THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

AIM HIGH, TOGETHER WE FLY

1 MARK EACH

Q. 1. Name the tissue which is responsible for increase in length of stem and root.

Ans. Apical meristem

Q. 2. Name the four elements of phloem.

Ans. Sieve tubes, companion cells, phloem parenchyma and phloem fibres.

Q. 3. What are the types of complex permanent tissues ?

Ans. Xylem and phloem.

Q. 4. Name the two types of plant tissues.

Ans. Meristematic tissue and permanent tissue.

Q. 5. What is meristematic tissue ?

Ans. Meristematic tissue is capable of dividing and is found in the developing regions of the plant.

Q. 6. How many types of meristematic tissues are there on the basis of their presence ?

Ans. Three namely—apical, lateral (cambium) and intercalary.

Q. 7. What do you understand by differentiation ?

Ans. When meristematic tissues lose their ability to divide and become permanent in shape, size and function, the process is called differentiation.

Q. 8. How is permanent tissue formed from meristematic tissue ?

Ans. When the cells take up a specific role and lose their ability to divide.

Q. 9. What is source of cork ?

Ans. Cork is obtained from the bark of a tree i.e., oak plant's stem.

Q. 10. What are stomata ?

Ans. Stomata are the small pores present in the epidermis of leaf.

Q. 11. What do you mean by guard cells ?

Ans. Stomata are enclosed by two kidney-shaped cells which are called guard cells.

Q. 12. Name the complex plant tissues.

Ans. Xylem and phloem.

Q. 13. What are vascular bundles ?

Ans. Vascular bundles consist of xylem and phloem.

Q. 14. What is the function of cutin, the waxy substance present in epidermis of desert plants ?

Ans. Cutin checks loss of water in desert plants.

Q. 15. Water Hyacinth floats on water surface. Explain.

Ans. Water Hyacinth has spongy petioles which enclose a lot of air in its aerenchyma. Air makes the plant lighter than water and so it is able to float on the surface of water.

Q. 16. Why is cork impervious to gases and water ?

Ans. Cork is impervious due to a chemical called suberin.

Q. 17. Name the following tissues : (i) that forms the inner lining of our mouth. (ii) present in the brain.

Ans. (i) Epithelial tissue-squamous epithelium (ii) Nervous tissue

Q. 18. Name the following tissues : (i) Found in the iris of the eye. (ii) That connects two bones.

Ans. (i) Involuntary muscles, (ii) Ligament

Q. 19. State two functions of the adipose tissues.

Ans. (i) It helps in storage of fats. (ii) It act as an insulator.

Q. 20. How are simple epithelial tissue and compound epithelial tissue different ?

Ans. Simple epithelial tissue is unilaminar while compound epithelial tissues is multilaminar.

Q. 21. Which epithelial tissue is present on the tongue ?

Ans. Stratified squamous epithelium.

Q. 22. Which tissue contains flat squamous cells arranged in many layers to prevent wear and tear of parts?

Ans. Stratified squamous epithelium.

Q. 23. Name an animal whose skeleton is made up of cartilage.

Ans. Shark fish.

Q. 24. What is the function of RBCs ?

Ans. Transportation of oxygen and carbon dioxide and pH constancy.

Q. 25. What is the life span of human RBCs ?

Ans. About 120 days.

Q. 26. What is the function of lymph ?

Ans. It helps in the exchange of materials between blood and body cells.

Q. 27. A selectively permeable surface is composed of what type of tissue in animals ?

Ans. Simple squamous epithelium.

2 MARKS EACH

Q. 1. Explain the process of formation of cork.

Ans. Strip of secondary meristem replaces the epidermis of the stem. Cells on the outside are cut off from this layer which forms the cork.

Q. 2. (a) What is a tissue? Justify that blood is a tissue. (b) Identify the meristematic tissues which are located at : (i) growing tips of roots and stems. (ii) the base of the leaves or internodes on twigs.

Ans. (a) A group of cells that are similar in structure and work together to achieve a particular function is called a tissue. Blood is a cluster of similar cells and they perform same function in the body, hence blood is a tissue. (b) (i) Apical meristem, (ii) Intercalary meristem.

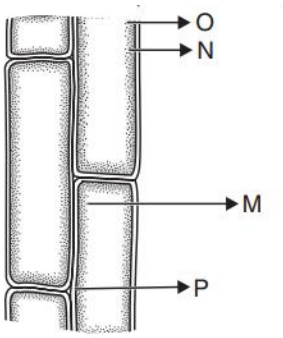
Q. 3. What is apical meristem? What is its function?

