**11TH MAY, 2020 JESUS AND MARY SCHOOL AND COLLEGE MODULE 1**

**SUBJECT - BIOLOGY**

**CHAPTER – Tissue**

**CLASS – 7**

**WORKSHEET -1**

**TOPIC: TISSUE**

Tissues are groups of cells that have a similar structure and act together to form a specific function. All living organisms are made of cells.

Tissues are divided into two types:

1. **Plant tissue**
2. **Animal tissue**
3. **PLANT TISSUE:**

Plant tissue is a collection of similar cells performing an organized function for the plant. Each plant tissue is specialized for a unique purpose.It is mainly divided into two types:

1. **Meristematic tissue:**

The cells of this tissue are generally young and immature, with the power of continuous division. Meristematic cells are oval and small and have thin cell walls. The growth in length and growth in diameter of the plant are carried about by these cells. Meristematic tissues are of three types:***apical meristem, intercalary meristem***and ***lateral meristem***.

1. **Apical Meristem:**This type of tissue is present at the tips of the stems and roots. It helps in increasing the length of the plant.
2. **Lateral Meristem:** It is present at the radial portion of the stems and roots. It increases the thickness of the plant.
3. **Intercalary Meristem:** It is present at the internodes or at the base of the leaves. It increases the size of the internodes.
4. **Permanent tissue:**

The cells of this tissue are mature and differentiated cells. The cells of this tissue do not divide. It is of two types: ***simple***and ***complex permanent tissue.***

1. **Simple Permanent Tissue**: It is composed of single types of cells. These type of cells form protective tissue and supporting tissue.**Protective tissue** is usually present in the outermost layer of the plant body such as leaves, stem and roots. Supporting tissue provide support and strength to the plants. Supporting tissues are of three types: ***parenchyma, collenchyma and sclerenchyma***
2. **Complex Permanent Tissue:** Complex permanent tissue is composed of multiple types of cells which perform different function. Example: ***xylem and phloem***.
3. **ANIMAL TISSUE:**

The animal cells are grouped together to form animal tissues. Animal tissues are of four types:

1. **Epithelial tissues:**

These tissues form the protective covering and inner lining of the body and organs. These are the first tissues formed during the embryonic development.On the basis of shape of the cells epithelial tissue is classified into four types:

1. **Squamous epithelium:** These are for the protection of underlying tissues.
2. **Cuboidal epithelium:** Cuboidal epithelium helps in absorption and secretion. It is also helpful in formation of gametes in ovaries and testes.
3. **Columnar epithelium:**It is also used for absorption and secretion.
4. **Ciliated epithelium:** Cilia make substances to move in the cavity.

**b. Connective tissue:**

Connective tissue joins and supports different parts of the body. These tissues develop from mesodermal cells of the embryo. There are three kinds of connective tissues:

1. **Connecting and binding tissues:** Connecting and binding tissues include areolar tissues, adipose tissue and fibrous connective tissues forming tendons and ligaments. The tendons connect skeletal muscles to bones. And the ligaments connect bone to bone.
2. **Skeletal or supporting tissues:** Skeletal connective tissue consists of cartilages and bones.Cartilage is present in external ear and tip of the nose. Cartilage is highly elastic. Ends of bones of forelimb and hindlimb are covered by the cartilage. This reduces friction between the bones.Bone provides support to the body and helps in locomotion. It protects internal organs like brain, lungs and heart.
3. **Fluid or transporting tissues:** It consists of blood and lymph.Blood contains straw coloured matrix called plasma. In plasma, three types of blood cells are present: RBCs (Red Blood Cells), WBCs (White Blood Cells), Blood platelets. Red blood cells supply oxygen to each and every body cell.White blood cells protect body against disease. They fight and kill germs that enter the body. Therefore, WBC are called the soldier of the body.Blood platelets help in blood clotting.

**c. Muscular tissues:**

Muscular tissue forms muscles of the body. Muscles help in movement of the body parts and in locomotion. There are three types of muscular tissues:

1. **Striated or voluntary muscles:**These muscles are attached to the bones and help in their movement.
2. **Unstriated muscles:**These muscles are present on the wall of alimentary canal, blood vessels and urinary bladder. These help in involuntary functions of the body.
3. **Cardiac muscles:**These are present in the walls of heart and control the blood circulation.

**d. Nervous tissue:**

Nervous tissue makes up the peripheral and central nervous system. It develops from ectoderm of the embryo. It is made up of nerve cells called neurons. The nerves conduct message from one part of the body to other.

**EXERCISES:**

1. **Short answers question:**
2. Name different types of epithelial tissues and give functions of each of them.
3. What is nervous tissue?
4. What is difference between tendon and ligament?
5. White blood cells are called ‘Soldiers of body’. Why?
6. Name the types of muscular tissues and give functions of each of them.
7. **Fill in the blanks:**
8. ……………… tissue forms covering of the body.
9. ……………… cells protect body against disease.
10. Nervous tissue is made up of …………….. called neuron.
11. The tendons connect skeletal muscles to ……….
12. The ………………. tissue that brings about increase in the height of the plant.
13. **Write true or false for each statement. Correct the false statement:**
14. Cartilage is highly elastic.
15. Tendons connect muscle to bone.
16. Cardiac muscles are involuntary muscles.
17. Permanent tissues have power of continuous division.
18. Meristematic tissue is found at growing tips of a plant.

**NOTE: Please do this work in your old copies which will be checked when the school reopens. Please consider this important.**