



## **BIOLOGY**

# BOOKS - CHETANA BIOLOGY (MARATHI ENGLISH)

# **Morphology of Flowering Plants**



1. Define angiosperms.

2.	How	are	animals	classified	broadly?
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3. How an angiospermic plant survives in

different habitats?



7. Define the following terms: psammophytes



9. Define the following terms: halophytes

**10.** How is the new plant developed in angiosperms?

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#### **11.** State the parts of an angiospermic plant.



12. List the vegitative parts of an angiospermic

plant.



13. List the reproductive parts of an

angiospermic plant.



14. Define root.



17. State the types of roots.



20. State the origin of fibrous/adventitious

root and state its example.

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21. Describe the structure of a typical root with

the help of a labelled diagram.

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22. Describe regions of Root.



**23.** Write a short note on Region of Cell Maturation.

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24. State an example of roots exhibiting

multiple root cap.

25. State an example of roots exhibiting root

pockets.



26. State the functions of the different regions

of the root.

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**27.** Describe the tap root/true root system.





#### 28. Describe the fibrous/adventitious root

sytem.



#### 29. Differentiate between Tap root system and

adventitous root system.





adventitious root system.



on the basis of their functions citing examples.

33. State the modification of tap roots system

on the basis of their functions citing examples.



#### 34. Differentiate between Conical, Fusiform

and Napiform root.

**35.** Write short note on: Fusiform Root.



**36.** Many plants in the marshy region had upwardly growing roots. They could be better seen during low tide.



37. Explain briefly the branched tap roots modified for respiration citing examples.Watch Video Solution

**38.** Sketch, label and describe the breathing root citing example.



39. Write short note on Fasciculated tuberous

root.



### **40.** Describe briefly the modification of

adventitious roots for storage citing examples.



41. Differentiate between: Simple Tuberous

Roots and Fasciculated Tuberous Roots.



**42.** Explain briefly the prop roots citing example.



43. Many obliquely roots were given out from

the lower nodes, apparently for extra support.



45. Explain briefly the climbing roots citing example.Watch Video Solution

**46.** Explain briefly the climbing roots citing example.



**47.** Explain briefly the plank or buttresses roots citing example.

48. Differentiate between: Prop Roots and Stilt

Roots



**49.** A plant was found growing on other plant. Teacher said it is not a parasite. It exhibited two types of roots.



**50.** Explain briefly the epiphytic roots citing example.

51. Explain briefly the sucking/ parasitic roots/haustoria/citing example.
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**52.** Explain briefly the buoyont roots citing example.



53. Differentiate between: Epiphytic Roots and

Parasitic Roots.



54. Define stem.

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55. State the characteristics of stem.

**56.** State the basic funtions of the stem.



58. State the different reasons for modification

of stem.



**60.** List the different types of stem modification.

61. Distinguish between Root and Stem.



63. Write short note on Rhizome.

**64.** Sketch, label and describe the rhizome citing example.

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#### 65. Sketch, label and describe the stem-tuber

citing example.

66. Sketch, label and describe the bulb citing example.

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**67.** Two of the vegetables we consume are nothing but leaf bases. Which are they?

68. Sketch, label and describe the corm citing

example.

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**69.** Differentiate between: Rhizome, Stem

tuber, Bulb and Corm.



**70.** While having lunch onion slices were served to them. Teacher asked which part of the plant are you eating?



71. Why underground stem is different from

roots.



72. State the different types of sub-aerial

modifications of stem.

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**73.** Sketch, label and describe the Tendril citing example.



74. Sketch, label and describe the runner citing

example.

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**75.** Sketch, label and describe the offset citing example.

76. Sketch, label and describe the sucker citing

example.



**77.** Sketch, label and describe the offset citing example.



78. Differentiate between: Sucker and Offset.



# **79.** State the different types of aerial modifications of stem.

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80. Sketch, label and describe the thorn citing

example.



81. What is the difference between the thorns

of Carrisa and Duranta.



82. Opuntia has spines but Carissa has thorns.

What is the difference?
**83.** There was a green plant with flat stem, but no leaves. The entire plant is covered by soft spines.



84. Sketch, label and describe the phyllociade

citing example.

85. Sketch, label and describe the cladode citing exmaple. Watch Video Solution 86. Why the stem has to perform photosynthesis in xerophytes? Watch Video Solution

87. Sketch, label and describe the cladode citing exmaple.
Watch Video Solution

88. A wiry outgrowth was seen on a plant

arising from it between the leaf and stem.

89. Sketch, label and describe the Tendril citing

example.

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**90.** Sketch, label and describe the bulbils citing example.



91. Differentiate between: Phylloclade, Cladode



94. State the basic functions of the leaf.



97. Classify different types of venation citing

examples. State its significance.



**98.** Collect the information of types of leaf venation.



99. Write short note on leaf venation.



**101.** Define compound leaves.

**102.** State the different types of leaves.





**107.** State the significance of phyllotaxy.



## 108. Classify the different types of Phyllotaxies

citing example.

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109. Write a short note on opposite phyllotaxy

citing example.

110. State the different modifications of leave

along with their function.



**112.** A plant had leaves with long leaf apex, which was curling around a support.









citing exmples.

**118.** State the significance of inflorescence.



120. Teacher described Hibiscus as solitary

Cyme. What it means?

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## **121.** Teacher showed them Marigold flower and said it is not on flower. What the teacher meant?



**122.** State the significance of inflorescence.

## 123. Define flower.



126. Explain the term: ebracteate





**129.** State the different types of flowers on the basis of the position of their ovary citing example.

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130. Describe briefly hypogynous flower.



134. Write a note on thalamus.



137. Write short note on perianth.



**140.** List the different types of aestivation citing examples.



## 141. Write short note on Vexillary aestivations.



142. Write short note on androecium.



145. Define cohesion. State its different types

and give one example.

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146. Defien adhesion. State its different types

explain them briefly citing exmple.

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147. Write a short note on gynoecium.



**148.** Write a short note on polycarpellary gynoecium.

**Watch Video Solution** 

149. Define placentation.

150. List the different types of placentations

citing examples.

Watch Video Solution

**151.** List the different types of placentations citing examples.

**Watch Video Solution** 

**152.** Write short note on Axile placentation.



**153.** Students cut open a papaya fruit and found all the seeds attached to the sides. Teacher inquired about the possible placentation of papaya ovary.

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154. Define fruit.



**155.** Define parthenocarpic fruits.



156. What are true and false fruits? Explain

with examples.

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**157.** Describe the structure of a typical fruit.





158. Give a brief account of various types of

fruits.



159. Define seed.



**160.** Describe the structure of а dicotyledonous seed. Watch Video Solution 161. Differentiate between Exalbuminous/non endospermic seeds and Albuminous/Endospermic seeds.





165. Give the vegetative and floral characters

(two each) of family Fabaceae.



166. Take one flower of family Fabaceae and

write its essential description. Also draw their

floral diagrams after studying them.

**167.** Describe the family Solanaceae with suitable floral diagram.

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**168.** Take one flower of family Fabaceae and write its essential description. Also draw their

floral diagrams after studying them.

169. Describe the family Solanaceae with

suitable floral diagram.



**171.** Differentiate between Phylloclade and Phyllode.


174. Differentiate between stem turber and

root tuber.



**175.** Distinguish between families Fabaceae, Solanaceae, Liliaceae on the basis of gynoecium characteristics (with figures), Also write economic importance of any one of the above family.



1. Which one of the following will grow better

in moist and shady region?

A. Opuntia

B. Orchid

C. Mangroove

D. Lotus

Answer:

**2.** A particular plant had a pair of leaves at each node arranged in one plane. What is the arrangement called?

A. alternate phylootaxy

B. Decussate phyllotaxy

C. Superposed phyllotaxy

D. Whorled phyllotaxy

# Answer:





**3.** In a particular flower the insertion of floral whorls was in such a manner, so the ovary was below other three whorls, but its stigma was taller than other three whorls. What will you call ovary such flower?

- A. Hypogynous
- B. Perigynous
- C. Inferior ovary
- D. Half superior-half inferior

#### Answer:



**4.** Beet and Arum both store food for perennation. Are the examples for two different types?

A. Beet is a stem but Arum is a root

B. Beet is a root but Arum is a stem

C. Beet is a stem but Arum is a leaf

infloresence

# Answer:



- 5. Pneumatophores are helpful in............
  - A. protein synthesis
  - B. respiration
  - C. transpiration

# D. carbohydrate metabolism

# Answer:

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6. Stilt roots are..........

A. primary roots

B. Adventitious roots

C. secondary roots

D. tap roots

### Answer:



# **7.** A spongy tissue called velamen is present in......

A. breathing roots

B. parasitic roots

C. tuberous roots

D. epiphytic roots

### Answer:



8. The primary function of stem is...............

A. to bear and expose leaves to sunlight

- B. to anchor the plant in soil
- C. to absorb water and mineral salts from

the soil

D. to help in vegetative reproduction





9. A rhizome differs from corm in its.............

A. thickness

- B. basic organization
- C. direction of growth
- D. nature of leaves





**10.** The edible portion in a fresh onion comprises of.............

A. leaf bases

B. buds and leaf bases

C. swollen stem

D. disc-like stem

# Answer:





**11.** The stem modified to perform the function of leaf and is with many internodes is called.............

A. phylloclade

B. cladode

C. offset

D. phyllode

# Answer:





# Answer:

**13.** The tendrils of sweet pea plant are modified......

A. axillary bud

B. stipules

C. terminal leaflets of a compound leaf

D. aerial roots

# Answer:

14. The mode of arrangement of leaves on the

stem and the branch is known as.............

A. vernalization

B. vernation

C. venation

D. phyllotaxy

# Answer:

**15.** The axis of the inflorescence is known as......

A. thalamus

B. peduncle

C. pedicel

D. petiole

Answer:

16. Racemose inflorescence is found in.............

A. jasmine

B. rose

C. china rose

D. Caesalpinia

**Answer:** 

A. Centripetal opening of flowes

B. Basipetal succession of flowers

C. Acropetal succession of flowers

D. Simultaneous opening of flowers

# Answer:

**18.** When the gynoecium is present at the topmost position of the thalamus, the flower is known as......

A. inferior

B. epigynous

C. perigynous

D. hypogynous

# Answer:

**19.** When the flower is hypogynous, the ovary

is said to be..........

A. inferior

B. superior

C. semi-inferior

D. semi-superior

# Answer:

20. When sepals fall just after opening of the

flower they are termed as.............

A. persistent caducous

B. caducous

C. remnant

D. deciduous

Answer:

21. The characteristic feature of basal

placentation is......

A. single ovule

B. bilocular condition

C. multilocular condition

D. presence of central axis

Answer:

22. Pineapple is an example of.......

A. simple dry fruit

B. composite fruit

C. aggregate fruit

D. simple fleshy fruit

Answer:

**23.** A fibrous root system is best adapted to perform which of the following functions?

A. Storage of food

B. Transport of water and organic food

C. Absorption of water and minerals from

the soil

D. Anchorage of the plant into the soil

Answer:



**24.** Pneumatophores are usually present in......

A. mangrove plants

B. xerophytes

C. hydrophytes

D. epiphytes

Answer:

**25.** One of the following is modification of adventitious root for mechanical support.

A. Prop roots

B. Pneumatophores

C. Haustoria

D. Fusiform

Answer:

26. The root system grows out from the.....

A. plumule of the embryo

B. radicle of the embryo

C. embryo of the seed

D. all of these

**Answer:** 

27. Pneumatophores are found in the plants

growing in.......

A. swamps

B. alpine region

C. foot hills

D. along the river banks

#### **Answer:**

28. When storage roots occur in clusters from

A. Fasciculated roots

B. nodulose roots

C. annulated roots

D. beaded roots

Answer:

29. When the root is swollen in the middle and

tapers at both ends, it will be called as.............

A. tuberous root

B. fusiform root

C. conical root

D. napiform root

#### Answer:

30. Phyllotaxy is the arrangement of ..............

A. leaves

B. veins

C. branches

D. flower buds

# **Answer:**



**31.** Total stem parasite is............

# A. Cuscuta

B. Loranthus

C. Rafflesia

D. Viscum

#### **Answer:**



**32.** In which of the following plants, does the stem perform the functions of storage and perennation?

A. Groundnut

B. Ginger

C. Wheat

D. Radish

#### Answer:

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**33.** Corm is...........

A. a horizontal underground stem

- B. an underground root
- C. an underground vertical stem
- D. an aerial stem modification

Answer:

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# **34.** Which of the following is not a rhizome?

A. Canna

B. Ginger

C. Tumeric

D. Colocasia

# Answer:



# 

A. leaf

B. Adventitious root

C. tap root

# D. stem

# Answer:

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# **36.** What is the eye of potato among the following?

A. Axillary bud

B. Accessory bud

C. Adventitious bud
# D. Apical bud

### Answer:

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# **37.** Phylloclade is the modification of................

