CBSE

TISSUES WS 3

Class 09 - Science

Section A

1. Match the following with the correct response**:** **[1]**

(a) Skin	(i) Connective tissue
(b) Bone	(ii) Permanent tissue
(c) Bark of tree	(iii) Parenchyma
(d) Vascular bundle	(iv) Epithelial tissue

a) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)
b) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)
c) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)
d) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)

2. Contractile proteins are present in _____ tissue. **[1]**

a) areolar
b) adipose
c) nervous
d) muscular

3. Given below are four operations for preparing a temporary mount of human cheek cells: **[1]**

i. Taking the scrap from inner side of the cheek and spreading it on a clean slide
ii. Putting a drop glycerine on the material
iii. Adding two or three drops of methylene blue
iv. Rinsing the mouth with fresh water and disinfectant solution

The correct sequence of these operations is:

a) (i) - (ii) - (iii) - (iv)
b) (iv) - (i) - (iii) - (ii)
c) (i) - (iii) - (ii) - (iv)
d) (iv) - (i) - (ii) - (iii)

4. **Statement A:** Collagen occurs in yellow elastic fibre. **[1]**
Statement B: Sclereids form a gritty part of ripe fruits.
Which of the two statements is/are true?

a) Statement A
b) Neither A nor B
c) Statement B
d) Statement A and B

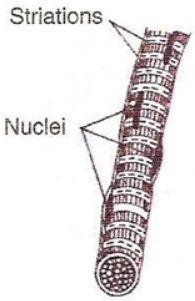
5. Choose the wrong statement: **[1]**

A. The nature of the matrix differs according to the function of the tissue
B. Fats are stored below the skin and in between the internal organs
C. Epithelial tissues have intercellular spaces between them
D. Cells of striated muscles are multinucleate and unbranched

a) (B)
b) (A)

c) (D) d) (C)

6. The image shows a muscular tissue found attached to the bones and help in the body movements. Identify. **[1]**



a) Striated Muscles b) Tendons

c) Cardiac muscles d) Non-striated muscles

7. Gita prepared a temporary mount of human cheek cells. She first observed under low power and the under high power of the microscope. Under high power, she must have observed: **[1]**

a) more cells in darker field of view b) fewer cells in darker field of view

c) more cells in brighter field of view d) fewer cells in brighter field of view

8. Aditi observed following observations while looking into a permanent slide: **[1]**

- Cells are long and cylindrical
- Light and dark bands are present giving striated appearance It could be:

a) slide of smooth muscle fibre b) slide of striated muscle fibre

c) slide of parenchyma cells d) slide of neuron

Section B

9. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) Neuron	(i) Non-flexible tissue
(b) Cardiac muscles	(ii) Dendrites
(c) Adipose connective tissue	(iii) Faint striations
(d) Bone	(iv) Adipocytes

10. Match the following Column A with Column B: **[2]**

Column A	Column B
(a) WBCs	(i) Smoothens bone surfaces at joints
(b) Areolar connective tissue	(ii) Destroys foreign bodies
(c) Cartilage	(iii) Provides limited flexibility
(d) Tendons	(iv) Supports internal organs

11. What is a neuron? Write the structure and functions of a neuron. **[2]**

12. Give three features of cardiac muscles. **[2]**

13. Differentiate between voluntary and involuntary muscles. Give one example of each. **[2]**

14. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/location in **[2]**

the body.

15. Mention the characteristic features of connective tissues. **[2]**

16. Draw a well-labelled diagram of neuron. **[2]**

17. What will happen if (a) Bone is dipped in HCl (b) Bone is dried? **[2]**

18. Name the following:- **[2]**

    a. Tissue that stores fats in our body

    b. Tissue present in the brain

    c. Connective tissue with fluid matrix

    d. Tissue that connects muscles to bones in humans

19. Diagrammatically show the difference between the three types of muscle fibres. **[2]**

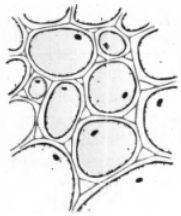
20. Draw a labelled diagram of the neuron. **[2]**

21. Animals of colder regions and fishes of cold water have a thicker layer of subcutaneous fat. Describe why? **[2]**

22. i. A plant tissue is observed under a microscope, as shown in the figure below. Identify the tissue. **[2]**

    ii. State the characteristic features of these cells.

    iii. Name any two parts of the plant, where such cells are present.



