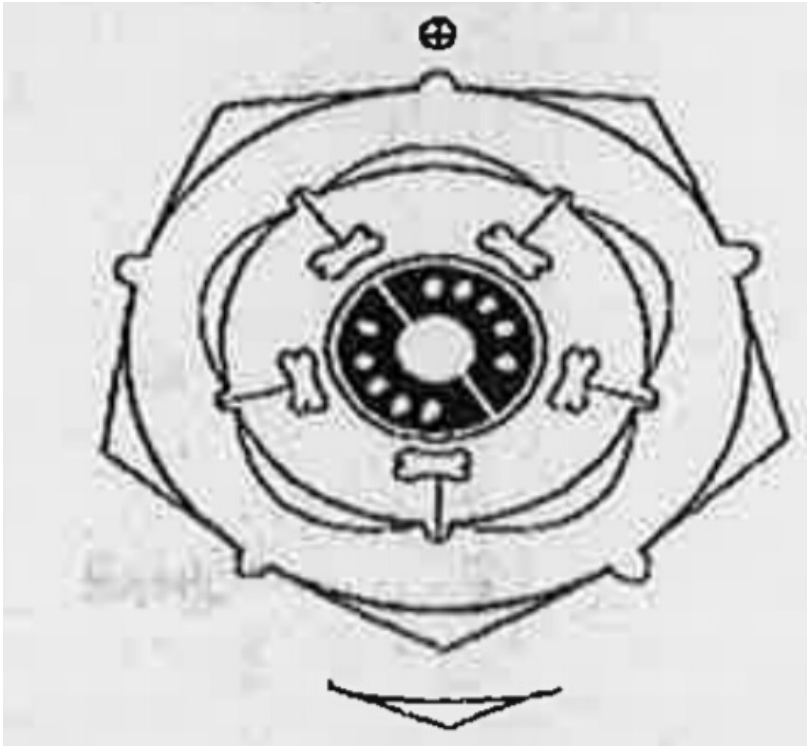


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**93.** Given below is the floral diagram drawn by Anil based on the floral bud of plant.

Help him to complete the floral formula.

Name the family to which this plant belongs.

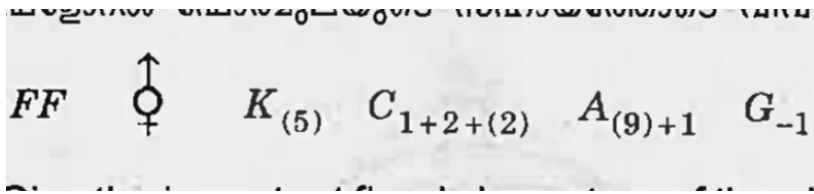


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94. Floral formula of a pea plant is given below:

Give the important floral characters of the plant using the floral

formula.



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95. observe the first pair in a and b and then complete the second pair.

a) gourd - Tendril

citrus - .....

b) Brinjal - Hypogynous flower

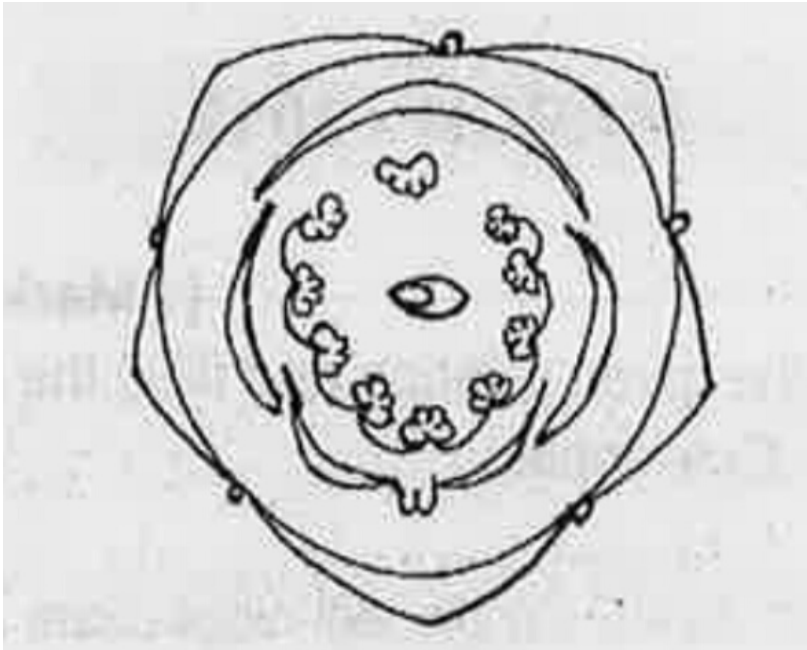
Rose - .....

