UNIT -VI: INTERNAL ORGANISATION OF PLANTS

12. HISTOLOGY AND ANATOMY OF FLOWERING PLANTS

(1 x 4) + (1 x 8) = 12 Marks

ROOT POINTS

1. **Histology** is the study of different tissues in the plant body.
2. **Anatomy** is the study of internal structure and arrangement of various tissues.
3. Anatomically a plant is made up of different kinds of **tissues**.
4. Plant tissues are classified into (i) **Meristematic tissues** (ii) **Permanent tissues.**
5. Meristematic tissue comprises meristematic cells which help in the growth of the plant body.
6. Based on the location Meristematic tissues are (i) **Apical** (ii) **Intercalary** (iii) **Lateral** [IPE]
7. **Xylem** and **Phloem** are the **complex tissues**.
8. **Xylem** is meant for the **conduction of water** and **phloem** is for the conduction of **food** materials.
9. There are three types of tissue systems - **Epidermal, Ground and Vascular.**
10. The epidermal tissue systems are made of epidermal cells, stomata and the epidermal appendages.
11. **Stomata** are present on leaves and young stems. [IPE]
12. **Lenticels** are pores present on old stems and old aerial roots. [IPE]
13. The **ground tissue system** forms the main bulk of the plant.
14. It is divided into three zones - **cortex, pericycle and pith.**
15. The **vascular tissue system** is formed by the **xylem** and **phloem.**
16. **Monocot** and **dicot plants** show marked **variation** in their **internal structures**.
17. But the **anatomy** of **monocot root** and **dicot root** is more or less **similar**.
18. **Periderm**: The corkey outer layer of a plant system formed as a secondary covering in response to injury or infection is called Periderm. [IPE]
19. **Epidermis** is with unicellular root hairs, cuticle. Stomata are absent.
20. **Exodermis** is with suberised cells. General cortex is parenchymatous.

21. **Endodermis** shows casparian thickenings. Pericycle is parenchymatous.

22. **Pith** or **Medulla** is scanty or absent in dicot root and well developed in monocot root.

23. **Vascular bundles** are conjoint, collateral, **open in dicots** and **closed in monocots stem**.

24. **T.S of dicot stem**: (i) Epidermis (ii) Cortex (iii) Stele **[IPE]**

    i. **Epidermis:** Epidermis is outer most layer.

    ii. **Cortex:** The part between epidermis and stele is called cortex.

    It is composed of (a) Hypodermis (b) General cortex (c) Endodermis

    iii. **Stele:** Stele is the central conducting cylinder.

    It is composed of (a) pericycle (b) vascular bundles (c) medulla (d) Medullary rays.

25. **T.S of Monocot Stem**: (i) Epidermis (ii) Hypodermis (iii) Ground tissue (iv) Vascular bundles

26. **T.S of dicot root**: (i) Epidermis (ii) Cortex (iii) Stele **[IPE]**

27. **T.S of Monocot root**: (i) Epidermis (ii) Cortex (iii) Stele **[IPE]**

FRUITY Qs OF IPE

(1 x 4) + (1 x 8) = 12 Marks

1. State the location and function of different types of meristems.
2. What is periderm? How does periderm formation take place in the dicot stems?
3. A transverse section of the trunk of a tree shows concentric rings which are known as annual rings. How are these rings formed? What is the significance of these rings?
4. What is the difference between lenticels and stomata?
5. What are complex tissues? Describe various types of complex tissues.
6. Describe the T.S of a Dicot Stem.
7. Describe the T.S of Monocot Stem.
8. Describe the internal structure of a Dicot Root.
9. Describe the internal structure of a Monocot Root.