23. If you are provided with three slides, each containing one type of muscle fibre, how will you identify them. **[2]**

24. How are glandular epithelium formed? **[2]**

25. What will happen if **[2]**

    (a) Ligament gets overstretched ?

    (b) Heparin is absent in blood ?

    (c) Striated muscles contract rapidly for longer duration ?

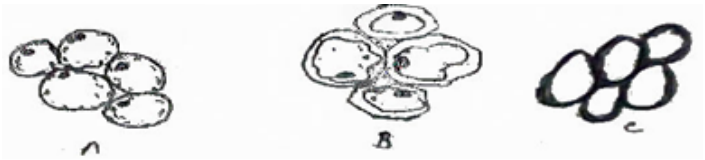
26. What are involuntary muscles? Where are they found? **[2]**

27. Write a short note on epithelial tissue. **[2]**

28. A person met with an accident in which two long bones of the hand were dislocated. What could be the reason? **[2]**

29. Describe the function of bones. **[2]**

30. Identify the following tissues and mention their functions:- **[2]**



31. How do cardiac muscles differ from both voluntary and involuntary muscles in both structure and function? **[2]**

32. How are messages conveyed from one place to another within the body? **[2]**

33. Draw a labelled diagram of a neuron. **[2]**

34. Describe the functions of epithelium tissue. **[2]**

35. Discuss the cell arrangement which supports the fact that epidermis is a protective tissue. **[2]**

36. (a) What is the lining of blood vessels made up of? **[2]**

    (b) What is the lining of small intestine made up of?

(c) What is the lining of kidney tubules made up of?

(d) Where are the epithelial cells with cilia found?

37. Mention two differences between blood platelets? **[2]**

38. Write a short note on blood. **[2]**

39. Explain why animals of colder regions and fishes of cold water have thick layer of subcutaneous fat. **[2]**

40. What are the functions of areolar tissue? **[2]**

Section C

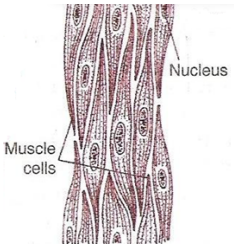
41. Observe the given below image of the tissue and answer the following questions: **[3]**

i. Identify the type of tissue shown in the given image.

ii. Where is it found?

iii. Why this tissue acts as an insulator?

42. Observe the following diagram and answer the following questions: **[3]**



i. Identify the type of tissue mentioned in the given figure.

ii. Write any two characteristics of the type of tissue mentioned in the given figure.

iii. Where is the given tissue found in our body? What is the nature of the given tissue mentioned in the diagram?

Section D

Question No. 43 to 46 are based on the given text. Read the text carefully and answer the questions: **[4]**

Animal tissue has various types of epithelial tissue, connective tissue, muscular tissue, and nervous tissue and of tissue one of them is the connective tissue which consists of blood, bone, cartilage. Blood is the fluid matrix called plasma in which red blood cells, white blood cells, and platelet are suspended while bone form the framework that supports the body it also anchors the muscle and supports the main organ of the body. Two bones are connected by a ligament. cartilage is a solid matrix composed of sugar and protein.

43. Name the tissue which connects muscle to a bone.

44. Matrix of bone cells are composed of

45. Two bones are connected by ligament how muscle connects to the bone?

46. Where the cartilage is found in the human body?

Question No. 47 to 50 are based on the given text. Read the text carefully and answer the questions: **[4]**

The animal body are covered by epithelial tissue. The epithelial tissue cover most of the organ and cavity with in the body. It also form barrier to keep different body systems separate. The skin, the lining of the mouth, lining of the blood vessels, lung alveoli and kidney tubules are all made of epithelial tissue. The oesophagus and lining of mouth are covered with squamous epithelium. Skin help in protecting the body. The columnar cell have hair-like projection called cilia. Cuboidal epithelium form lining of the kidney tubules and duct of salivary gland.

