CBSE Test Paper 02

Chapter 06 Tissues

1. Match the following with correct response. **(1)**

Column A	**Column B**
(1) Skin	(A) Epithelial tissue
(2) Bone	(B) Parenchyma
(3) Bark of tree	(C) Connective tissue
(4) Vascular bundle	(D) Permanent tissue

   a. 1-B, 2-D, 3-A, 4-C
   b. 1-D, 2-A, 3-C, 4-B
   c. 1-A, 2-C, 3-B, 4-D
   d. 1-C, 2-B, 3-D, 4-A

2. Glands in our body are formed by **(1)**

   a. connective tissue
   b. epithelial tissue
   c. smooth muscles
   d. adipose tissue

3. The simple permanent tissue that consists of thick-walled, narrow, elongated, dead cells is_____. **(1)**

   a. sclerenchyma
   b. collenchyma
   c. chlorenchyma
   d. parenchyma

4. Intestine absorb the digested food materials. What type of epithelial cells are responsible for that? **(1)**

   a. Spindle fibres

b. Stratified squamous epithelium
c. Columnar epithelium
d. Cuboidal epithelium

5. You are viewing a prepared slide of striated muscle fibres from cockroach leg. When you focus the microscope, the striations appear pale and indistinct. To make the stations clearly visible, you would: **(1)**

a. remove the mirror to cut out light
b. change the eyepiece to increase magnification
c. replace the objective to decrease magnification
d. slowly close the diaphragm to reduce the light

6. What are the two types of striated muscle fibres? **(1)**

7. Classify epithelial tissues on the basis of arrangement of layers. **(1)**

8. Which tissue protects the entire body? **(1)**

9. Whom do we call "islands in the sea of death"? **(1)**

10. Which tissue forms a barrier to keep different body systems separate? **(1)**

11. Differentiate between parenchyma, collenchyma and sclerenchyma on the basis of their cell wall. **(3)**

12. What happens to the cells formed by meristematic tissue? **(3)**

13. Mention the functions of nervous tissue. **(3)**

14. Define tissue. What is the utility of tissues in multicellular organisms? **(3)**

15. Describe the types of connective tissues along with their functions. **(5)**

CBSE Test Paper 02

Chapter 06 Tissues

Answers

1. c. 1-A, 2-C, 3-B, 4-

2. b. epithelial tissue

   Explanation: A gland is a group of cells. Epithelial tissues are thin tissues that cover all the exposed surfaces of the body. They form the external skin, the inner lining of the mouth, digestive tract, secretory glands, the lining of hollow parts of every organ such as the heart, lungs, eyes, ears, the urogenital tract, as well as the ventricular system of the brain and central canals of the spinal cord.

3. a. sclerenchyma

   Explanation: Sclerenchyma Cells are long, thick-walled and lignified with tapering ends. These are fibre like in appearance and also known as sclerenchymatous fibre. These are dead cells and perform mechanical function.

4. c. Columnar epithelium

   Explanation: Columnar epithelium consist of pillar-like cells with their nuclei towards the base. They form the lining of stomach, small intestine and colon, forming the mucous membrane. Their main function is absorption (e.g., stomach, intestine) and secretion (e.g., mucous by goblet cells).Stratified squamous epithelium, also known as pavement epithelium is covered by fibrous protein, (keratin) that covers the skin. This epithelium is waterproof and resistant to mechanical injury. Cuboidal epithelium is found in kidney tubules, thyroid vesicles and in glands.

5. d. slowly close the diaphragm to reduce the light

   Explanation: To make the stations clearly visible slowly close the diaphragm to reduce the light. Reduction of light gives a better contrast.

6. Skeletal and cardiac muscles are two types of striated muscle fibres.

7. Epithelial tissue is classified into two types, on the basis of arrangement of layers- simple and stratified epithelium.

8. Epithelial tissue protects the entire body. Epithelial tissue forms a lining all over the body of the organism. It protects the inner lying parts. It is also secretory in function to secrete sebum and excrete wastes along with sweat. Sometimes it is absorptive in nature.Epithelial tissues act like a barrier to keep the different body systems separate.

9. Present day living beings which are survivor descendants of a large number of extinct life forms.

10. Epithelial tissue (covering or protective tissue) covers most organs and cavities within the body. It forms a barrier to separate different organ systems.

11.

Parenchyma	**Collenchyma**	**Sclerenchyma**
The cell wall is thin and made up of cellulose.	The cell wall is irregularly thickened at the corners due to deposition of **pectin**.	The cell wall is very thick due to deposition of an impermeable substance called **lignin** (a chemical substance which acts as cement and hardens them).

