Multiple Choice Questions:

1. Which of the following combination of features would you observe in grass?
(a) Parallel venation and fibrous root
(b) Parallel venation and tap root
(c) Reticulate venation and fibrous root
(d) Reticulate venation and tap root
Solution:
(a): Parallel venation and fibrous root
Parallel venation and fibrous roots are usually found in grass, maize, wheat etc.
In parallel venation, veins run parallel to one another in the leaf.
Fibrous roots are thin fibre like roots which arise in groups from the base of the stem.

2. Which of the following is the correct match between the characteristics of stem and the category of plant?
(a) Weak stem which cannot stand upright: Creeper
(b) Green tender stem: Shrub
(c) Thick, hard stem with branching near the base: Tree
(d) Thick, hard stem with branches high on the plant: Herb
Solution:
(a): Weak stem which cannot stand upright: Creeper
Herbs are plants which are the small in size with green and tender stem which cannot stand upright.
Shrubs are the medium sized plants having thick, hard stem with branches near the base.
Trees are the tall plants having thick, hard stem with branches high on the plant.

3. Which of the following is not the primary function of stem?
(a) Conduction of water
(b) Photosynthesis
(c) Formation of branches
(d) Bears flowers and fruits
Solution:
(b): Photosynthesis
The primary function of leaf is Photosynthesis.
Main function of stem: it holds the plant upright, forms branches, bears flowers and fruits, helps in transporting water from roots to the leaves.

4. Which of the following is not a correct match?
(a) Petiole: attaches leaf to stem

(b) Lamina: green flat part of leaf
(c) Margin: gives shape to the leaf
(d) Veins: transpiration
Solution:
(d): Veins: transpiration
Veins transport water, minerals and food in the leaf, and provide support to the leaf.
In transpiration, water evaporates which is done by stomata of the leaves.

5. Read the following sentences about photosynthesis.
(i) Sunlight, carbon dioxide, chlorophyll and water are necessary.
(ii) Oxygen is absorbed.
(iii) Leaves carry out photosynthesis.
(iv) Proteins are made during photosynthesis.
Choose the correct pair of sentences that are true to photosynthesis.
(a) (iii) and (iv)
(b) (i) and (iii)
(c) (ii) and (iv)
(d) (i) and (iv)
Solution:
(b): (i) and (iii)
Leaves carry out photosynthesis. For photosynthesis to happen, Sunlight, carbon dioxide, chlorophyll and water are necessary. Oxygen is released during photosynthesis.
Carbohydrates (glucose) are made during photosynthesis.

6. Which of the following terms constitute the female part of the flower?
(a) Sepals, petal and stamen
(b) Stigma, style and ovary
(c) Ovary, stamen and stigma
(d) Ovary, style and stamen
Solution:
(b): Stigma, style and ovary
The female reproductive part of a flower is the Carpel (pistil). It consists of stigma, style and ovary.
Sepals and petals are accessory parts.
Stamens are male reproductive parts of a flower.

Very Short Answer Questions:

7. Fill in the blanks.
(a) The small green leaves at the base of flowers are known as _____.
(b) The swollen basal part of the pistil is the ____ which bears the ____.
(c) Stamen has two parts called_____ and ____.
(d) The young unopened flower is termed as_____.
Solution:
(a) sepals
(b) ovary, ovules
(c) filament, anther
(d) bud.

8. Solve the riddles given below.
(a) "I have a green tender stem and I am much shorter than you. Who am I?"
(b) I come out first from the seed when it is soaked in water. I provide anchorage to plants. Who am I? Write another function that I perform.
Solution:
(a) I am an 'Herb'. Herbs are the small plants with green and tender stem.
(b) I am 'Root'. Root comes out first from the seed when it is soaked in water.
Another function of root is to absorb water and mineral from the soil.

Short Answer Questions:

9. Match the parts of plant given in column I with their function in column II.

Column I	**Column II**
(a) Flower	**(i) Excretion**
(b) Leaf	**(ii) Photosynthesis**
(c) Stem	**(iii) Reproduction**
(d) Root	**(iv) Bears branches**
	(v) Anchorage

Solution:

Column I	Column II
(a) Flower	(iii) Reproduction
(b) Leaf	(ii) Photosynthesis
(c) Stem	(iv) Bears branches
(d) Root	(v) Anchorage

10. Boojho wanted to test the presence of starch in leaves. He performed the following steps.
(1) He took a leaf and boiled it in water.
(2) He placed the leaf in a petri dish and poured some iodine over it.
He did not get the expected result. Which step did he miss? Explain.
Solution:
To remove the green colour of the leaf, firstly the leaf has to be boiled in water next it has to be boiled in alcohol so that chlorophyll comes out.
Boojho missed the step of not boiling the leaf in the alcohol which removes the chlorophyll and therefore, he did not get the expected result (i.e. change in colour of the leaf).

