

## TISSUES

Question (1): Tissue A and tissue B constitute tissue C. A carries water while B carries food for the plants. Identify A, B, C.

Answer: A. Xylem  
B. Phloem  
C. Vascular bundles

Question (2): Tissue A is usually present in the outermost layer of the plant body. Identify A and give one function it performs.

Answer: Tissue A is the protective tissue.  
Function - Protects the inner tissues present in the cell.

Question (3): Cells X are formed as the roots and stem grow old. Identify X. Give one function.

Answer: X are cork cells, which prevent the loss of water.

Question (4): Cell X provides extra mechanical support for plants at certain places.

- a) Identify X.
- b) What is its shape?
- c) Is it dead or alive?

Answer: a) Cells X are Sclereids  
b) No definite shape  
c) Sclereids are dead

Question (5): Cells X are usually living and contain dense cytoplasm and a large vacuole is present in the cell.

- a) Identify X
- b) Give one characteristic of X

Answer: a) Cells X are parenchyma cells  
b) They are isodiametric

Question (6): Differentiate between parenchyma and chlorenchyma. Give one function of chlorenchyma.

Answer:

Chlorenchyma	Parenchyma
Contains Chlorophyll	Does not contains Chlorophyll.

Function of Chlorenchyma Manufacture starch

Question (7): Give two characteristic features of cork.

Answer: The two characteristic features of cork are:

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- 1.It is a good insulator
- 2.It is a good shock absorber

Question (8): Cells X are tubular in shape and have perforated walls and translocate materials from leaves to other parts of the plant. Identify X.

Answer: Cells X are sieve tubes.

Question (9): Differentiate between striated muscles and unstriated muscles.

Answer:

Striated	Unstriated
Cells of this tissue are long cylindrical and non-tapering	The cells are long with pointed ends
It is multinucleated	It is uninucleate
Alternate light and dark bands are seen	It does not show any stripes or striations

Question (10): Give two examples of tissue that is used for binding, supporting and packing together different organs of the body.

Answer: The tissue being referred to is the connective tissue.  
e.g., Cartilage and bone

Question (11): What is blood? What type of tissue is it?

Answer: Blood is a connective tissue in which cells move in a fluid matrix called blood plasma.

Question (12): What is the difference between collenchyma and parenchyma?

Answer:

Parenchyma	Collenchyma
i) Function - To store and assimilate food, to provide mechanical strength, store waste products.	i) Function - Mechanical support and elasticity.
ii) They may contain intercellular space.	ii) Intercellular space is absent.

Question (13): Give similarities between parenchyma and collenchyma.

Answer: Similarities:

- 1.They are thin walled
- 2.Both of them are living cells

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3.Both are circular, oval or polygonal

4.Both manufacture starch when they contain chloroplasts

Question (14): Differentiate between sclerenchyma and collenchyma.

Answer:

Sclerenchyma	Collenchyma
They are Dead cells	This is a living tissue

Question (15): Give two similarities between sclerenchyma and collenchyma.

Answer: Similarities:

- 1.They provide mechanical support and elasticity.
2. They do not have intracellular spaces.

Question (16): Give the importance of epithelial tissues.

Answer:

- 1.They help in the elimination of waste products and secretion.
2. They help in absorption of water and other nutrients.
3. They form the inner lining of the mouth and alimentary canal.
4. They protect the underlying cells from drying, injury and infection.

Question (17): Give two important characteristics of ligaments.

Answer: Ligaments have to be strong and elastic as they connect one bone to another.

Question (18): Which cell or tissue is responsible for feelings such as heat, pain etc.?

Answer: Nervous tissues are responsible for conducting impulses or signals and hence, are responsible for feelings such as pain, heat etc.

Question (19): Give one difference between ligament and tendon.

Answer: Tendons connect the bone to the muscles, whereas, ligaments connect one bone to another.

Question (20): Give one difference between bone and cartilage.

Answer: Bones are very strong and non-flexible whereas cartilage is a little more flexible.

Question (21): What is a tissue ?

Answer: Groups of cells having a common origin and performing similar functions are called tissues.

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Question (22): How are plant tissues broadly classified ?

Answer: Plant tissues are broadly classified into:  
 1. Meristematic tissues  
 2. Permanent tissues

Question (23): Where do you find meristematic tissues in plants ?