A. leaf

B. stem

C. petiole

D. root





# **38.** In which of the following the stem is very much reduced?

A. Bulb

B. Rhizome

C. Corm

D. Tuber





**39.** Mode of arrangement of sepals and petals with respect to the members of same whorl is.............

A. vernation

B. venation

C. aestivation

D. heterophylly

#### Answer:



# 

A. vernation

B. venation

C. phyllotaxy

D. aestivation





41. Whorled phyllotaxy is seen in............

A. Hibiscus

- **B.** Sunflower
- C. Guava
- D. Nerium





# 42. In Bignonia, the terminal three leaflets are

modified into.......

A. spines

B. tendrils

C. thorns

D. hooks

## Answer:





43. Leaf tip tendrils are seen in...........

A. Gloriosa

B. Lathyrus

C. Smilax

D. Pisum

#### **Answer:**

**44.** When three leaflets of compound leaves are attached to tip of peiole, the condition is called..............

A. tripinnate

B. trifoliate

C. tricarpellary

D. trilocular

Answer:

**45.** Calotropis is an example where the leaves of successive nodesare at right angle to previous and next different nodes.Such phyllotaxy is know as...............

A. whorled

B. opposite superposed

C. opposite decussate

D. none of these

Answer:

**46.** The plant that stores its food reserves in

A. sweet potato

B. onion

C. sugarcane

D. coconut

Answer:

# **47.** Floral axis is modified into tendril

in.....

A. Antigonon

B. Lathyrus

C. Pisum

D. Passiflora

#### **Answer:**

48. An important function of flower is.............

A. secretion of nectar

B. insect pollination

C. reproduction

D. aesthetic

Answer:

49. Non essential floral parts are...........

A. corolla and calyx

B. corolla and carpel

C. calyx and gynoecium

D. androecium and gynoecium

Answer:

50. The axis of the inflorescence is known

as..... .

A. thalamus

B. peduncle

C. pedicle

D. petiole

### **Answer:**

51. Which of the following are called as pure

types of inflorescence?

A. Racemose

B. Cymose

C. Cymose head

D. Both a and b

### Answer:

52. The part of the seed which forms the shoot

at the time of germination is called ................

A. plumule

B. radicle

C. epicotyle

D. hypocotyl

#### Answer:

**53.** .....is a simple one seeded fruit.

A. Drupe

B. berry

C. Capsule

D. Legume

Answer:



54. Pineapple is an example of.......

A. simple fruit

- B. aggregate fruit
- C. composite fruit
- D. dry fruit

#### **Answer:**

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**55.** Fruit of mango is.......

# А. реро

B. berry

# C. drupe

D. capsule

## Answer:

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56. The fibrous part of coconut is............

A. epicarp

B. pericarp and mesocarp

C. mesocarp

D. none of these

#### **Answer:**

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# 57. ....is a metamorphosed ovule.

A. seed

B. embryo

C. caryopsis

# D. endosperm

## Answer:

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# 

A. berry

B. cypsela

C. etaerio

# D. caryopsis

### Answer:

Watch Video Solution

59. Edible part of guava is............

A. mesocarp

B. pericarp, mesocarp, endocarp

C. endocarp and mesocarp

D. none of these





# 60. Edible part of groundnut which is buried in

the soil is a ...........

A. stem

B. fruit

C. root

D. leaf





61. Edible part of apple is...........

A. epicarp

B. mesocarp

C. endocarp

D. thalamus

Answer:



- A. monocot endospermous seed
- B. monocot non-endopermous need
- C. dicot endospermous seed
- D. dicot non-endospermous seed

Answer:

63. A rhizome differs from corm in its............

A. thickness

B. basic organization

C. direction of growth

D. nature of leaves

Answer:

64. The reduced stem of onion produces.....

A. Adventitious roots

B. Prop roots

C. Fusiform roots

D. Fasciculated roots

# Answer:

65. Ribbon shaped phylloclades are found

in........

A. Rescues

B. Duranta

C. Muchlenbeckia

D. Baugainvilla

### Answer:

**66.** The axis of the inflorescence is known

as..... .

A. thalamus

B. peduncle

C. pedicle

D. petiole

# Answer:



**68.** Explain briefly the buoyont roots citing example.

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69. State the characteristics of leaf.

70. Write short note on: Fusiform Root.



73. Opuntia has spines but Carissa has thorns.

What is the difference?



# 74. Distinguish between Stem Tendril and Leaf

Tendril.

75. Classify the different types of Phyllotaxies

citing example.

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**76.** State the different types of flowers on the basis of the position of their ovary citing example.

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79. Describe the structure of a dicotyledonous

seed.