11. Will a leaf taken from a potted plant kept in a dark room for a few days turn blue black when tested for starch? Give reasons for your answer.
Solution:
No, it will not turn blue black because all the starch present in the leaf would have been used up by the plant. And due to the non-availability of sunlight no starch would be synthesized in the leaves.

12. Can the stem of a plant be compared with a street with two-way traffic? Give reason.
Solution:
Yes, the stem of a plant can be compared with a street with two-way traffic. It is because in stem, water and mineral move in upward direction and food moves in downward direction.
The stem transports water and minerals from the root to leaves and other parts of the plant (upward).
The food prepared by the leaves travels through the stem to different parts of plant and roots (downward).

Long Answer Questions:

13. Read the function of parts of a plant given below.
(a) Fixes plant to the soil
(b) Prepares starch
(c) Takes part in reproduction
(d) Supports branches and bears flowers
In the diagram given in Fig. 7.1, write the names of the parts whose functions you

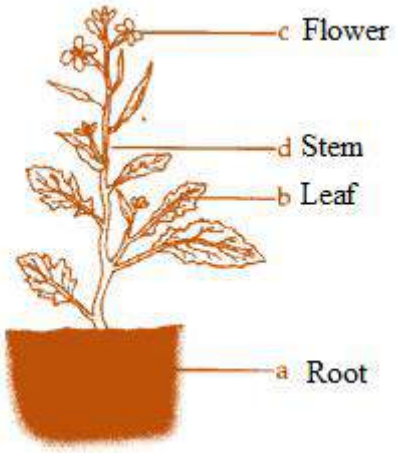
have just read at the appropriate space.

Fig. 7.1

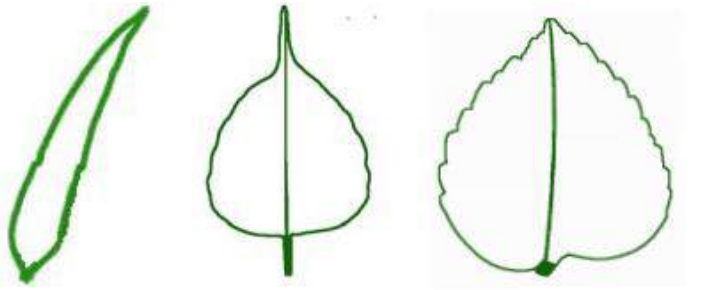
Solution:

Solution:

(a) Fixes plant to the soil - Root
(b) Prepares starch - Leaf
(c) Takes part in reproduction - Flower
(d) Supports branches and bears flowers - Stem



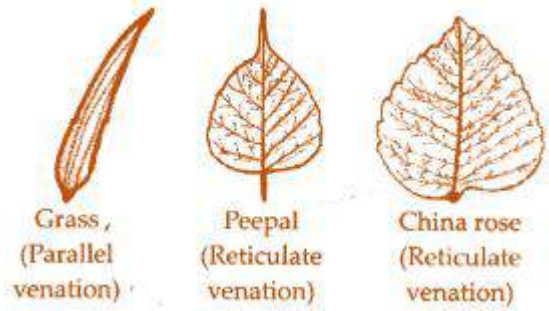
14. Draw the veins of leaves given in Fig 7.2 below and write the type of venation.



Grass Peepal China Rose

Fig. 7.2

Solution:



15. Observe Fig. 7.3 and attempt the questions that follow it.

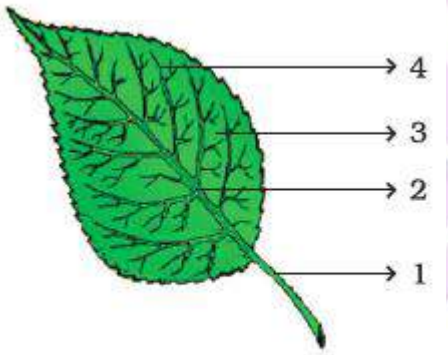
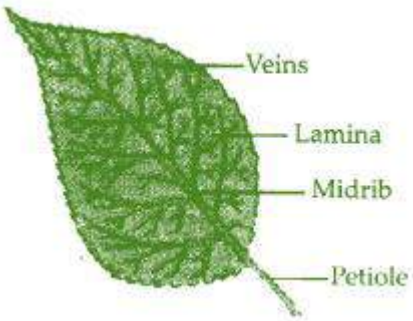


Fig. 7.3

(a) Label the parts 1, 2, 3 and 4 in the diagram.
(b) What type of venation does the leaf has?
(c) What type of venation is seen in grass leaves?
Solution:



(a) Part 1 - Petiole
Part 2 – Mid rib
Part 3 – Lamina
Part 4 - Veins
(b) The leaf has reticulate venation. In reticulate venation, veins form a network like appearance.
(c) In grass leaves, parallel venation is seen.

