DPP
DAILY PRACTICE PROBLEMS

Class : XIth
Date :

Solutions

Subject : BIOLOGY
DPP No. : 8

Topic :- Anatomy Of Flowering Plants

1 **(b)**

The cells of epidermis bear a number of hairs. The root hairs are unicellular elongations of the epidermal cells and helps to absorb water and minerals from the soil. On the stem the epidermal hairs are called trichomes. The trichomes in the shoot system are usually multicellular. They may be branched or unbranched and soft or stiff. They may even be **secretory**. The trichomes help in preventing water loss due to transpiration

2 **(d)**

The epidermis performs various function like the protection of internal tissue. The stomata in the epidermis helps in gaseous exchange and the trichrome helps in the reduction of transcription rate

4 **(d)**

Both (a) and (b) (tracheid and vessels).

Tracheids are elongated or tube like cells with thick and lignified walls and tapering ends. These are dead and are without protoplasm. The inner layers of the cell walls have thickenings which vary in form. In flowering plants, tracheids and vessels are the main water transporting elements

5 **(a)**

A dorsoventral leaf in its vertical section through union shows three main parts, *i.e.*, epidermis, which covers both upper or adaxial epidermis and lower or abaxial epidermis, among which the lower possesses cuticle mesophyll and vascular bundle

6 **(d)**

Only II.

Mesophyll, which possesses chloroplasts and carry out photosynthesis, is made up of parenchyma

7 **(a)**

Companion cells are characteristic elements of phloem tissue associated with the sieve tubes in the angiosperms. They are absent in pteridophytes and gymnosperms.

8 **(b)**

Sclerenchyma are considered thick-walled lignified supportive tissue characterised by the absence of living protoplast. Their principal function is to provide mechanical support.

9 **(a)**

Dendrochronology is the determination of age of tree by counting annual rings (these rings are formed by activity of cambium in dicot root and stems).

10 **(a)**

Lignification is associated with xylem. The walls of xylem cells are made up of lignin.

11 **(a)**

Xylem is a complex tissue which performs the function of transport of water or sap inside the plant. Simultaneously, it also provides mechanical strength. Xylem is also known as wood. It consist of four types of cells
Tracheids, vessels (both tracheary elements), xylem and phloem

12 **(b)**

The abaxial epidermis generally bears more stomata than the adaxial epidermis. The later may even lack stomata. The tissue between the upper and the lower epidermis is called mesophyll

13 **(c)**

Cambium is present between xylem and phloem. Such vascular bundles because of the presence of cambium, possesses the ability to form secondary xylem and phloem tissue and hence, is called open vascular bundles

14 **(c)**

During primary growth, protoxylem elements are crushed and they form a distinct cavity known as lysigenous water cavity.

15 **(a)**

Loosely arranged cells of a lenticel are called complementary cells.

16 **(b)**

Hydrophytes are those plants that grow in water conditions. Water conduction systems are not well developed in them. So, roots are poorly developed. Roots are required only for anchorage, while halophytes are those plants that grow in high salty or marshy areas. In those plants, root system is very well developed. Roots may be entirely absent in hydrophytes like *Wolffia, Salvinia, Ceratophyllum* or poorly developed in *Hydrilla*.

17 **(c)**

As a result of continued secondary growth in subsequent years, the older part of secondary xylem or wood becomes non-functional as it loses the power of conduction. The cells of this wood are filled with resins or tannins produced by adjacent functional cells. The activities of vessels become blocked by tyloses. Due to these activities, non-functional, secondary xylem becomes hard, durable and blackish in colour, called heartwood.

18 **(c)**

Sclerenchyma cells are thick-walled, lignified and dead at maturity. These provide mechanical support to the *Pinus* needle. Sclerenchyma may be fibrous or sclereid.

19 **(d)**

Intercalary meristems are the portions of apical meristems, which are separated from the apex during the growth of axis and formation of permanent tissues.

20 **(b)**

The characteristic features of vascular bundles of dicot stem are as follows:

1. Vascular bundles are arranged in a ring.
2. They are conjoint, *i.e.,* xylem and phloem are present on the same radius.
3. They are open, *i.e.,* a cambium layer is found between xylem and phloem.
4. They are not surrounded by bundle sheath.
5. The position of protoxylem is towards the centre, *i.e.,* endarch.

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