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96. Given below is the floral diagram of a family you have studied:

Identify the family and aestivation of corolla. Describe three other

floral characters from the floral diagram using technic terms.

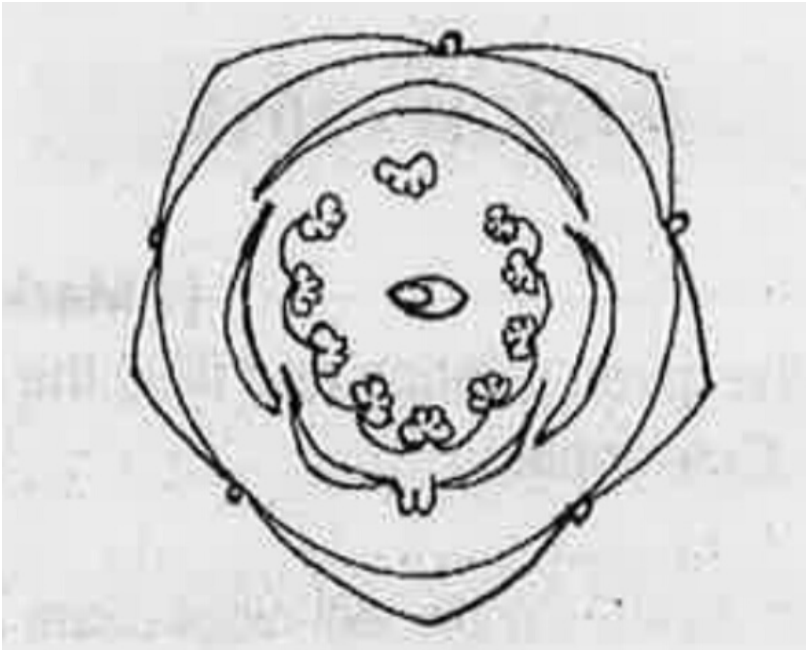


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97. Given below is the floral diagram of a family you have studied:

Identify the family and aestivation of corolla. Describe three other

floral characters from the floral diagram using technic terms.



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**98.** In cactus both leaves and stem are modified to perform different functions. Name the modifications and identify their functions.

