

Time : 1 hour 15 Minute

STD 11 Science Biology
Chapter Based Test

Total Marks : 40

SECTION A

* Choose The Right Answer From The Given Options.[1 Marks Each] [6]

1. A conjoint and open vascular bundle will be observed in the transverse section of:
(A) Monocot root. (B) Monocot stem.
(C) Dicot root. (D) Dicot stem.
2. In which of the following pairs of parts of a flowering plant is epidermis absent?
(A) Root tip and shoot tip. (B) Shoot bud and floral bud.
(C) Ovule and seed. (D) Petiole and pedicel Maim.
3. What is the fate of primary xylem in a dicot root showing extensive secondary growth?
(A) It is retained in the centre of the axis.
(B) It gets crushed.
(C) May or may not get crushed.
(D) If gets surrounded by primary phloem.
4. The length of different internodes in a culm of sugarcane is variable because of:
(A) Shoot apical meristem.
(B) Position of axillary buds.
(C) Size of leaf lamina at the node below each internode.
(D) Intercalary meristem.
5. Which of the cells is enucleate at maturity?
(A) Palisade cell. (B) Companion cells.
(C) Sieve tube. (D) Cortical cell.
6. When we peel the skin of a potato tuber, we remove:
(A) Periderm. (B) Epidermis. (C) Cuticle. (D) Sapwood.

* Answer The Following Questions In One Sentence.[1 Marks Each] [5]

7. What is an 'endarch' arrangement? Which one, out of the root and stem shows this arrangement?
8. Product of photosynthesis is transported from the leaves to various parts of the plants and stored in some cell before being utilized. What are the cells/ tissues that store them?
9. Describe the features of pith in dicot stems.
10. What is meant by stele?
11. What are the cells that make the leaves curl in plants during water stress?

SECTION B

* Given Section consists of questions of 2 marks each.

[10]

1. Mention the characteristic features of the sieve tube members of phloem.
2. Anurag and Amit (students of class XIth) were best friends, one day during the lunch time Anurag gave naashpati (Pyrus) to Amit (as he was fond of that). Amit refused to eat it because he did not like them due to their hardness as compared to apples. Anurag reached home and told her mother (a botanist) that he will also not eat naashpati's. His mother corrected him and told him that he should eat it, as it contains the calcium for the growth of the body.
 - i. What is the reason for the difference in the softness in apple and naashpati fruits?
 - ii. What are sclereids?
 - iii. What values are inferred from mother's of Anurag's character?
3. What type of cells make up the pericycle in dicot roots?
Mention two functions of pericycle in dicot roots.
4. List out the significance of secondary growth.
5. Give the structural and functional differences between parenchyma and collenchyma.

SECTION C

* Given Section consists of questions of 3 marks each.

[9]

1. A transverse section of a trunk shows alternate concentric rings
 - a. What are these rings known as?
 - b. How are these rings formed?
 - c. What is the significance of these alternate concentric rings?

OR

A transverse section of a stem of a tree shows concentric rings. How are these rings formed? State the significance of these rings.

2. Answer the following with reference to the anatomy of monocot stem:
 - a. How are the vascular bundles arranged?
 - b. How are the xylem vessels arranged in each bundle?
 - c. What do you call such an arrangement?
 - d. Vascular bundles are closed ones. What type of tissue is lacking in them?
3. Give reason for each of the following:
 - a. The vascular bundles of an isobilateral leaf are near similar in size, except that in the midrib.
 - b. Heart wood is dark brown in colour.
 - c. Cells of phellem/cork are impervious to water.
 - d. Quantity of secondary xylem produced is more than the quantity of secondary phloem during secondary growth.
 - e. Phellogen is a secondary meristem.

SECTION E

* Given Section consists of questions of 5 marks each.

[10]

1. Draw illustrations to bring out the anatomical difference between:

Monocot root and Dicot root.

2. 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 detail.