16. Observe the picture of an activity given as Fig. 7.4 carried out with leaves of plants and polythene bag.

Fig. 7.4

Now answer the following:
(a) Which process is demonstrated in the activity?
(b) When will this activity show better results on a bright sunny day or a cloudy day?
(c) What will you observe in the polythene bag after a few hours of setting up the activity?
(d) Mention any one precaution you must take while performing this activity.
Solution:
(a) The process of transpiration is being demonstrated in the given activity.
(b) This activity shows better results on a bright sunny day because the rate of transpiration increases in the presence of strong sunlight.
(c) After a few hours, small drops of water will be seen inside the polythene cover.

(d) (i) The set-up must be airtight.
(ii) Polythene bag should be dry.
(iii) The twig or the leaves must be fresh with 10-12 leaves.

17. Identify the wrong statements and correct them.
(a) Anther is a part of the pistil.
(b) The visible parts of a bud are the petals.
(c) Lateral roots are present in a tap root.
(d) Leaves perform the function of transpiration only.
Solution:
(a) The statement is wrong – Anther is a part of the stamen.
(b) The statement is wrong – The visible parts of a bud are the sepals.
(c) The statement is correct.
(d) The statement is wrong – Leaves perform various functions other than transpiration, such as gaseous exchange through tiny pores called stomata, photosynthesis etc.

18. Solve the crossword given in Fig. 7.5 as per the clues given below it.

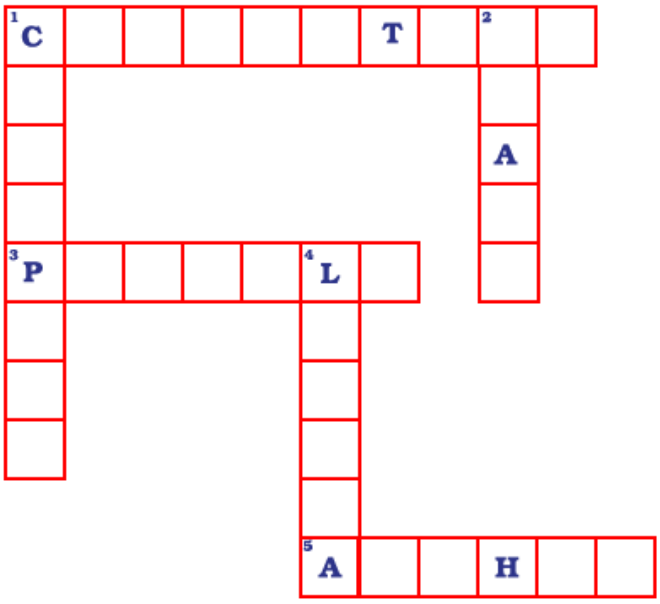
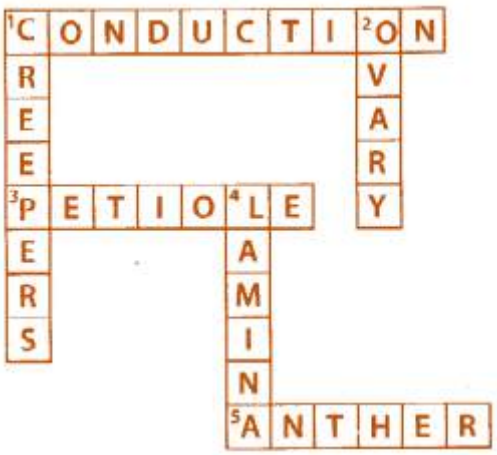


Fig. 7.5

1. The term that describes upward movement of water in a stem.
3. The part of leaf which is attached to the stem.
5. This part is attached to the tip of filament.
Down
1. Plants that are weak and spread on the ground.
2. Ovules are present in this part of flower.
4. Is the broad part of leaf?

Solution:



Across
1. Conduction
3. Petiole
5. Anther

Down
1. Creepers
2. Ovary
4. Lamina

19. Fill in the blanks with the terms that are listed below.
Anther, male, ovary, ovule, petals, pistil, stamen, filament.

Sepals, (a) ____, stamens and (b) ____ are the parts of a flower. Stamen is made up of (c) ____ and (d) ____ and it represents the (e) ____part of the flower. The female part of the flower is called the (f) _____. The basal, swollen part of the pistil is called the (g) ____ which contains the (h) _____.
Solution:
(a) petals
(b) pistil
(c) anther
(d) filament
(e) male
(f) pistil
(g) ovary
(h) ovules