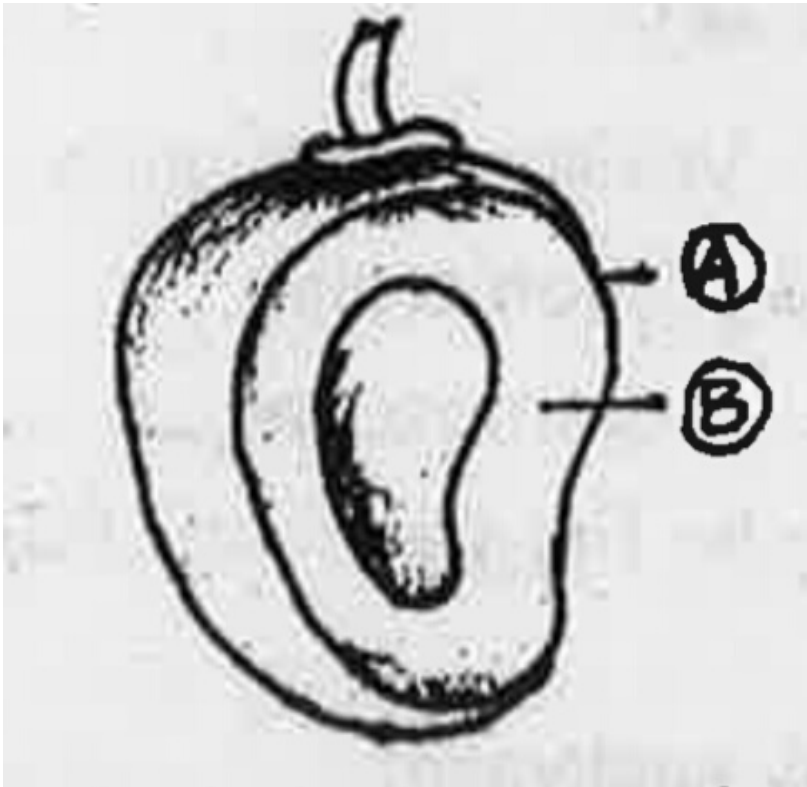
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99. The diagram given below shows parts of a true fruit.

(a) Write the technical name of this fruit developed from a monocarpellary superior ovary.

(b) Label the parts A and B.

(c) Can you distinguish a parthenocarpic fruit from the given fruit



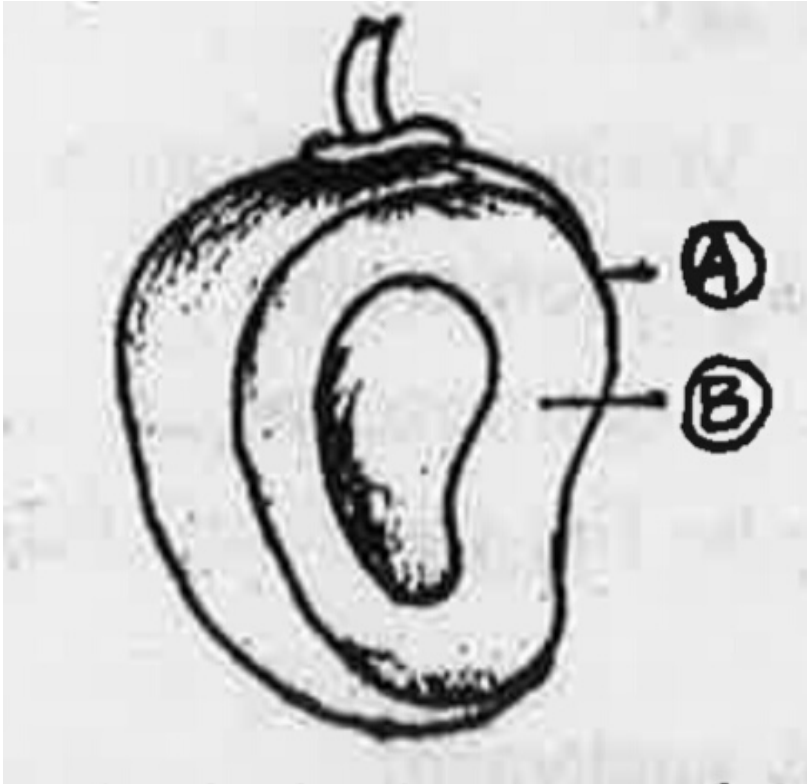
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100. The diagram given below shows parts of a true fruit.

(a) Write the technical name of this fruit developed from a monocarpellary superior ovary.

(b) Label the parts A and B.

(c) Can you distinguish a parthenocarpic fruit from the given fruit



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**101.** Four stem modifications are given below. Three of them are underground stem modifications. Pick the odd one out as your answer.