Ans. Apical meristems are the meristematic tissues which are found at the growing tips of stems and roots. It increases the length of the stems and roots and is responsible for the growth of plant.

Q. 4. Why is epidermis present as a thick waxy coating of cutin in desert plants ?

Ans. The main adaptation of desert plants is to minimise the water loss. Hence, layer of cutin is present on epidermis, which is a thick waxy coating. This waxy coating helps in minimising water loss by transpiration.

Q. 5. Given diagram is showing a longitudinal section of collenchyma tissue. Label the parts 'M', 'N', 'O' and 'P' in the given diagram.



Ans. M – Chloroplast, N – Nucleus, O – Cytoplasm, P – Intercellular space.

Q. 6. The epidermis in desert plants is covered by a waxy coating. Name the substance which constitutes the coating. State three advantages of this coating.

Ans. Cutin. Advantages : Waterproof quality and protection against loss of water, mechanical injury, invasion by parasitic fungi.

Q. 7. Write the location and function of collenchyma tissue.

Ans. Collenchyma is located in leaf stalks below the epidermis. It provides flexibility in plants and easy bending and mechanical support.

Q. 8. Write any two characteristic features of parenchyma tissue.

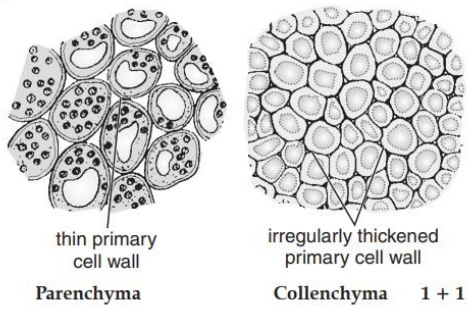
Ans. It consists of relatively unspecialized cells with thin cell walls. They are usually loosely packed so that large spaces are present between the cells.

Q. 9. List two characteristics of cork. Name the chemical present in them and mention its role.

Ans. Cells of cork are dead and compactly arranged without intercellular spaces. They also have a chemical called suberin in their walls which make them impervious to gases and water.

Q. 10. With the help of labelled diagrams differentiate parenchyma and collenchyma.

Ans.



Parenchyma Collenchyma 1 + 1

Q. 11. List any two characteristic features of parenchyma tissue.

Ans. Characteristic features of parenchyma tissue : (1) Have isodiametric cells. (2) The cells are arranged in such a way that they possess intercellular space. (3) They have thin cell walls.

Q. 12. Name the living component common to both the complex permanent tissues found in plants. What is its function?

Ans. Living component common to xylem and phloem tissues is parenchyma. Its function is to store food and help in sideways conduction of water in xylem and food in phloem.

Q. 13. Name the tissue that makes husk of coconut. Write three characteristics of this tissue.

Ans. Sclerenchyma tissue. The cells are dead with long and narrow walls thickened due to lignin.

Q. 14. List two points of differences between Parenchyma and Sclerenchyma.

Ans. Parenchyma tissue: In this, cells are found with thin cell walls and are usually loosely packed so that large intercellular spaces are found. Sclerenchyma: Cells are dead and cell wall is thickened due to lignin. It provides strength to plants.

Q. 15. Name the simple permanent tissue whic : (i) forms the basic packing tissue. (ii) provides flexibility in plants. (Board Term I, 2012 Set-060) Ans. (i) Parenchyma, (ii) Collenchyma.

Q. 16. Mention four characteristic features of the cells of meristematic tissue.

Ans. Cells of this tissue are : (i) very active. (ii) have dense cytoplasm. (iii) have thin cellulose walls and prominent nuclei. (iv) lack vacuoles

Q. 17. What is apical meristem? Where is it located? State its functions.

Ans. Apical meristem is a kind of meristematic tissue which is present at the growing tips of stems and roots. It increases the length of the stem and the root. These cells are responsible for linear growth of an organ. Example : Root apical meristem and Shoot apical meristem.

Q. 18. Write two points of difference between collenchyma and sclerenchyma tissues.

S. No.	Collenchyma	Sclerenchyma
1.	Consists of living cells.	Consists of dead cells.
2.	Contains cytoplasm.	Cytoplasm is absent.
3.	The thickening of the cell wall is not uniform.	Cell wall thickening is uniform.

Q. 19. "Water hyacinth plant floats on water surface". Name the tissue and its type due to which it is possible and also explain the special feature of this tissue that helps in this.

Ans. Aerenchyma is a simple permanent tissue in aquatic plants. Large air cavities are present to give buoyancy to the plants to help them float.