47. What type of cell are present where absorption and secretion occur?

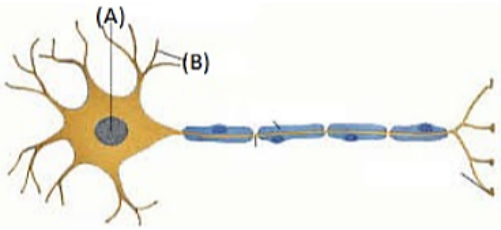
48. Skin helps in the protection of body explain?

49. How cilia clear mucus?

50. What is glandular epithelium?

Question No. 51 to 54 are based on the given text. Read the text carefully and answer the questions: **[4]**

Given below is the diagram of the human nerve cell.



51. Label the part (A) and (B).

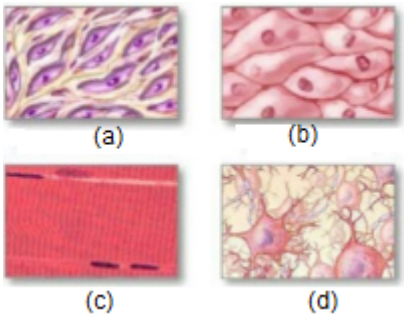
52. What is the function of nervous tissue?

53. Mention all part of the human body composed of nervous tissue.

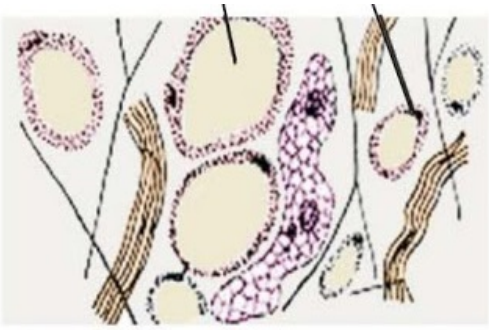
54. What enables the animal to move rapidly in response to stimuli?

Question No. 55 to 58 are based on the given text. Read the text carefully and answer the questions: **[4]**

Animal tissues are of many types such as epithelial tissue, connective tissue, muscular tissue and nervous tissue. Blood is a type of connective tissue, and muscle forms muscular tissue. The nature of the matrix differs in concordance with the function of the particular connective tissue. Blood has a fluid (liquid) matrix called plasma, in which red blood corpuscles, white blood corpuscles and platelets are suspended. Blood flows and transports gases, digested food, hormones and waste materials to different parts of the body. Bone is another example of connective tissue. It forms the framework that supports the body. It also anchors the muscles and supports the main organs of the body. Another type of connective tissue, cartilage, has widely spaced cells.



55. Identify the following tissue.



56. Are the cells of connective tissues loosely spaced?

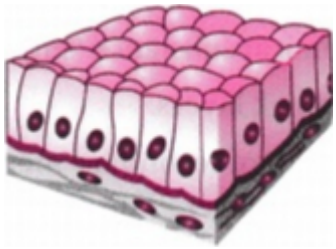
57. What are the components of the matrix of bone?

58. Where is cartilage found in the human body?

Question No. 59 to 62 are based on the given text. Read the text carefully and answer the questions: **[4]**

The covering or protective tissues in the animal body are epithelial tissues. Epithelium covers most organs and cavities within the body. It also forms a barrier to keep different body systems separate. Epithelial tissue cells are tightly packed and form a continuous sheet. The skin, which protects the body, is also made of squamous epithelium. Skin epithelial cells are arranged in many layers to prevent wear and tear. This columnar epithelium facilitates movement across the epithelial barrier. In the respiratory tract, the columnar epithelial tissue also has cilia, which are hair-like projections on the outer surfaces of epithelial cells. Cuboidal epithelium forms the lining of kidney tubules.

59. Identify the type of epithelial tissue shown in the following figure.



60. Which cell is present in the inner lining of the intestine?

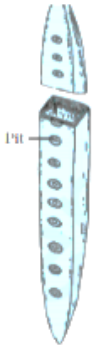
61. Is excretion is the main function of the cuboidal epithelium?

