Note: (1) Think and Answer (2) Mind choices

Name: **Date:**

Areas of improvement:

Maximum Marks (Objective)	**31.5**
Marks Obtained	
%	
Maximum Marks (Subjective)	**15.5**
Marks Obtained	
%	
Maximum Marks	**47**
Marks Obtained	
%	

Parent's Signature	**Parent's Signature**

I. Objective Question: [0.5 x 27 = 31.5]

A. Multiple-Choice Questions

1. In phloem, the direction in which the translocation of food takes place is

1. downwards
2. upwards
3. both upwards and downwards
4. none of these

2. Water is absorbed by the root hair cells through

1. osmosis
2. active transport
3. transpiration
4. ascent of sap

3. The movement of salt or mineral molecules from a region of their higher concentration to a region of their lower concentration is called

1. osmosis
2. active transport
3. diffusion
4. blending

4. The fluid containing mineral salts and water enclosed in a vacuole of a cell is called

1. cytoplasm
2. nucleoplasm
3. cell sap
4. tonoplast

5. The pressure developed in roots due to the continuous inflow of water which pushes the sap upwards is called

1. root pressure
2. sap pressure
3. transpiration pull
4. stem pressure

6. Prepared food material is carried through

(a) Xylem

(b) Vascular Tissues

(c) Phloem

(d) Stomata

7. The rate of transpiration will _____ if the atmospheric pressure is low

a. Increase
b. Decrease
c. Stay unchanged
d. Can't be determined

8. The main function of guard cells is to help with _____
   a. Transpiration
   b. Guttation
   c. Transcription
   d. None of the above

9. Living cells placed in an isotonic solution tend to retain their shape and size. This is based on the principle of

a. Diffusion
b. Transpiration
c. Osmosis
d. None of the above

10. Transport of food materials in higher plants occurs through

a. Flowers
b. Companion cells
c. Tracheid's
d. Sieve elements

11. The movement of materials from the leaves to other tissues of the plant is called _____

a. Tropic movement
b. Guttation
c. Transpiration
d. Translocation

12. What is the main function of the phloem tissue in plants?

A) Transport of water and minerals

B) Support and mechanical strength

C) Transport of sugars and nutrients

D) Protection against pathogens

13. Which process is responsible for the movement of water from roots to leaves against gravity in tall trees?
    A) Osmosis
    B) Capillary action
    C) Transpiration pull
    D) Active transport

14. Which plant tissue type is responsible for providing flexibility and support to young stems and leaves?
    A) Xylem
    B) Phloem
    C) Sclerenchyma
    D) Parenchyma

15. What is the role of the stomata in plant leaves?
    A) Absorbs sunlight for photosynthesis
    B) Regulates water loss and gas exchange
    C) Stores water and minerals
    D) Produces oxygen during respiration

16. Which environmental condition would decrease the rate of transpiration in plants?
    A) High humidity
    B) Low temperature
    C) Strong winds
    D) Bright sunlight

17. What is the function of the phloem sieve tubes in plants?
    A) Transport of water and minerals
    B) Transport of sugars and organic nutrients
    C) Support and mechanical strength
    D) Facilitation of gas exchange

18. Which process contributes to the movement of sugars from leaves to other parts of the plant in the phloem tissue?
    A) Transpiration pull
    B) Active transport
    C) Translocation
    D) Osmosis

19. Which environmental factor directly influences the rate of photosynthesis in plants?

A) Wind speed

B) Soil texture

C) Light intensity

D) Atmospheric pressure

20. Which plant tissue type is responsible for the primary growth in length of roots and shoots?
    A) Xylem
    B) Phloem
    C) Meristem
    D) Sclerenchyma

21. What is the role of companion cells in the phloem tissue?

A) Storage of sugars

B) Transport of sugars

C) Support and protection

D) Regulation of gas exchange

22. What is the function of root pressure in plants?

A) Pulling water from roots to leaves

B) Pushing water and minerals into xylem

C) Opening and closing stomata

D) Absorbing sunlight for photosynthesis

23. What is the function of the pith in the plant stem?

A) Storage of sugars

B) Regulation of gas exchange

C) Support and mechanical strength

D) Transport of water and minerals

24. In which part of the plant would you expect to find the highest concentration of starch as a storage carbohydrate?
    A) Leaves
    B) Roots
    C) Stem

D) Flowers

25. Which of the following is NOT a function of the phloem tissue in plants?**

A) Transporting sugars

B) Transporting amino acids

C) Transporting water and minerals

D) Transporting hormones

26. Which of the following plant adaptations helps reduce water loss during periods of drought?**

A) Increased stomatal density

B) Thick cuticle on leaves

C) Enhanced root hair development

D) Larger leaf surface area

27. What is the primary function of the tracheids and vessel elements in xylem tissue?

A) Transporting sugars

B) Transporting water and minerals

C) Providing mechanical support

D) Facilitating gas exchange

II. Very Short Answer Questions: [1 x 4 = 4]

Q1. How are roots useful to plants? Give any two points.