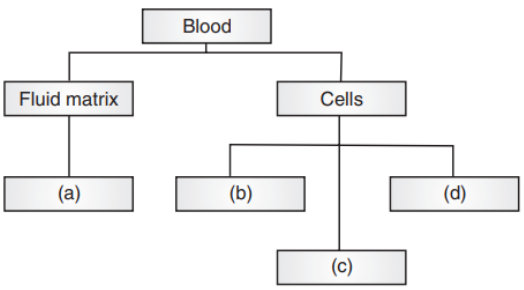
Q. 20. Name the following tissues : (a) The connective tissue found between the skin and muscles. (b) The tissue which connects two bones. (c) The epithelial tissue which forms the lining of the kidney tubules. (d) The tissue which is present in the veins of leaves.

Ans. (a) Aerolar, (b) Ligament, (c) Cuboidal epithelium, (d) Sclerenchyma.

Q. 21. Growth in plant is restricted to certain regions. Give reason for this fact. Mention two growth regions in plants.

Ans. The growth of plants occurs only in certain specific regions. This is because the dividing tissues, also known as meristematic tissues, are located only at these points. Root tip, Shoot tip, Cambium, base of the leaves (either side of node).

Q. 22. Mention the different components of blood in the following diagram ?



Ans. (a) Plasma, (b) WBC, (c) Platelets, (d) RBC.

Q. 23. Why are plants and animals made up of different tissues

Ans. Plants are stationary thus their supportive tissue is made up of dead cells. Animals move, hence they possess living cells to provide energy for movement. Also, for the many more differences and functions in plants and animals, they are made up of different tissues.

Q. 24. State the role of ligament and tendons in our skeletal system.

Ans. (a) Tendons : Connect bones to muscles. (b) Ligaments : Connect two bones.

Q. 25. A horse and a mango tree are both complex living organisms with specialised yet different tissue systems to perform the basic life processes. Give two reasons for possessing different tissues to perform similar functions.

Ans. Horse is an animal where as mango tree is a plant. Plants and animals have different types of tissues because : — Plants do not show locomotion while most of the animals move from one place to another. — They have different patterns of growth : plant's growth is limited to certain regions while animal's growth is more or less uniform.

Q. 26. (a) Voluntary muscles are also known as skeletal muscles. Justify. (b) Give two structural characteristics of these voluntary muscles.

Ans. (a) Attached to limb bones and helps in their movement. (b) (i) Presence of light and dark bands. (ii) Multinucleated. (iii) Cylindrical and unbranched. (any two)

Q. 27. List any two functions of epithelial tissue in human body.

Ans. Functions of epithelial tissue in human body : (i) Covering of the organs. (ii) Regulates exchange of materials between the body and the external environment. (iii) Glands present in them help in various secretions. e.g., sweat, oil etc. (any two)

Q. 28. Name the tissue that : (a) connects muscle to bone in humans, (b) forms inner lining of alveoli (c) stores fat in our body (d) transports water and minerals in plants.

Ans. (a) Tendon, (b) Squamous epithelium, (c) Adipose tissue, (d) Xylem.

Q. 29. List four functions of blood.

Ans. (i) It carries O2 and CO2 to various parts of the body and lungs. (ii) It transports food to various body parts. (iii)It transports hormones as well as metabolic wastes. (iv) It has a major role to play in the regulation of body temperature.

Q. 30. Write two locations of the following animal tissues: (1) Simple Squamous Epithelial cells. (2) Cuboidal Epithelium.

Ans. (i) Oesophagus , lining of mouth. (ii) Lining of kidney tubules, ducts of salivary glands.

Q. 31. (a) Name the connective tissue which connects two bones. (b) Name the connective tissue present in external ear.

Ans. (a) Ligament (b) Cartilage.

Q. 32. Mention one region in the human body where adipose tissue is present and state one function of the tissue.

Ans. It is found below the skin. It acts as an insulator.

Q. 33. How does the bone matrix differ from the matrix of cartilage ?

Ans. Bone matrix : Calcium and phosphorus. Cartilage matrix : Sugar and proteins.

Q. 34. Name the tissue which helps in transportation of oxygen that we inhale to various parts of our body. Write the composition of this tissue.

Ans. Blood. Composition : (i) RBC (red blood corpuscles), (ii) WBC (white blood corpuscles) and (iii) Platelets.

Q. 35. Give two reasons, why is blood considered to be connective tissue ?

Ans. (i) Like other connective tissues, blood consists of living cells scattered in an abundant matrix. The matrix is liquid or plasma in blood. (ii) Blood circulates throughout the body, receiving and providing materials to all tissues and organs of the body. It thus connects all parts of the body.