62. Sometimes a portion of the epithelial tissue folds inward, and a multicellular gland is formed which is called a?

63. **Read the passage and answer any four questions:** **[4]**

The process of taking up a permanent shape, size, and a function is called differentiation. Differentiation leads to the development of various types of permanent tissues. A few layers of cells beneath the epidermis are generally simple permanent tissue. another type of permanent tissue is complex tissue. Complex tissues are made of more than one type of cells. All these cells coordinate to perform a common function. Xylem and phloem are examples of such complex tissues. Xylem consists of tracheids, vessels, xylem parenchyma and xylem fibres. Phloem is made up of five types of cells: sieve cells, sieve tubes, companion cells, phloem fibres and the phloem parenchyma.

i. Identify the type of cell in the given figure



a. Tracheids
b. Companion cells
c. Sieve tubes
d. Vessels

ii. In desert plants, the rate of water loss gets reduced due to the

a. cuticle
b. stomata
c. lignin
d. suberin

iii. Long tree has several branches. The tissue that helps in the sideways conduction of water in the branches is

a. collenchyma
b. xylem parenchyma
c. parenchyma
d. xylem vessels

iv. The dead element present in the phloem is

a. companion cells
b. phloem fibres
c. phloem parenchyma
d. sieve tubes

v. Which of the following statement is not related to the cardiac muscle?

I. they show rhythmic contraction and relaxation throughout life.
II. they do not work according to our will, so they are called involuntary muscle.
III. they are non-straited, multinucleated and branched muscles.
IV. the contraction and relaxation of the heart muscle helps to pump and distribute blood to different parts of the body

a. (I) and (II)
b. (II) and (III)
c. Only (IV)
d. Only (III)

64. **Read the passage and answer any four questions:** **[4]**

The covering or protective tissues in the animal body are epithelial tissues. Epithelium covers most organs and cavities within the body. It also forms a barrier to keep different body systems separate. Epithelial tissue cells are tightly packed and form a continuous sheet. The skin, which protects the body, is also made of squamous epithelium. Skin epithelial cells are arranged in many layers to prevent wear and tear. This columnar epithelium facilitates movement across the epithelial barrier. In the respiratory tract, the columnar epithelial tissue also has cilia, which are hair-like projections on the outer surfaces of epithelial cells. Cuboidal epithelium forms the lining of kidney tubules.

i. While doing work and running, organs like hands, legs etc. move due to

I. Smooth muscles contract and pull the ligament to move the bones.
II. Smooth muscles contract and pull the tendons to move the bones.
III. Skeletal muscles contract and pull the ligament to move the bones.
IV. Skeletal muscles contract and pull the tendon to move the bones.

Choose the correct option from the following

a. (I) and (II)
b. (II) and (III)
c. (III) and (IV)
d. Only (II)

ii. Identify the type of epithelial tissue shown in the following figure.

a. Squamous

b. Columnar

c. Cuboidal

d. Glandular

iii. Which cell is present in the inner lining of the intestine?

a. cuboidal epithelial

b. columnar epithelial

c. squamous epithelium

d. none of these

iv. The function of the cuboidal epithelium is:

a. provide mechanical support

b. excretion

c. absorption

d. all of these

v. Sometimes a portion of the epithelial tissue folds inward, and a multicellular gland is formed which is called:

a. squamous epithelium

b. glandular epithelium

c. cuboidal epithelium

d. columnar epithelial

Section E

65. i. What will happen if cells are not properly organised in tissue? **[5]**

ii. Under certain circumstances squamous epithelium is known as stratified squamous epithelium. Justify.

66. Diagrammatically show the difference amongst three types of muscle fibres. **[5]**

67. Draw well-labeled diagrams of various types of muscles found in the human body. **[5]**

68. Briefly describe striated and smooth muscles with their functions. **[5]**

69. Differentiate between various types of muscular tissues. Draw appropriate diagrams. **[5]**

70. Describe the types of connective tissues along with their functions. **[5]**

71. i. Describe adipose tissue with the help of diagram. **[5]**

ii. How is adipose tissue different from blood tissue?

72. Differentiate between bone and cartilage with respect to structure, function and location. **[5]**

73. We can control some of the actions of our body, but some are not in our control. Comment on this statement. **[5]**

74. Describe the structure and function of different types of epithelial tissues. Draw the diagram for each type of epithelial tissue. **[5]**