(Potato, Opuntia, Ginger, Colocasia)

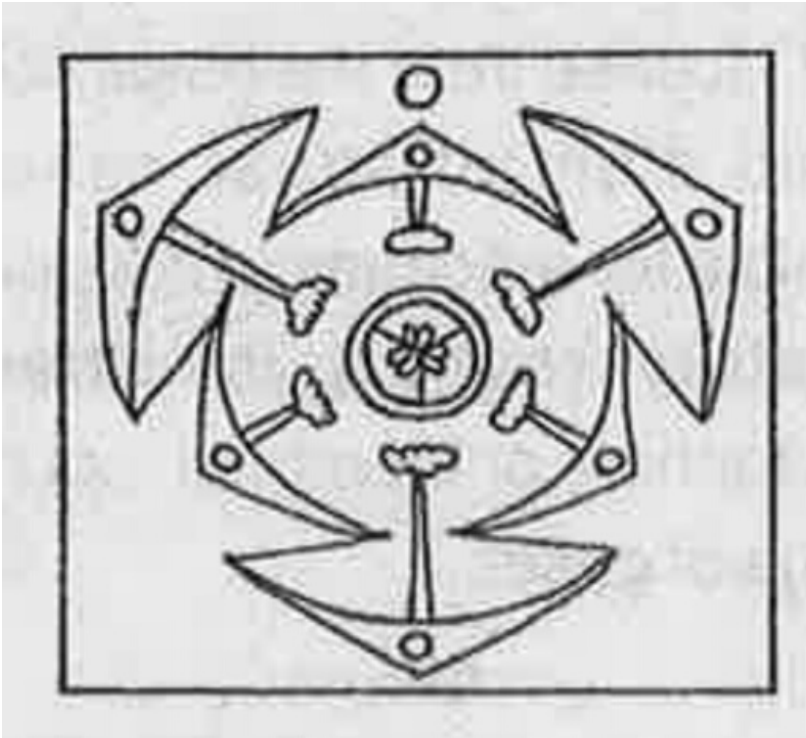


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**102.** Observe the given floral diagram.

Identify the family. Write any four floral characters of the identified

family.

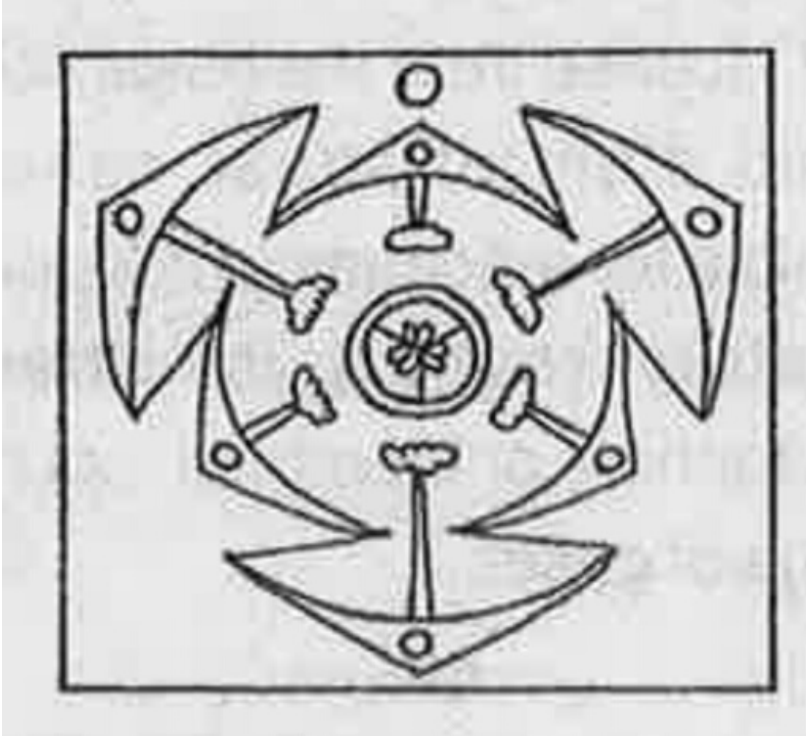


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**103.** Observe the given floral diagram.

