



BIOLOGY

BOOKS - NCERT BIOLOGY (ENGLISH)

MORPHOLOGY OF FLOWERING PLANTS

Multiple Choice Questions Mcqs

1. 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: B



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2. 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. any where

Answer: B



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3. 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 found in them

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

Answer: D



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4. 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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5. 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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6. 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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7. Many pulses of daily use belong to one of the families below (tick the correct answer)

A. Solanacease

B. Fabacease

C. Liliacease

D. Poacease

Answer: B



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8. The placenta is attached to the developing seed near the

A. testa

B. hilum

C. micropyle

D. chalaza

Answer: B



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9. 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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10. Match the following columns

Column I	Column II
A. Aleurone layer	1. Nutrition
B. Parthenocarpic fruit	2. Without fertilisation
C. Ovule	3. Seed
D. Endosperm	4. Double fertilisation

A. *A B C D*
1 2 3 4

B. *A B C D*
2 1 4 3

C. *A B C D*
4 2 1 3

D. *A B C D*
2 4 1 3

Answer: A



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Very Short Answer Type Questions

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



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2. Write floral formula for a flower which is bisexual, actinomorphic sepals five, twisted aestivation, petals five valvate aestivation, stamens six, ovary trilocular, syncarpous, superior, trilobular with axile placentation.



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3. In *Opuntia*, the stem is modified into a flattened green structure to perform the function of leaves, (i.e., photosynthesis). Cite

some other example of modifications of plant parts for the purpose of photosynthesis.



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4. In swampy areas like the Sunderbans in West Bengal, plants bear special kind of roots called



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5. In aquatic plants like Pistia and Eichhornia, leaves and roots are found near.....



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6. Reticulate and parallel venation are the characteristic of and Respectively.



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



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8. In epigynous flower , ovary is situated below the



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9. Add the missing floral organs of the given floral formula of Fabaceae.



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10. Name the body part modified for food storage in the following

- | | |
|-----------------------|--------------------|
| (a) Carrot..... | (b) Colocasia..... |
| (c) Sweet potato..... | (d) Asparagus..... |
| (e) Radish..... | (f) Potato..... |
| (g) Dahlia..... | (h) Tumeric..... |
| (g) Gladiolus..... | (j) Ginger..... |
| (k) Portulaca..... | |



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Short Answer Type Questions

1. Give two examples of roots that develop from different parts of the angiospermic plant other than the radicle.



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2. The essential functions of roots are anchorage and absorption of water and

minerals in the terrestrial plant. What functions are associated with the roots of aquatic plants. How are roots of aquatic plants and terrestrial plants different ?



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3. Draw diagrams of a typical monocot and dicot leaves to show their venation pattern.



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4. A typical angiosperm flower consists of four floral parts. Give the names of the floral parts and their arrangements sequentially.



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5. Given below are a few floral formulae of some well known plants . Draw floral diagram from these formulae.

$$(i) \oplus K_{(5)} C_{(5)} A_5 G_{(\underline{2})}$$

$$(ii) K_{(5)} C_{1+2+2} A_{(9)} + 1 \quad G_{\underline{1}}$$

$$(iii) \oplus K_5 C_5 \quad A_{5+5} G_{(5)}$$



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6. Reticulate venation is found in dicot leaves while in monocot leaves venation is of parallel type . Biology being a Science of exceptions , find out any exception to this generalisation.



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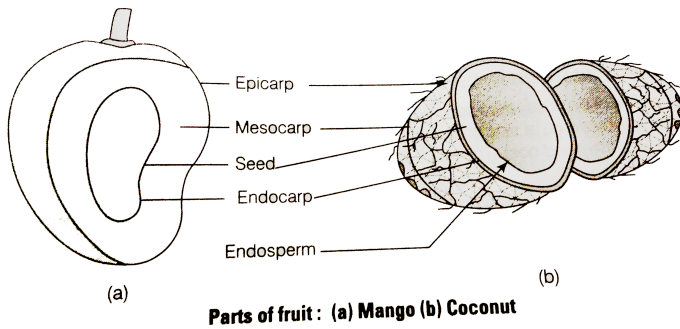
7. You have heard about several insectivorous plants that feed on insects. Nepenthes or the pitcher plant is one such example, which

usually grows in shallow water or in marsh lands. What part of the plant is modified into a pitcher ? How does this modification help the plant for food even though it can photosynthesise like any other green plant ?



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8. Mango and coconut are drupe fruits. They develop from monocarpellary superior ovaries and are one seeded. It is differentiated into outer thin epicarp, middle fleshy mesocarp and inner stony endocarp .



The edible part of coconut (*Cocos nucifera*) is endosperm . The milk of tender coconut represents the oily endosperm in liquid form. Later it gets deposited along the walls of endocarp and forms edible flesh.

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9. How can you differentiate between free central and axile placentation ?



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

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



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11. What is maize grain usually called as a fruit and not a seed ?



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12. Tendrils of grapevines are homologous to the tendril of pumpkins, but are analogous to that of pea. Justify the above statement.



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13. Rhizome of ginger is like the roots of other plants that grows underground. Despite this fact ginger is a stem and not a root . Justify .



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14. Differentiate between

(a) Bract and bracteole

(b) Pulvinus and

petiole

(c) Pedicel and peduncle

(d) Spike and

spadix

(e) Stamen and straminoid
pollenium

(f) Pollen and



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Long Answer Type Questions

1. 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.



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



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3. Stolon, offset and rhizome are different forms of stem modifications. How can these modified forms of stem be distinguished from each other ?



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4. The mode of arrangement of sepals or petals in a floral bud is known as aestivation . Draw the various types of aestivation possible for a typical pentamerous flower.



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5. The arrangement of ovules within the ovary is known as placentation. What does the term placenta refer to ? Name and draw various

types of placentations in the flower as seen in T.S. or V.S.



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6. Sunflower is not a flower. Explain.



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7. How do you distinguish between hypogeal germination and epigeal germination ? What is

the role of cotyledon (s) and the endosperm in the germination of seeds ?



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8. Seeds of some plants germinate immediately after shedding from the plants while in other plants they require a period of rest before germination. The later phenomena is called as dormancy. Give the reasons for seed dormancy and some methods to break it.



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