

Board- ICSE	Std- 7 <sup>th</sup>	Topic- plant and animal tissue
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**Q.1 Put a tick (✓) against the most appropriate alternative in the following statements.**

**(i) A group of similar cells to perform a specific function forms a**

- (a) organ
- (b) species
- (c) organ system**
- (d) tissue

**(ii) The fine branches given out from the cell body of a nerve cell are**

- (a) dendrites
- (b) cyton
- (c) axon**
- (d) neurons

**(iii) Fluid connective tissue of humans is**

- (a) blood and cartilage
- (b) lymph and plasma
- (c) blood and lymph**
- (d) stroma and matrix

## Short Answer Questions

**Question 1.**

**1. Define the following terms:**

- 1. Tissue**
- 2. Organ**

Answer:

1. Tissue: A group of similar cells which perform a specific function.  
example: Muscular tissue in animals.
2. Organ: The different type of tissues which group together to function in a co-ordinated manner.  
example: liver

Answer the following:

**Question 2(i).**

What is a meristematic tissue ? How is it different from permanent tissues ?

Answer:

Plant tissues are classified into two types:

1. Meristematic tissue
2. Permanent or non-dividing tissue

Meristematic tissues are the plant tissues which are made up of actively dividing cells. These tissues actively divide and lead to the growth of the plant body. They are found at the growth points of the plant like tips of root, stem and branches etc.

1. Cells are small with thin cell walls.
2. Cells have large and conspicuous nuclei.
3. Cells have no vacuoles.
4. Cells are actively dividing type cells.

Difference between Meristematic and permanent Meristematic tissue :

1. Meristematic tissue is present at the tip of the root and stem and in between the xylem and phloem. Form apical meristematic tissue when present at the tips. It is in the form of cambium in between the xylem and phloem.
2. Meristematic cells divide and form other types of tissues. The cells are thin walled.
3. Meristematic cells may be intercalary as in case of monocots.
4. The cells are small and isodiametric, vacuoles are small or absent.
5. Respiratory and biosynthetic activities maximum.
6. The cells are immature and mitochondria simple.
7. Proplastids act as plastids.

Permanent tissue

1. Permanent tissue may be simple as parenchyma, collenchyma or sclerenchyma and it may be complex as xylem and phloem.
2. These are made up of more than one kind of cells. These perform a common function Xylem and phloem form vascular system of the plant. These cells do not have the power to divide.
3. These cells may act as epidermis cortex or grit cells. Sclerenchyma gives strength.
4. Living cells of permanent tissue have vacuoles. The cells are large and of different shapes.
5. Both these activities are low.
6. The cells fully mature, mitochondria fully developed.
7. Living cells have plastids.

## 8. Question 2

**1. Which living material would you take to demonstrate meristematic tissue ?**

**Answer:**

Green gram seeds can be used to demonstrate meristematic tissue which when soaked in a petridish stuffed with wet cotton and left for 3-4 days would sprout out. These sprouted seeds have roots developing whose root tips have meristematic tissue.

## 9. Question 2

**2. What is the function of meristematic tissue ?**

**Answer:**

The meristematic tissue have the primary role in the growth of the plant tissue as it consists of active dividing cells

## 10. Question 3.

**State whether the following statements are True or False.**

(i) A tissue is formed of only one type of cells.

Ans. True

(ii) Only one type of tissue forms an organ.

Ans. False.

Correct: Two or more types of tissue form an organ.

(iii) Permanent tissue is made up of undifferentiated and dividing Cells.

Ans. False.

Correct: Meristematic tissue is made up of undifferentiated and dividing cells.

(iv) Meristematic tissue is found at growing tips of a plant.

Ans. True

(v) Phloem is formed of dead tubular cells.

Ans. False.

Correct: Phloem is formed of living tubular cells.

## Question 4.

**Fill in the blanks by selecting suitable words from the list given below:**

**“Thin – walled, collenchyma, vascular, tissues, conducting”**

1. A group of different **tissues** working together to perform a function is called an organ.
2. Xylem and phloem form the **conducting** tissue.
3. Conducting tissue is also called **vascular** tissue.
4. Cells are elongated and thick at the comers in **collenchyma** tissue.
5. Parenchyma is composed of large **thin-walled** cell

## Question 5.

Name the kind of tissue that

1. Carries oxygen around your body — **Blood tissue.**
2. Brings about movements in animals — **muscular tissue.**
3. Transports food to different parts of plant— **phloem.**
4. Transports water in plants — **xylem.**
5. Supports an animal's body — **connective tissue (supportive)**
6. Binds different tissues together — **Fibrous connective tissue.**
7. Conducts messages from one part of the body to another — **nervous tissue.**

## Question 6.

Match the items given in column A with those given in column B:

Column A (i) Fibrous connective tissue (ii) Fluid connective tissue (iii) Supportive connective tissue (iv) Ligament (v) Tendon

Column B (a) blood (b) cartilage (iii) Supportive connective tissue another bone. (d) areolar tissue (e) connects a muscle with a bone.