Identify the family. Write any four floral characters of the identified

family.



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**104.** By examining the four matchpairs given below, find the correct matched pair from the alternatives given below.

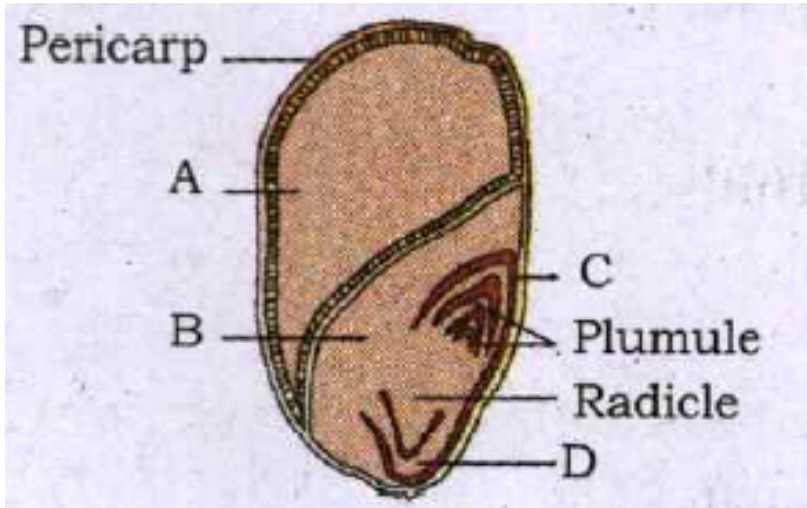
i) Racemose റെസിമോസ്	Peduncle grows indefinitely പുക്കുലയുടെ തണ്ട് അനിശ്ചിതമായി വളരുന്നു.
ii) Epigynous flower എപ്പിഗൈനസ് ഫ്ലവർ	Ovary superior അണ്ഡാശയം മുകളിൽ കാണപ്പെടുന്നു.
iii) Phyllotaxy ഫില്ലോടാക്സി	Arrangement of leaves on the stem കാണ്ഡത്തിൽ ഇലകളുടെ വ്യത്യാസം
iv) Coleoptile കോളിയോപ്റ്റൈൽ	Envelop covering the radicle റാഡിക്കിളിനെ മൂടുന്ന ആവരണം

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

**Answer: D**

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105. Structure of maize grain is given below. Label the parts. A, B, C, D



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106. The arrangement of flowers on the floral axis is called \_\_\_\_\_.

- A. Aestivation
- B. Phyllotaxy
- C. Placentation
- D. Inflorescence

**Answer: D**

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**107.** How can you differentiate an actinomorphic flower from a zygomorphic flower?

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**108.** How is pinnately compound leaf different from palmately compound leaf?

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**109.** What is meant by modification of root? What type of root is found in banyan

turnip

mangrove tree



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**110.** What is meant by modification of root? What type of root is found

in

banyan

turnip

mangrove tree



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**111.** What is meant by modification of root? What type of root is found

in

banyan

turnip

mangrove tree



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112. " Stilt roots are adventitious and give mechanical support". how does prop root help the plant?

- A. prop root
- B. stlit root
- C. pneumatophore
- D. pillar root

**Answer: B**



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113. Lateral branches arise from the base of main stem that grows aerielly at first and arch downwards in



A. pistia

B. mint

C. jasmine

D. both B & C

**Answer: D**



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**114.** Pulvinus is found in the leaf base of

A. rosaceae

B. leguminosae

C. malvaceae

D. solanaceae

**Answer: B**

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**115.** The appearance of more than one leaf at each node is represented by

A. china rose

B. sunflower

C. Alstonia

D. guava

**Answer: C**

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**116.** Roots are significant in the exchange of gases

A. pneumatophore

B. stlit root

C. pillar root

D. assimilatory root

**Answer: A**



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**117.** The type of flower cannot be divided into two similar halves in any vertical plane through centre is

