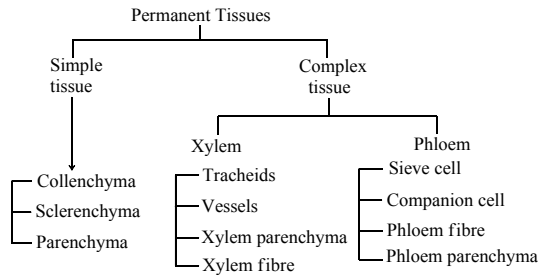


Topic :-Anatomy Of Flowering Plant

- 81 **(d)**
Only one xylem strand occurs in the slender root of the hydrophyte *Trapa natans*. In *Nicotiana*, the roots are diarch. In *Pisum*, the root is triarch. In *Castanea*, the root is tetrarch.
- 82 **(d)**
Clowes proposed quiescent centre theory.
- 83 **(a)**
Spring wood plus autumn wood of a year constitute annual ring. The spring wood (also called early wood) is light in colour and constitute major part of annual ring. The autumn wood (also called late wood) is darker in colour.
Wood consists of secondary xylem. The central hard, tough and darker region of wood constitutes heart wood while peripheral portion constitutes sap wood. But these are not specified in annual rings.
- 84 **(c)**
In roots the protoxylem lies towards the periphery and metaxylem lies toward the centre. Such arrangement is called exarch
- 85 **(a)**
The outside of the epidermis is often covered with waxy thick layer called cuticle, which prevents the loss of water. Cuticle is absent in roots
- 86 **(a)**
The various function of the epidermis are
(i) Protection of internal tissues
(ii) Prevention of entry of harmful organisms
(iii) Minimising surface transpiration by having thick cuticle
(iv) Exchange of gases through stomata
(v) Protection against excessive heating up and sudden changes in temperature with the help of hair (as in sunflower)

- 87 **(c)**
In a woody dicotyledonous tree, shoot tips and root tips consist of primary tissues.
- 88 **(b)**
In *Combretum* and *Entada*, the cambium shows abnormal behavior by cutting phloem on the inner as well as at certain places for a short period and then resumes normal activity.
- 89 **(b)**
Monocots have atactostele, in which vascular bundles are arranged into more than one ring and they are usually found at the centre of the stem
- 90 **(c)**
Phloem lie towards the pericyclet on the outside of vascular bundle. Phloem consists of sieve tubes, companion cells, phloem parenchyma and phloem fibres. The companion cells and phloem parenchyma are connected with sieve tubes through pits. They help in lateral flow of organic food. The companion cells also control the functions of the sieve tubes. The sieve tubes conduct organic food longitudinally
- 91 **(d)**
Intrastelar cambium is the cambium present between xylem and phloem (*i.e.*, within the stele), and the interstelar cambium, is present between steles (vascular bundle) and show growth rings formation.
- 92 **(b)**
Suberin.
The innermost layer of cortex is called endodermis. It comprises a single layer of barrel-shaped cells without any intercellular spaces. The tangential as well as radial walls of the endodermal cells have a deposition of water impermeable, waxy material called suberin in the form of casparian strips
- 93 **(c)**
Tyloses are protrusions of the axial and ray parenchyma cells, which enter in tracheary elements.
- 94 **(d)**
The cell of the permanent tissues do not generally divide further. Permanent tissues having all cells similar in structure and function are called simple tissues. Permanent tissues having different types of cells together are called complex tissues



95 **(b)**
The tissue involved in secondary growth are two lateral meristems
 (i) Vascular cambium
 (ii) Cork cambium

96 **(a)**
 In dicots, flower parts in four or five or multiple of these. They have leaf veins in the form of a net and secondary growth is present.

97 **(b)**
 A thin-walled pith is generally present in monocot roots, while in dicot roots, a thin-walled conjunctive tissue is present in between vascular elements. Thin-walled pith is also well marked in dicot stems but absent in monocot stems.

98 **(c)**
 The increase in height of a plant is due to apical meristem. Therefore, the height of the board remains same after five years.

99 **(d)**
 In dicotyledon leaves, the mesophyll tissue is differentiated into the palisade tissue and spongy parenchyma but in monocot such differentiation is not seen

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	d	d	a	c	a	a	c	b	b	c
Q.	11	12	13	14	15	16	17	18	19	20
A.	d	b	c	d	b	a	b	c	d	d

PE