**Ans.**

Column A	Column B
(i) Fibrous connective tissue	(d) areolar tissue
(ii) Fluid connective tissue	(a) blood
(iii) Supportive connective tissue	(b) cartilage
(iv) Ligament	(c) connects a bone to another bone.
(v) Tendon	(e) connects a muscle with a bone.

## Question 7

Write three differences between the two principal vascular tissues found in plants.

Answer: Xylem

1. Transports water and minerals absorbed by the roots to other plant parts.
2. Consists mainly of dead cells.
3. Conduction is unidirectional i.e. only upwards from the roots.

## Phloem

1. Conducts food manufactured in the leaves to other plant parts. 2. Consists mainly of living cells. 3. Bidirectional conduction i.e. both upwards and downwards from the leaves.

## Question 8

### Fill in the blanks

1. **Meristematic** tissue is situated at the tip of root and stem.
2. **Complex Permanent** tissue consists of more than one kind of cells.
3. **Phloem** is a complex tissue that distributes food in plants.
4. Epithelial tissue is made of cells without any **intercellular** spaces.
5. **Voluntary** muscles help in the movement of limbs.
6. The **neurons** or nerve fibers constitute the nerves.
7. **Ligaments** connects one bone to another.
8. **Adipose** tissue cushions and insulates the body.

## Question 9

### Define these terms.

1. tissue 2. species 3. population 4. biotic community 5. biosphere 6. neuron 7. connective tissue

### Answer:

1. tissue — A group of cells that are similar in structure and perform similar functions forms a tissue.
2. species — A group of living organisms which can breed among themselves constitute a species.
3. population — All the members or individuals of a particular species living in a particular area constitute its population.
4. biotic community — The population of all plant and animal species living in a particular area constitute a biotic community.
5. biosphere — The zone on the earth in which all living beings exists is termed as biosphere. ,
6. neuron — The cells that constitute nervous tissue are called neurons or nerve cells.
7. connective tissue — The tissue which connects various tissues together in any organ is called connective tissue.

## Question 10

lower level of organization and higher level of organization

Answer:

Lower level of organization

1. The cell is the lowest level of organization in this level 2. Cell to organ system level forms the lower level of organisation.

Higher level of organization

1. The species is the lowest level of organization in this level 2. Population to biosphere forms the higher level of organisation.

## Question 11

community and biosphere.

Answer:

Community

1. All the organisms living together in area constitute community. 2. It does not forms the highest level of organization.

Biosphere

1. All ecosystems together make up biosphere. 2. It is the highest level of organization.

## Question 12

**Write short answers.**

Question 1. Name the lowest level of organization

Answer: The cell is the lowest level of organization, which is living and can exist independently

Question 2. What is a species ?

Answer: A species is a group of living organisms which can breed among themselves

Question 3. Define population.

Answer: All the members of a particular species living in a particular area constitute its population.

Question 4. What is an ecosystem ?

Answer: All living organisms along with the non living organisms of an area forms an ecosystem.

Question 5. What constitutes the vascular system of the plant ?

Answer: Xylem and phloem, which are the complex permanent tissues together constitute the vascular system of the plant. These tissues extend from the tip of the root to the tip of the leaf.

Question 6 What is a neuron ?

Answer: The cells that constitute the nervous tissue are called neuron or nerve cells. The neuron is the smallest part of nervous tissue.

Question 7. Where is the white fibrous tissue found in human body?

Answer: The white fibrous tissue is found in tendons. Tendons connect the muscles to the bones. This tissue has considerable strength and high elasticity.

## Question 13

**Which tissue is responsible for the increase in the height of a plant ? Where is it located ?**

**Answer:**

1. Apical meristematic tissue is responsible for the increase in the height of a plant. This tissue is present at the root tip and shoot tip. The cells of this tissue are usually small, thin walled and full of cytoplasm. They have a large nucleus. These cells divide rapidly and continuously, the plant thereby gains height.

2. Meristematic tissue is present in the growing parts of a plant, such as root tip and shoot tip.