A. actinomorphic

B. zygomorphic

C. assymmetric

D. both B & C

**Answer: C**



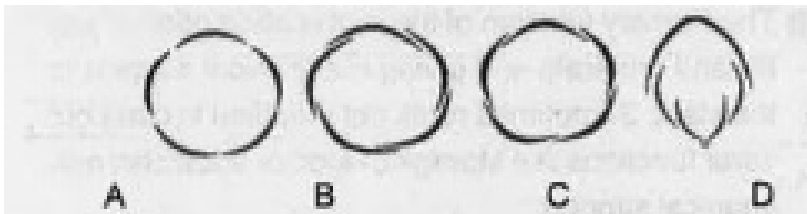
118. Ovary half inferior is seen in

- A. plum
- B. china rose
- C. peach
- D. both A & C

Answer: D

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119. Find out the papilionaceous type of corolla from the given figure



A. A

B. B

C. C

D. D

**Answer: D**



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**120.** some characters of a flower is given below.

bi sexual, sepals 5 and United, Petals 5 and United, stamens 5 and epipetalous, carpels 2, syncarpous and superior ovary.

a. write its floral formula.

b. identify the family

c. list any two economically important plants belonging to this family.

A. fabaceae

B. malvaceae

C. solanaceae

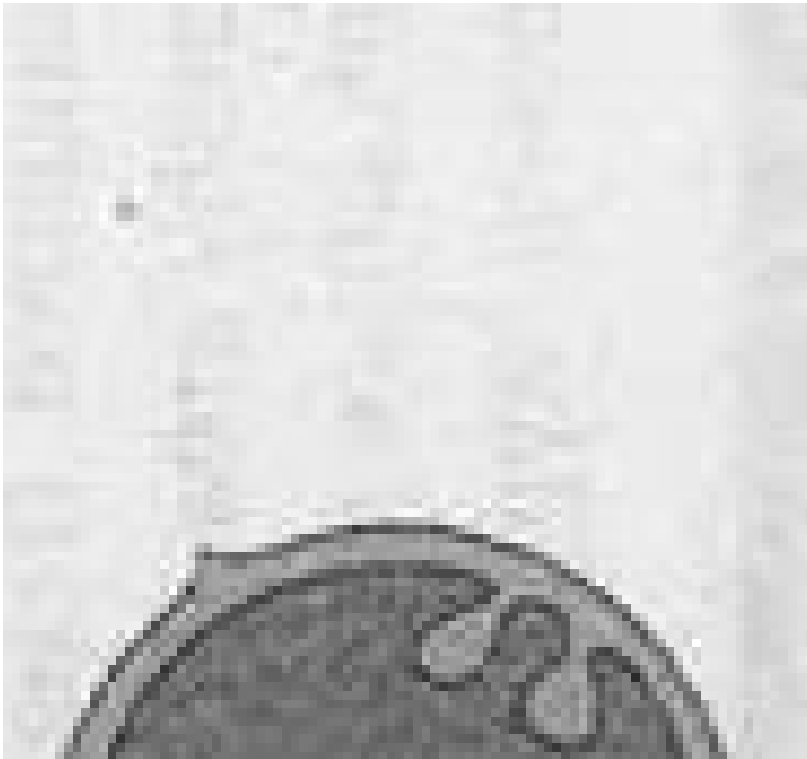
D. liliaceae

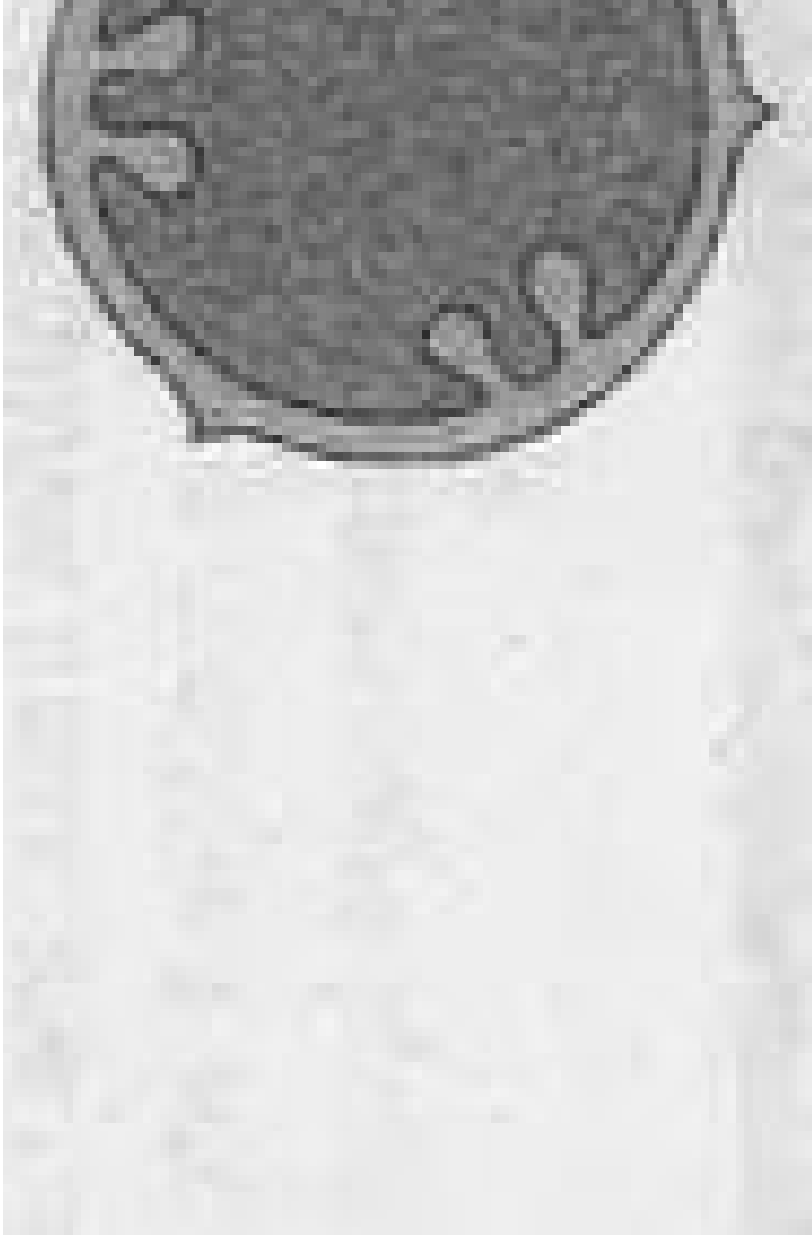
**Answer: A**



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**121.** The type of placentation given here is





A. axile

B. basal

C. marginal

D. parietal

**Answer: D**



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**122.** Hilum is found in

A. embryo

B. seed coat

C. radicle

D. chalaza

**Answer: B**



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**123.** Ashwagandha is represented by the family

- A. fabaceae
- B. papilionaceae
- C. solanaceae
- D. liliaceae

**Answer: C**

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**124.** Negatively geotropic roots are seen in

- A. zaminkand
- B. Rhizophora
- C. maize
- D. euphorbia

Answer: B

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125. In the following picture, plant part is modified for



- A. storage
- B. respiration
- C. support
- D. protection

**Answer: A**



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**126.** When the filaments of stamens are attached to the perianth, the condition is

- A. Epiphyllous
- B. epipetalous
- C. adelphous
- D. syngenesious

**Answer: A**



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**127.** In China rose, five carpels are fused at base. This condition is called

- A. Pentacarpellary, syncarpous and pentalocular
- B. Pentacarpellary, apocarpous and pentalocular
- C. polycarpellary, syncarpous and penalocular
- D. Pentacarpellary, syncarpous and multilocular

**Answer: A**



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