12. Cells of meristematic tissue differentiate to form different types of permanent tissue. The cells formed by meristematic tissue lose their ability to divide and take up a specific role. As a result, they form permanent tissue. This process of taking up a permanent shape, size and function is called differentiation.

13. Functions of nervous tissues are as follows:–
    a) They conduct nerve impulses from one part of the body to other. Nerve impulses allow us to move our muscles when we want to.
    b) Nerve impulses receive stimuli from the outside environment and send the messages very rapidly to the brain and the spinal cord.

14. Tissue – A group of similar cells performing a similar function is called a tissue. Utility of tissue in multicellular organisms – In living organisms, cells are grouped together to perform specific functions. There is a division of labour in multi-cellular organisms i.e. different parts of the body of a multi-cellular organism perform specific functions. All these different functions would not be possible without the formation of tissues in multi-cellular organisms. For example: The brain controls all other parts of

the body; the heart pumps blood to all parts of the body; the kidneys remove waste materials from the body; the sense organs collect information from external sources for sensory perception; muscle cells in our body form the muscle tissues that bring about body movements (specific function).

15. There are five types of connective tissues:-

(i) **Areolar connective tissue:** It is a loose and cellular connective tissue. It joins skin to muscles, fills spaces inside organs, and is found around muscles, blood vessels, nerve and in the bone marrow.

Functions:

1. (a) It acts as a supporting and packing tissue between organs lying in the body cavity.
   (b) It helps in repair of tissues after an injury.
   (c) It also helps in combating foreign toxins.
   (d) It fixes skin to underlying muscles.

(ii) Dense regular connective tissue: It is a fibrous connective tissue. It is characterised by ordered and densely packed collection of fibres and cells. Dense regular connective tissue is the principal component of tendons and ligaments.

Functions:

a. Tendons: Tendons are cord-like, strong, inelastic structures that join skeletal muscles to bones.
b. Ligament: They are an elastic structure which connects bones to bones.

(iii) **Adipose tissue:** Adipose tissue is an aggregation of fat globules. The cells that primarily compose adipose tissue are called adipocytes or lipocytes or fat cells. The adipose tissue is abundant below the skin, between the internal organs and in the yellow bone marrow.

Functions:

a. It serves as a reservoir of fat.
b. It provides shape to the limbs and the body.
c. It keeps visceral organs in position. It forms shock-absorbing cushions around kidneys and eyeballs.
d. It acts as an insulator and reduces heat loss from body, i.e. it regulates body temperature.

(iv) **Skeletal tissue:** The skeletal or supporting tissue includes bone and cartilage

which form the endoskeleton of vertebrate body.

a. Cartilage: The cartilage is a specialised connective tissue which is compact and less vascular. Cartilage can be found in ear, nose tip, epiglottis, inter-vertebral discs, end of long bones, lower ends of ribs and rings of trachea. There are three varieties of cartilage - hyaline, elastic, and fibro-cartilage. The most abundant type is hyaline, found as supportive tissues in the nose, ears, trachea, larynx, and smaller respiratory tubes.
b. Bone: Bone is very strong and non-flexible tissue. Bone cells are embedded in a hard matrix. Like cartilage, bone is a specialised connective tissue.

Functions:

a. Cartilage provides support and flexibility to body parts such as ears and nose. It smoothens bone surfaces at the joints.
b. Bone provides shape and skeletal support to body.
c. Bone supports and protects vital body organs such as brain, lungs, etc.
d. Bone anchors the muscles.

(v) **Fluid connective tissue:** Fluid connective tissue links the different parts of the body and maintains continuity in the body. It includes blood and lymph.

a. Blood: In this tissue, cells move in a fluid or liquid matrix or medium called plasma. Blood flows in blood vessels called arteries, veins, and capillaries which are connected together to form the circulatory system. Blood contains red blood cells (RBCs), white blood cells (WBCs) and platelets suspended in the plasma.
b. Lymph: Lymph is a colourless fluid that has filtered out of the blood capillaries.

Functions:

a. Blood flows and transports gases, nutrients, hormones and vitamins to the tissues, and transports waste products from the tissues to the liver and the kidney.
b. Lymph transports the nutrients (oxygen, glucose) that may have filtered out of the blood capillaries back into the heart to be re-circulated in the body.
c. Lymph brings CO_2 and nitrogenous wastes from tissues to the blood.