UNIT -II: STRUCTURAL ORGAINSATION IN PLANTS

4. ANATOMY OF FLOWERING PLANTS

1 LAQ [8 Marks]

ROOT POINTS

1. **Anatomy** is the study of internal structure and arrangement of various tissues.
2. **Main contents of this chapter are**
   i) Tissue system ii) Anatomy of Dicotyledonous and Monocotyledonous plants
3. Anatomically a plant is made up of different kinds of **tissues**.
4. **Stomata** are present on leaves and young stems.
5. Based on the location Meristematic tissues are (i) **Apical** (ii) **Intercalary** (iii) **Lateral**
6. **Xylem** and **Phloem** are the **complex tissues**.
7. **Xylem** is meant for the **conduction of water** and **phloem** is for the conduction of **food** materials.
8. There are three types of tissue systems - **Epidermal, Ground and Vascular.**
9. The **epidermal tissue systems** are made of epidermal cells, stomata and the epidermal appendages.
10. The **ground tissue system** is divided into three zones - **cortex, pericycle and pith.**
11. The **vascular tissue system** is formed by the **xylem** and **phloem.**
12. **Epidermis** is with unicellular root hairs, cuticle. Stomata are absent.
13. **Endodermis** shows casparian thickenings. Pericycle is parenchymatous.
14. **Vascular bundles** are conjoint, collateral, **open in dicots** and **closed in monocots stem**.
15. **Pith** or **Medulla** is scanty or absent in dicot root and well developed in monocot root.
16. **T.S of dorsiventral leaf :** I) Epidermis II) Mesophyll III) Vascular bundles. **[LAQ]**
17. **T.S of dicot stem**: (i) Epidermis (ii) Cortex (iii) Stele **[LAQ]**
    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. **[LAQ]**
18. **T.S of Monocot Stem**: (i) Epidermis (ii) Hypodermis (iii) Ground tissue (iv) Vascular bundles
19. **T.S of dicot root**: (i) Epidermis (ii) Cortex (iii) Stele **[LAQ]**
20. Age of a tree can be estimated by **number of annual rings** **[NEET-2013]**
21. Lenticels are involved in **gaseous exchange.** **[NEET-2013]**
22. Perisperm differs from endosperm in **being a diploid tissue** **[NEET-2013]**
23. An aggregate fruit is one which develops from **multicarpellary apocarpous gynoecium** **[NEET-2014]**
24. An example of edible underground stem is **potato.** **[NEET-2014]**
25. Trachieds differ from other tracheary elements in **being imperforate**. **[NEET-2014]**

26. Water containing cavities in vascular bundles are found in **maize.** [2012 PMT]
27. Closed vascular bundles lack **cambium.** [2012 PMT]
28. The gynoecium consists of many free pistils in flowers of **Michelia.** [2012 PMT]
29. Phyllode is present in **Australian Acacia.** [2012 PMT]
30. Cymose inflorescence is present in **Solanum** [2012 PMT]
31. Placentation in tomato and lemon is **axile.** [2012 PMT]
32. Companion cells are closely associated with **sieve elements.** [2012 PMT]
33. Placenta and pericarp are both edible portioins in **tomato.** [NEET-2014]
34. Roots play insignificant role in absorption of water in **Pistia**. [NEET-2015]
35. Vascular bundles in monocotyledons are considered closed because **cambium is absent.** [NEET-2015]
36. A major characteristic of monocot root is the presence of **vasculature without cambium.** [NEET-2015]
37. Leaves become modified into spines in **Opuntia**. [NEET-2015]
38. Keel is the characteristic feature of flower of **Indigofera.** [NEET-2015]
39. Perigynous flowers are found in **rose.** [NEET-2015]
40. Cortex is the region found between **epidermis and stele**. [NEET-2016]
41. Free-central placentation is found in **Dianthus**. [NEET-2016]
42. Radial symmetry is found in the flowers of **Brassica**. [NEET-2016]
43. The term 'polyadelphous' is related to **androecium**. [NEET-2016]
44. Specialised epidermal cells surrounding the guard cells are called **subsidiary cells.** [NEET-2016]
45. The standard petal of a papilionaceous corolla is also called **vexillum.** [NEET-2016]
46. Cotyledon of maize grain is called **scutellum**. [NEET-2016]
47. Stems modified into flat green organs performing the functions of leaves are known as **phylloclades**. [NEET-2016]
48. The morphological nature of the edible part of coconut is **endosperm**. [NEET-2017]
49. In Bougainvillea, thorns are the modifications of **stem**. [NEET-2017]
50. Coconut fruit is a **drupe**. [NEET-2017]
51. **Phloem** in gymnosperms lack **both seive tubes and companion cells**. [NEET 2019]
52. **Xylem** translocates **water, mineral salts some organic nitrogen only.** [NEET 2019]
53. The reason for **curling of grass leaves** inwards during very dry weather is due to **flacidity of bulliform cells**. [NEET 2024]
54. Gymnopserms lack xylem vessels but presence of xylem vessels is the characteristic of angiosperms. [NEET 2024]