

SARASWATI



HEAD OFFICE

208, CD, LOCAL SHOPPING CENTER
AGGARWAL SHOPPING PLAZA, PITAMPURA

BRANCH-1

AYODHYA CHOWK
SEC – 3 , ROHINI

BRANCH-2

DC CHOWK
SEC – 9, ROHINI

9TH & 10TH MATHS / SCIENCE
11TH & 12TH – PHYSICS / CHEMISTRY / MATHS / BIOLOGY
EXCLUSIVE BATCH FOR NEET / JEE ASPIRANTS
Ph no. 9696 500 500 / 9696 400 400

BIOLOGY

CHAPTER- 6 ANATOMY OF FLOWERING PLANTS

(1 MARK)

Q1. What is the function of phloem parenchyma?

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Q2. Product of photosynthesis is transported from the leaves to various parts of the plants and stored in some cells before being utilised. What are the cells/ tissues that store them?

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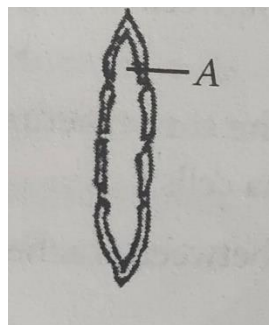
Q3. Protoxylem is the first formed xylem. If the protoxylem lies next to phloem what kind of arrangement of xylem would you call it?

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Q4. Name the kind of tissue found at the shoot tip.

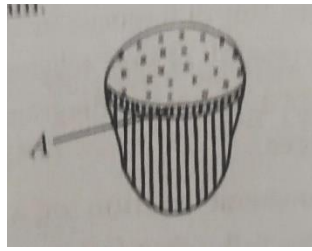
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Q5. Write the appropriate name at (A) shown in the diagram of a fibre.



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Q6. Write the appropriate name of A shown in the diagram.



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Q7. What are the cells that make the leaves curl in plants during water stress?

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Q8. The cross-section of a plant material showed the following features when viewed under the microscope:

- (i) The vascular bundles were radially arranged.
- (ii) Four xylem strands with exarch condition of protoxylem.

To which organ should it be assigned?

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Q9. Arrange the following in the sequence in which you would find them in a plant starting from the periphery:

Pericycle, Epidermis, Pith, Endodermis, Cortex.

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Q10. Why is the endodermis of a dicot stem referred to as starch sheath?

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Q11. The transverse section of a plant material shows the following anatomical features:

- (a) the vascular bundles are conjoint, scattered and surrounded by a sclerenchymatous bundle sheaths.
- (b) phloem parenchyma is absent.

What will you identify it as?

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Q12. Arrange the following in the sequence you would find them in a plant starting from the periphery:

Phellem, Phelloderm, Phellogen

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Q13. Give one basic functional difference between phellogen and phelloderm.

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Q14. Why are cork/phellem cells impervious to water?

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Q15. Why is there no secondary growth in a monocot stem?

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Q16. Why is heart wood dark in colour?

(2 MARK)

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Q17. What is atactostele and where is it found?

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Q18. What constitutes the cambial ring?

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Q19. What is the difference between lenticels and stomata?

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Q20. Why are xylem and phloem called complex tissues?

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Q21. Distinguish between stem hairs and root hairs.

Q22. How is vascular cambium formed in a dicot root? How does it differ from that of a dicot stem?

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Q23. How is the study of plant anatomy useful to us?

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(3 Mark)

Q24. The lawn grass (*Cynodon dactylon*) needs to be mowed frequently to prevent its overgrowth. Which tissue is responsible for its rapid growth?

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Q25. The stomatal pore is guarded by two kidney shaped guard cells. Name the epidermal cells surrounding the guard cells. How does a guard cells differ from an epidermal cell? Use a diagram to illustrate your answer.

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Q26. Point out the differences in the anatomy of leaf of peepal (*Ficus religiosa*) and maize (*Zea mays*). Draw the diagrams and label the differences?

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Q27. The transverse section of a plant material shows the features :

Vascular bundles are conjoint, closed and scattered and are surrounded by two sclerenchymatous bundle sheath. What will you identify it as? Also, write any other four features of the specimen.

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Q28. Trunks of some of the aged tree species appear to be composed of several fused trunks. Is it a physiological or anatomical abnormality? Explain in details.

(5 Mark)

Q34. Why do stems of dicot plants increase in girth every year? Explain this growth with the help of suitable schematic diagrams.

OR

Explain the process of secondary growth in the stem of woody angiosperms with the help of schematic diagrams?

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Q35. State the location and function of different types of meristems.

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Q36. Name the three basic tissue systems in the flowering plants. Give the tissue names under each system.

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Q37. Describe the internal structure of a dorsiventral leaf with the help of labelled diagram.

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Q38. Explain the process of secondary growth in the stems of woody angiosperms with the help of schematic diagrams. What is its significance?

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Q39. The activity of cambium is influenced by environmental factors. In temperate regions, where the four seasons are pronounced, the secondary xylem vessels and tracheids produced under different seasons (say in spring and winter/autumn) are different in quantity and size.

(a) Why are they different in their sizes?

(b) What are annual rings?

(c) What value is indicated by such a concept?

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Q40. A simple permanent tissue is made of only one type of cells. There are three types of simple permanent tissues in plants.

- (a) What is meant by a permanent tissue?
- (b) Name the three types of simple permanent tissue in plants.
- (c) Which among them is present in the pulp of fruits like guava?
- (d) What is the value taught by these different tissues?

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Q41. The complex permanent tissues in plants are made of more than one type of cells, which work together as a unit and perform one common function. Xylem and phloem are examples of complex tissues.

- (a) What are the functions performed by xylem in plants?
- (b) Name the conducting elements of xylem and differentiate between them.
- (c) What value is shown by the complex tissues?

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Q42. The vascular system in plants is composed of complex tissues, xylem and phloem, in the form of strands, called vascular bundle. There is cambium in between the xylem and phloem in a dicot stem but not in a monocot stem.

- (a) Why are the vascular bundles in dicot stem described as open vascular bundles?
- (b) What are conjoint vascular bundles? In which part(s) of the plant, are present?
- (c) What are radial vascular bundles? In which part of the plant are they found?
- (d) Explain the moral you have learnt.

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