Q2. Under what conditions does the plant transpire?

(a) more quickly and

(b) most slowly?

Q3. Name any two micro-nutrients.

Q4. Name a disease in plants caused by the deficiency of zinc.

III. Short Answer Questions: [2 x 3 = 6]

Q5. Define the following terms: (Q5 & Q6 Compulsory, answer either Q7 or Q8)

A. Osmosis B. Diffusion C. Active Transport D. Transpiration

E. Transpiration pull

Q6. Differentiate between: Diffusion and Active transport.

Q7. How does the food manufactured in the leaves reach different parts of the plant?

Q8. Give two points of importance of transpiration in plants.

IV. Long Answer Question: (any one) [3 x 1 = 3]

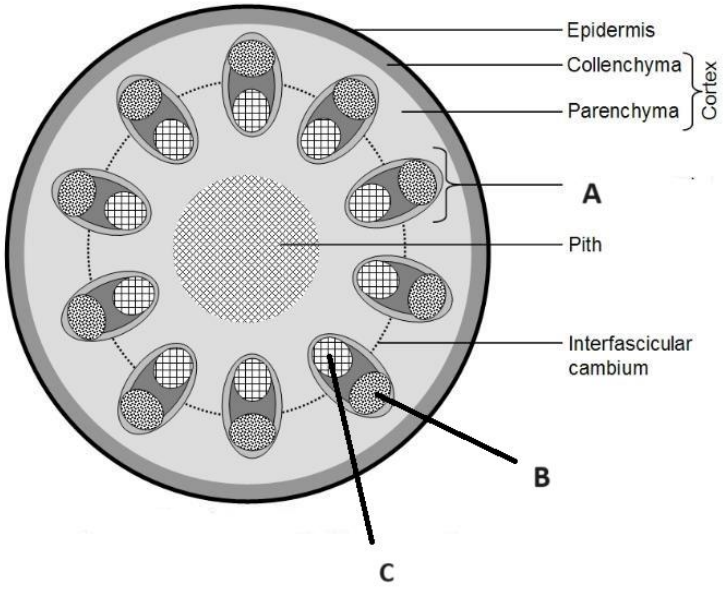
Q9. How do the roots of plants absorb water?

Q10: Compare and contrast the roles of phloem and xylem in the transportation of substances in plants.

Picture Study: [12.5 marks]

Q1(B). Identify A, B, and C **[0.5 x 3 = 1.5]**

Q1(B). Write important differences between B and C. **[2 x 1= 2]**

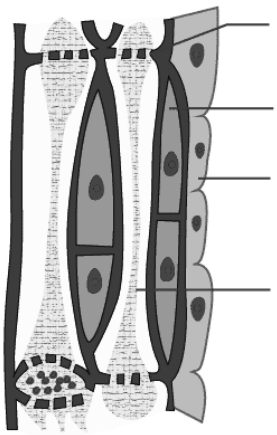


Q2. Label the diagram below.

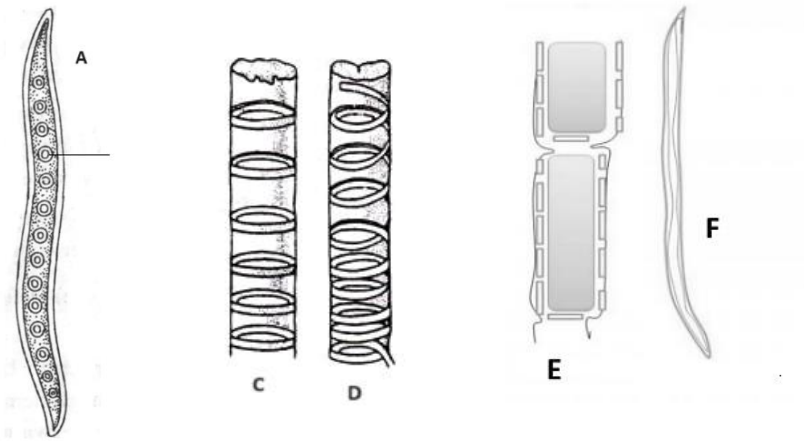
A. What is the role of the companion cell? **[1 x 1 = 1]**

B. Diagram below represents _____ tissue. **[1 x 1 = 1]**

C. Write the functions of labeled elements. **[3 x 1 = 3]**



Q3(A). Identify A, C, D, E, and F. **[0.5 x 4 = 2]**



Q3(B): Write the main functions of C and D, E and F. **[0.5 x 4 = 2]**