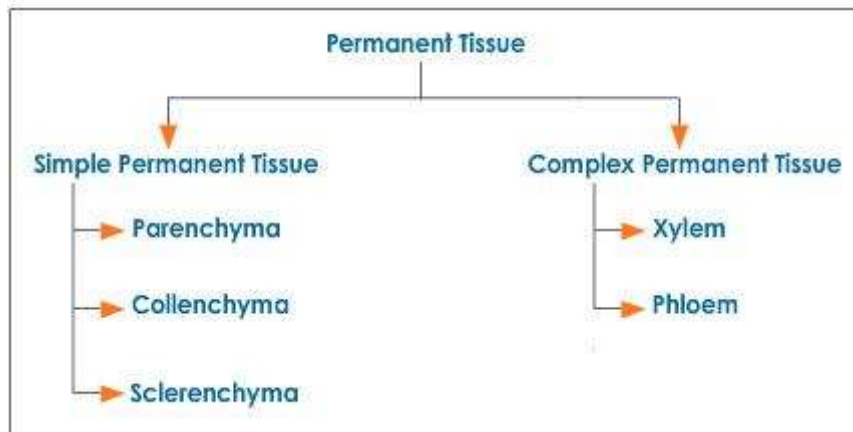
Answer: Meristematic tissues are present only at the growing regions like shoot tip, root tip and cambium.

Question (24): What is the main function of the meristematic tissue ?

Answer: The main function of the meristematic tissue is to continuously form a number of new cells.

Question (25): Give the classification of permanent tissues.

Answer: Permanent tissues are classified as follows:



Question (26): Differentiate between the location and the functions of parenchyma, collenchyma and sclerenchyma.

	Parenchyma	Collenchyma	Sclerenchyma
Location	Stem, root, leaves, flowers, fruits widely distributed	Below the epidermis	Outermost boundaries of plant parts, cortex, pith, hard seeds etc.
Function	Stores and assimilates food	Provides mechanical support and elasticity	Provides mechanical support
	Provides mechanical support (turgidity)	Manufacture sugar and starch.	
	Store waste products like tannin, gum, resins etc.		

Answer:

Question (27): What is cork? What are its functions?

Answer: Cork is a dead tissue present in plants. Inter-cellular spaces are absent in cork. Cork is protective in function. It also prevents loss of water.

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Question (28): Mention four functions of the epithelial tissues.

Answer: The main functions of epithelial tissues are:

- 1.They form the outer layer of skin and protect the underlying cells from drying, injury, bacterial and chemical effects.
- 2.They form the inner protective lining for external organs like mouth and alimentary canal.
- 3.They help in absorption of water and nutrients.
- 4.They help in elimination of waste products.

Question (29): Differentiate between striated and unstriated muscles.

Answer: Differences between Striated and Unstriated muscles

Striated Muscle (Skeletal)	Unstriated Muscle (Smooth)
Voluntary in function	Involuntary in function
Powerful, undergo rapid contraction	Undergo slow, rhythmic contraction
Gets tired and needs rest	Can remain contracted for longer periods
Each muscle cell is multinucleated	Each muscle cell is uninucleated
Present in limbs, body wall, neck, face, tongue, etc.	Present in hollow visceral organs like alimentary canal, Urogenital ducts, etc. Not present in heart

Question (30): What is the main function of the cardiac muscles?

Answer: Contraction and relaxation of the cardiac muscles help to pump and circulate blood to various parts of the body.

Question (31): Differentiate between bone and cartilage.

Bone	Cartilage
Hard and inflexible	Comparatively flexible
Porous	Non-porous
Blood vessels present	Blood vessels absent
Matrix contains calcium salts and proteins	Matrix contains mainly proteins

Answer:

Question (32): Differentiate between tendons and ligaments.

Tendons	Ligaments
Connect muscles to bones	Connect bones to bones
Inelastic	Elastic

Answer:

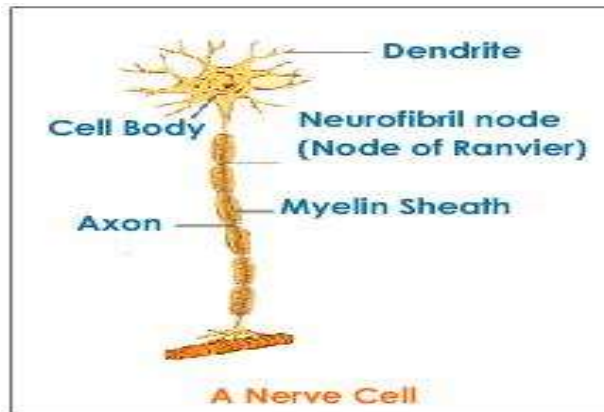
Question (33): What is the nerve cell called as? What is its function?

Answer: The nerve cell is called as neuron.

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Neuron receives stimuli from within or outside the body and conducts impulses to different parts of the body.

Question (34): Draw and label the structure of a neuron.



Answer: