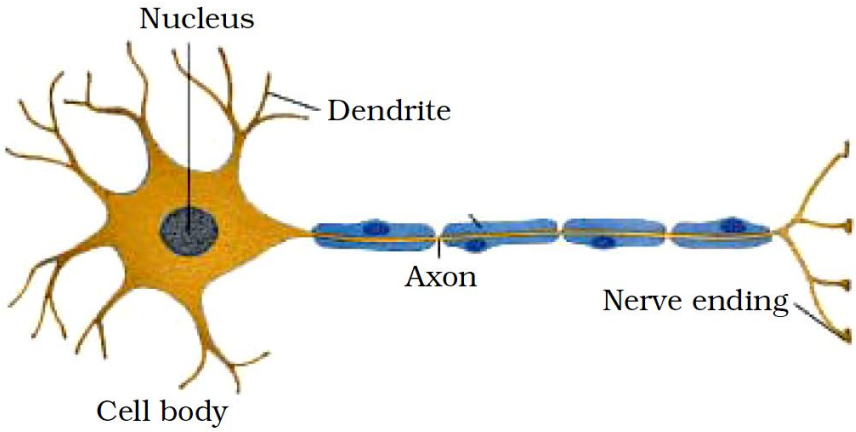
NERVOUS TISSUE

All cells possess the ability to respond to stimuli. However, cells of the nervous tissue are highly specialised for being stimulated and then transmitting the stimulus very rapidly from one place to another within the body. The brain, spinal cord and nerves are all composed of the nervous tissue. The cells of this tissue are called nerve cells or neurons.

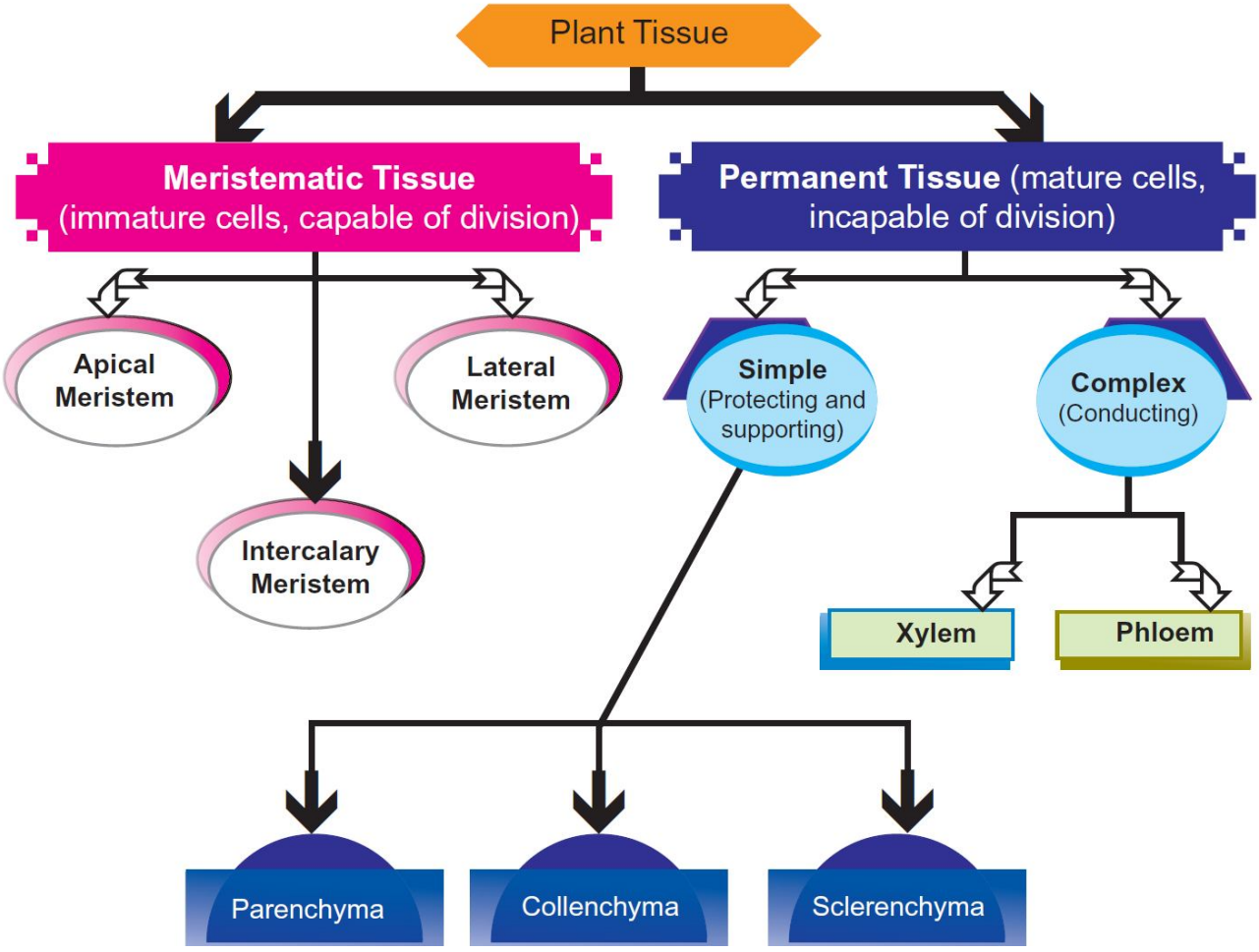
A neuron consists of a cell body with a nucleus and cytoplasm, from which long thin hair-like parts arise.



Usually each neuron has a single long part, called the axon, and many short, branched parts called dendrites. An individual nerve cell may be up to a metre long. Many nerve fibres bound together by connective tissue make up a nerve.

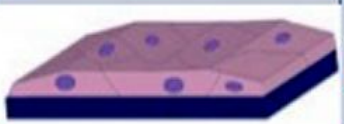
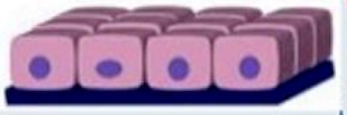
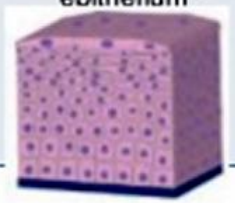
SUMMARY

CLASSIFICATION OF PLANT TISSUE

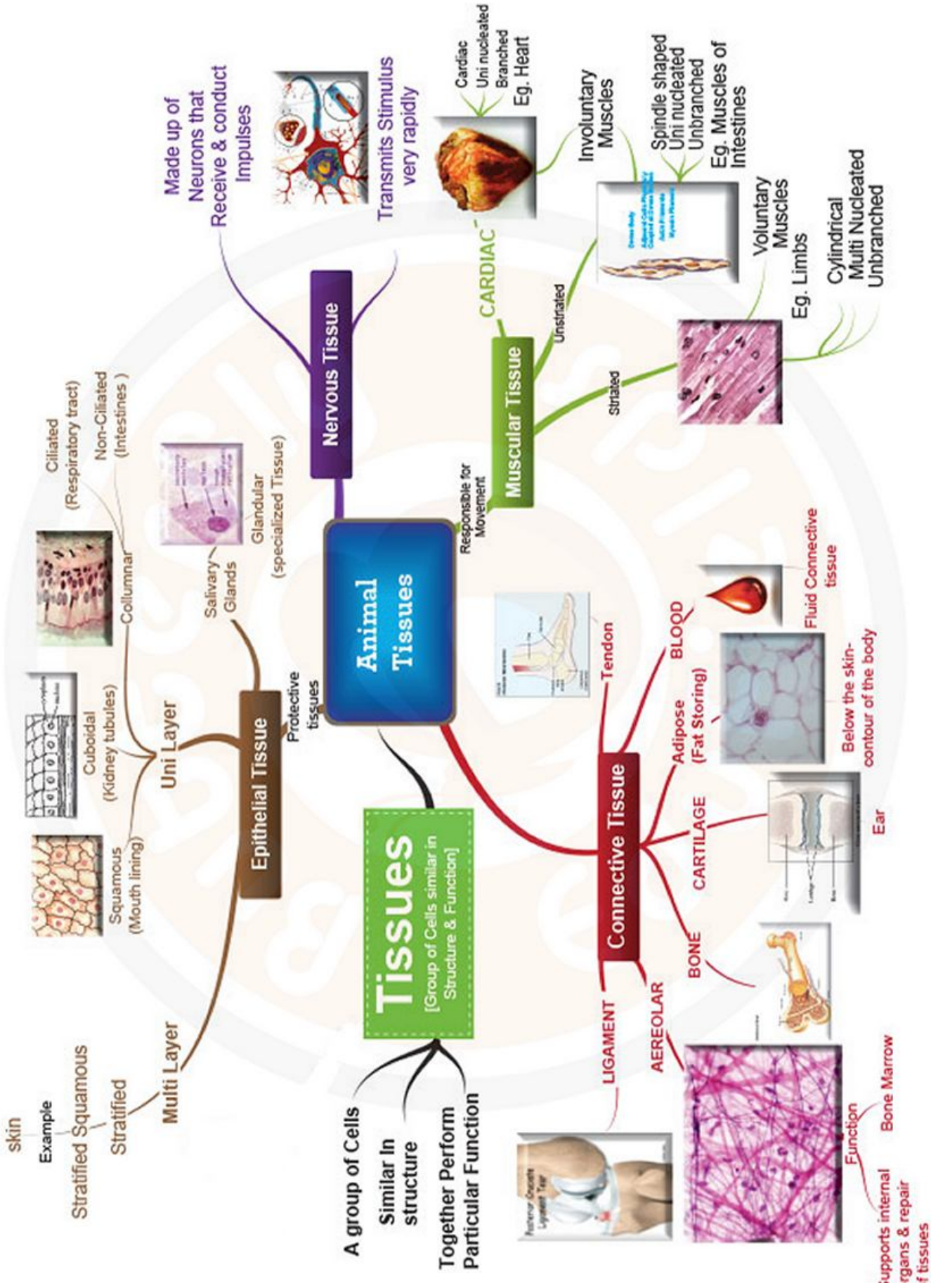


TYPES OF EPITHELIAL TISSUE

Different epithelia show different structures as they perform different functions

Type of Epithelium	Structure	Location in the body	Function
Squamous epithelium 	Cells are thin, flat, irregular cells which fit like floor tiles to form delicate lining called **PAVEMENT EPITHILIUM** **Nuclei in centre**	Oesophagus,lining of mouth, alveoli of the lungs, blood vessels	Protects the underlying tissue from injury,grems Exchange of gases in lungs and materials between cells and blood
Cuboidal epithelium 	Cells are cuboidal with round nucleus in centre **Nuclei in centre**	Kidney tubules, duct of salivary glands	Gives mechanical support At times the epithelial tissue folds,forms a gland that secretes substances. Such epithilium is called **GLANDULAR EPITHILIUM**
Columnar epithelium 	Cells are more tall and less wide (**PILLAR LIKE**), placed side by side. Nucleus is situated near the base. **Nuclei near base**	Inner lining of intestine, In respiratory tract,cells have cilia (hair like) that move and push the mucous to clear it.Such epithilium is called **CILIATED COLUMNAR EPITHILIUM**	Helps in absorption excretion and secretion
Striated squamous epithelium 	Squamous flat cells arranged in many layers to prevent wear and tear of parts.	Skin (to prevent wear and tear) tongue, oesophagus lining of mouth.	Protection, prevent wear and tear

CLASSIFICATION OF ANIMAL TISSUE



INTEXT QUESTIONS PAGE NO. 74

Q1. Name types of simple tissues.
Answer: The three main types of simple tissues are: (i) Parenchyma (ii) Collenchyma (iii) Sclerenchyma

Q2. Where is apical meristem found?
Answer: Apical meristem is present in growing tips of stems and roots of plants. It helps in increasing the length of the stem and the root.

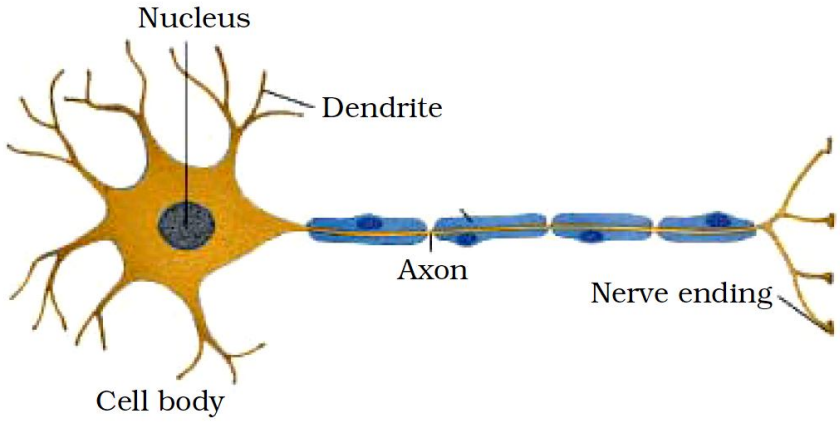
Q3. Which tissue makes up the husk of coconut?
Answer: The husk of coconut is made up of sclerenchymatous tissue.

Q4. What are the constituents of phloem?
Answer: The constituents of phloem tissue are:
(i) Sieve tubes (tubular living cells with perforated end walls)
(ii) Companion cell (living cells)
(iii) Phloem parenchyma (living cells)
(iv) Phloem fibres (non-living and sclerenchyma cells)

INTEXT QUESTIONS PAGE NO. 78

Q1. Name the tissue responsible for movement in our body.
Answer: The movement of our body depends on muscular tissue. It consists of elongated cells (muscle fibres).

Q2. What does a neuron look like?
Answer: A neuron consists of a cell body witha nucleus and cytoplasm. It has two important extensions known as the axon and dendrites. An axon is a long thread-like extension of nerve cells that transmits impulses away from the cell body. Dendrites, on the other hand, are thread-like extensions of cell body that receive nerve impulses. Thus, the axon transmits impulses away from the cell body, whereas the dendrite receives nerve impulses. This coordinated function helps in transmitting impulses very quickly.



Q3. Give three features of cardiac muscles.
Answer: Three features of cardiac muscles are:
(i) Cardiac muscles are involuntary muscles that contract rapidly, but do not get fatigued.
(ii) The cells of cardiac muscles are cylindrical, branched, and uninucleate.
(iii) They control the contraction and relaxation of the heart.

Q4. What are the functions of areolar tissue?
Answer: Functions of areolar tissue:
(i) It helps in supporting internal organs.
(ii) It helps in repairing the tissues of the skin and muscles.

EXERCISE QUESTIONS PAGE NO. 66 and 67

Q1. Define the term "tissue".
Answer: A group of cells that are similar in structure and/or work together to achieve a particular function is called tissue.

Q2. How many types of elements together make up the xylem tissue? Name them.
Answer: The following four types of elements make up xylem tissue:
(i) Xylem tracheids (tubular unicellular).
(ii) Xylem vessels (multicellular).
(iii) Xylem parenchyma (stores food and helps in sideways conduction of water).
(iv) Xylem fibres (provide mechanical support).

Q3. How are simple tissues different from complex tissues in plants?
Answer:

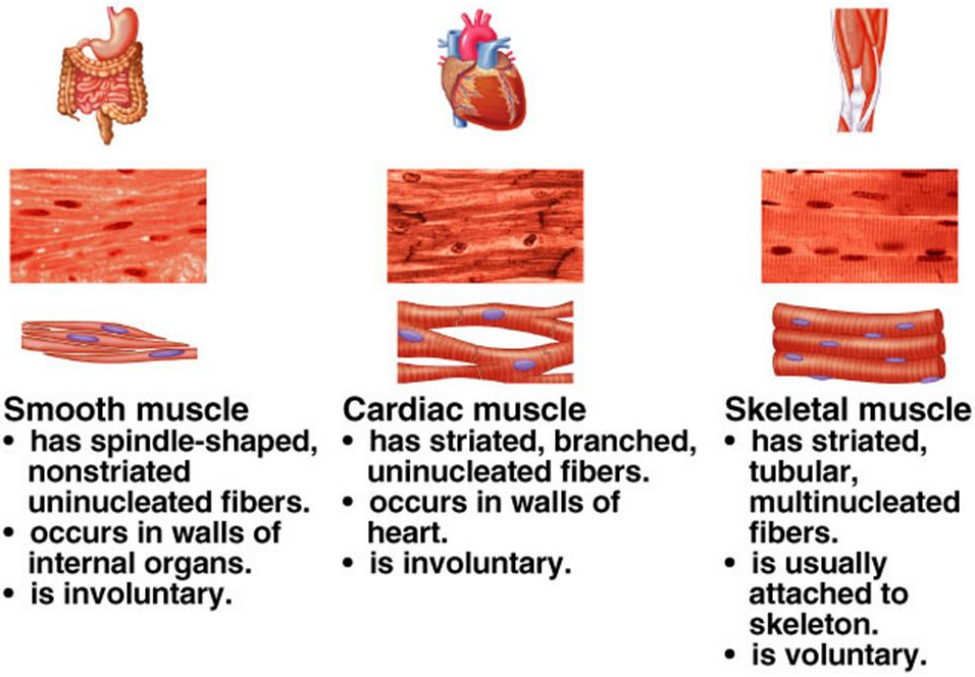
Simple tissue	Complex tissue
These tissues consist of only one type of cells.	These tissues are made up of more than one type of cells.
The cells are more or less similar in structure and perform similar functions.	Different types of cells perform different functions. For example, in the xylem tissue, tracheids help in water transport, whereas parenchyma stores food.
Three types of simple tissues in plants are parenchyma, collenchyma, and sclerenchyma.	Two types of complex permanent tissues in plants are xylem and phloem.

Q4. Differentiate between parenchyma, collenchyma and sclerenchyma on the basis of their cell wall.
Answer:

Parenchyma	Collenchyma	Sclerenchyma
Cell walls are relatively thin, and the cells in parenchyma tissues are loosely packed.	The cell wall is irregularly thickened at the corners, and there is very little space between the cells.	The cell walls are uniformly thickened, and there are no intercellular spaces.
The cell wall in this tissue is made up of cellulose.	Pectin and hemicellulose are the major constituents of the cell wall.	An additional layer of the cell wall composed mainly of lignin is found.

Q5. What are the functions of the stomata?
Answer: Functions of the stomata:
(i) They allow the exchange of gases (CO_2 and O_2) with the atmosphere.
(ii) Evaporation of water from the leaf surface occurs through the stomata. Thus, the stomata help in the process of transpiration.

Q6. Diagrammatically show the difference between the three types of muscle fibres.
Answer:
The three types of muscle fibres are:
Striated muscles, smooth muscles (unstriated muscle fibre), and cardiac muscles.



Q7. What is the specific function of the cardiac muscle?

Answer: The specific function of the cardiac muscle is to control the contraction and relaxation of the heart.

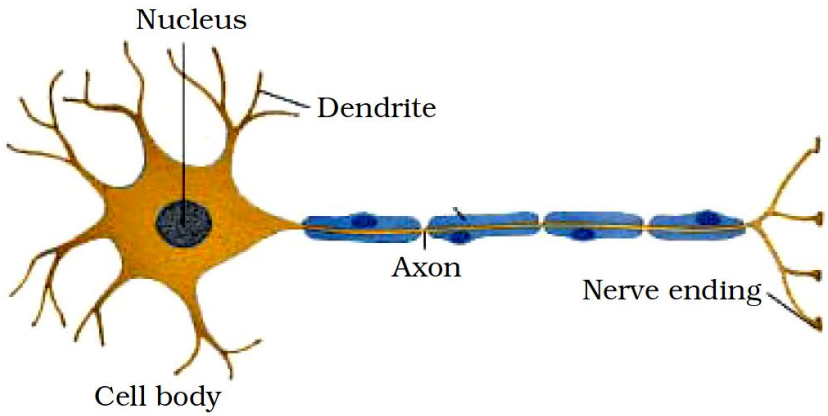
Q8. Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/location in the body.

Answer:

Striated muscle	Unstriated muscle	Cardiac muscle
On the basis of structure:		
Cells are cylindrical	Cells are long	Cells are cylindrical
Cells are not branched	Cells are not branched	Cells are branched
Cells are multinucleate	Cells are uninucleate	Cells are uninucleate
Alternate light and dark bands are present	There are no bands present	Faint bands are present
Its ends are blunt	Its ends are tapering	Its ends are flat and wavy
On the basis of location:		
These muscles are present in body parts such as hands, legs, tongue, etc.	These muscles control the movement of food in the alimentary canal, the contraction and relaxation of blood vessels, etc.	These muscles control the contraction and relaxation of the heart

Q9. Draw a labelled diagram of a neuron.

Answer:



Q10. Name the following.

(a) Tissue that forms the inner lining of our mouth.

(b) Tissue that connects muscle to bone in humans.

(c) Tissue that transports food in plants.

(d) Tissue that stores fat in our body.

(e) Connective tissue with a fluid matrix.

(f) Tissue present in the brain.

Answer:

(a) Tissue that forms the inner lining of our mouth → Epithelial tissue

(b) Tissue that connects muscle to bone in humans → Dense regular connective tissue (tendons)

(c) Tissue that transports food in plants → Phloem

(d) Tissue that stores fat in our body → Adipose tissue

(e) Connective tissue with a fluid matrix → Blood

(f) Tissue present in the brain → Nervous tissue

Q11. Identify the type of tissue in the following: skin, bark of tree, bone, lining of kidney tubule, vascular bundle.

Answer:

Skin: Stratified squamous epithelial tissue

Bark of tree: Simple permanent tissue

Bone: Connective tissue

Lining of kidney tubule: Cuboidal epithelial tissue

Vascular bundle: Complex permanent tissue

Q12. Name the regions in which parenchyma tissue is present.

Answer:

Leaves, fruits, and flowers are the regions where the parenchyma tissue is present.

Q13. What is the role of epidermis in plants?

Answer:

Epidermisis present on the outer surface of the entire plant body. The cells of the epidermal tissue form a continuous layer without any intercellular space. It performs the following important functions:

(i) It is a protective tissue of the plant body

(ii) It protects the plant against mechanical injury

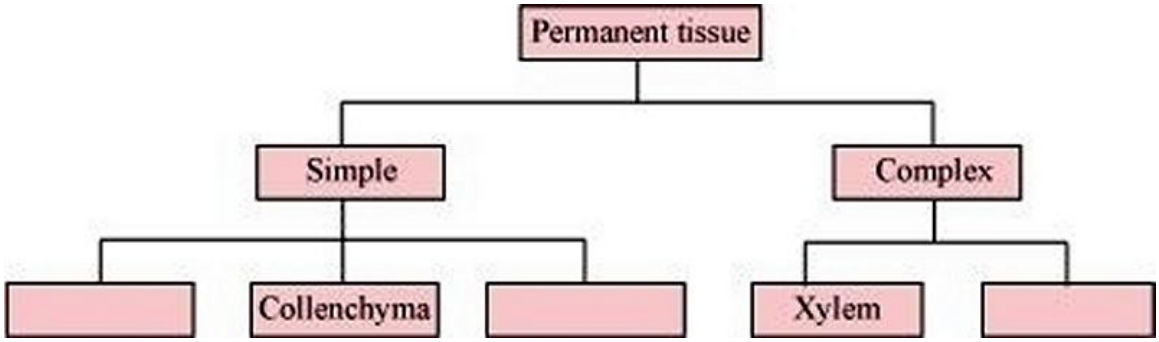
(iii) It allows exchange of gases through the stomata

Q14. How does the cork act as a protective tissue?

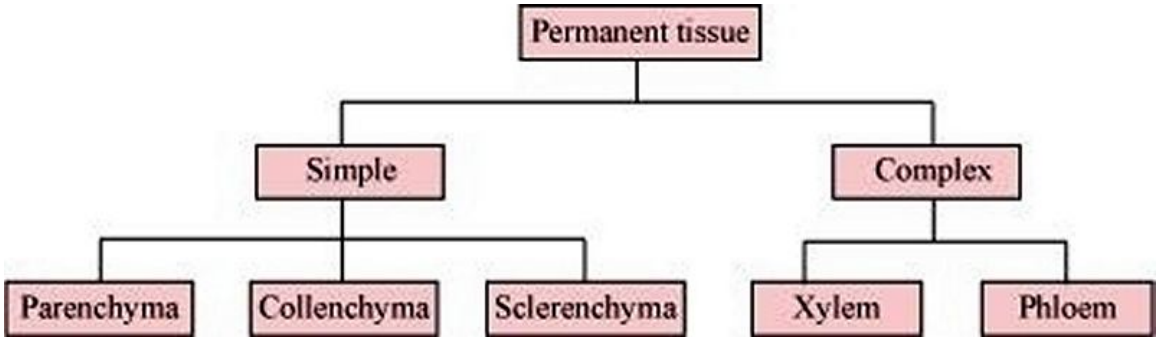
Answer:

The outer protective layer or bark of a tree is known as the cork. It is made up of dead cells. Therefore, it protects the plant against mechanical injury, temperature extremes, etc. It also prevents the loss of water by evaporation.

Q15. Complete the table:



Answer:



ASSIGNMENT QUESTIONS SET – 1
CHAPTER – 6
TISSUES

Fill in the blanks

1. _____ is the process by which unspecialised structures become modified and specialised for performing specific functions.

2. Differentiation results in _____ (division/ summation/integration) of labour.

3. The study of the structure of tissues and organs is known as _____ .

4. Based on ability to divide, plant tissues may be classified as _____ and _____ tissues.

5. Meristematic cells possess the power of cell _____ .

6. Permanent tissues are those which have lost the capacity to _____ .

7. (Parenchyma/ Collenchyma/ Sclerenchyma) _____ is a widely distributed, simple plant tissue.

8. (Parenchyma/ Collenchyma/ Sclerenchyma) _____ is a strong and flexible mechanical tissue.

9. _____ and _____ are the conducting tissues or vascular tissues, also called complex tissues.

10. The cell walls of _____ (Parenchyma/ Collenchyma/ Sclerenchyma) tissue are made up of cellulose hemicellulose and pectin

11. _____ is the parenchyma with large number of chloroplasts.

12. (Xylem/Phloem) _____ is popularly known as wood.

13. Xylem is composed of _____ ,_____ , _____ and _____ .

14. Tracheids are _____ (living/dead) cells _____ (with/without) protoplasts.

15. Protective tissues include _____ and _____ .

16. Epithelial cells have _____ (little/large) intercellular substances.

17. (Connective/Muscular/Epithelial) _____ tissue serve to 'connect' or 'bind' the cells of other tissues in the body and gives them rigidity and support.

18. (Tendon/Ligament/Cartilage) _____is made up of white fibres and connects muscles to bones.

19. Bone is surrounded by a connective tissue known as _____.

20. Striated muscles are _____ (voluntary/involuntary) while smooth muscles are _____(voluntary/involuntary).

21. Based on functions performed, list the types of animal tissues.

22. Which tissues are called covering or protective tissues?

23. Where do we find epithelial tissues on animal body?

24. What are the general identifying features of epithelial tissues?

25. Based on layer and shape of cells, how Epithelial tissues can be classified?

26. The surface of Simple squamous epithelium is _____. (choose the correct option)

(a) Permeable

(b) Selectively Permeable

(c) Impermeable

(d) All of the these

27. What is the shape of simple squamous tissue?

28. Where do you find simple squamous in an animal body?

29. What is the main function of simple squamous epithelium?

30. What is simple stratified epithelium? Where do we find these tissues?

31. What is main purpose of stratified epithelium?

32. What is the shape of cuboidal epithelium? Where do we find these tissues?

33. These are somewhat square or cuboid in shape. Cuboidal epithelium is found in kidney tubules, ducts of salivary glands etc.

34. What is the main function of cuboidal epithelium?

35. How will you identify Columnar epithelium? Where are these tissues located?

36. What is the main purpose of columnar epithelium?

37. What type of epithelium tissues are found in respiratory tract and in intestinal lining? How are these tissues different from each other?

38. Where do we find glandular columnar epithelia? What are their main role?

39. What is Haematology?

40. What is the common characteristic in different connective tissues?

41. Name different types of connective tissues?

42. What are the constituents of connective tissues?

43. List the type of intercellular matrix present in the following connective tissues.

(a) Blood

(b) Lymph

(c) Bone

(d) Cartilage

(e) Tendons

(f) Ligaments

(g) Areolar Tissue

(h) Adipose tissue

44. What are constituents of blood tissue?

45. What does plasma contain?

46. Name different types of white blood corpuscles.

47. List the functions of blood cells

48. Where blood is formed in our body?

49. Name the two fluid connective tissues.

50. Why type of inter cellular matrix is found in bone tissue? What are its constituents?

51. Identify the location of the following connective tissues.

(a) Blood

(b) Lymph

(c) Bone

(d) Cartilage

(e) Tendons

52. Which connective tissue connects two bones?

53. Which connective tissue connects bones to muscles?

54. Name the constituents of matrix found in cartilage.

55. Where do we find Areolar tissue? What are its functions?

56. Name the fat-storing tissues? Where are they located? How do these tissue help?

57. What are different types of muscle tissues? Also list which of these are voluntary or involuntary.

58. Why are striated muscles called skeletal muscles?

59. What are identification marks of striated muscles when seen under microscope?

60. Identify which type of muscles tissues are associated with the following body actions

(a) locomotion

(b) iris movement to control size of pupil

(c) peristaltic movements of the oesophagus

(d) heart beat

(e) movement of blood in blood vessels

61. How will you identify cardiac muscles cells under a microscope?

62. Which muscle tissues show characteristics of both striated and unstriated muscles?

63. Where do we find cardiac tissues? What are the functions of cardiac tissues?

64. Do all cells respond to stimuli or this ability is possessed by nerve cells only?

65. What is the unit of nervous tissues?

66. Where do we find nerve cells?

67. How long a nerve cell can be?

68. How are muscles tissues related to nerve cells?

69. Name the three distinct parts of a neuron.

70. What is myelin sheath? Where do we find it?

71. What happens in polio disease?

72. In plants which of the following have the capability of cell division?

(a) Parenchyma

(b) Scelerenchyma

(c) Xylem

(d) Apical Meristem

73. The growth is plants is

(a) limited to certain regions

(b) uniform in all parts

(c) limited to top region

(d) limited to roots only.

74. Intercalary meristems are found

(a) at internodes and base of leaves

(b) at growing tips of roots

(c) beneath the bark

(d) at the tips of stem

75. Cells of the tissue have dense cytoplasm, thin cellulose walls and prominent vacuoles. Identify the tissue.

(a) Collenchyma

(b) Scelerenchyma

(c) Meristem

(d) Parenchyma

76. Dead long and narrow cells in a plant belong to which tissue?

(a) Parenchyma

(b) Scelerenchyma

(c) Collenchyma

(d) Phloem

77. Bone is an example of _____

(a) Muscular tissues

(b) Connective tissues

(c) Epithelial tissues

(d) Nervous tissues

78. Which animal tissue are usually separated from the underlying tissue by an extracellular fibrous basement membrane?

(a) Muscular tissues

(b) Connective tissues

(c) Epithelial tissues

(d) Nervous tissues

79. Oesophagus and the lining of the mouth are also covered with which tissues?

(a) Squamous epithelium

(b) Ciliated epithelium

(c) Areolar connective

(d) Striated muscle tissues

80. Husk of a coconut is made of which tissues?

(a) Parenchyma tissue

(b) Sclerenchymatous tissue

(c) Collenchyma

(d) Xylem

ASSIGNMENT QUESTIONS SET – 2
CHAPTER – 6
TISSUES

1. The study of tissues is called ...

a) cytology

b) embryology

c) histology

d) pathology

2. Which of the following statement is NOT true?

(a) Most of the plant tissues are supportive type.

(b) Tissues ensure division of labour.

(c) Sedantry existence contribute to the organ system design in animals.

(d) Organ systems are far more complex in animals than in plants.

3. Many kinds of tissues organise to form a/an

(a) organ

(b) organ system

(c) body system

(d) organelle

4. Parenchyma is a type of ____

(a) simple tissue

(b) complex tissue

(c) xylem

(d) phloem

5. Which of the following is not a simple tissue?

(a) xylem

(b) parenchyma

(c) collenchyma

(d) sclerenchyma

6. The husk of the coconut is made up of?

(a) collenchyma

(b) sclerenchyma

(c) apical meristem

(d) intercalary meristem

7. The basic principle based on which categorise plant tissues as meristematic and permanent is:

(a) capacity to do photosynthesis

(b) capacity to divide

(c) capacity to locomote

(d) complexity to perform a function.

8. Which type of tissue has lignified cell walls?

(a) Parenchyma

(b) Collenchyma

(c) Sclerenchyma

(d) cambium

9. Which tissue is responsible for the length of the plant?

(a) Apical meristem

(b) lateral meristem

(c) Intercalary meristem

(d) Epidermis

10. The girth of the stem or root increases due to ___

(a) Apical meristem

(b) Cambium

(c) Intercalary meristem

(d) Epidermis

11. Which meristem is present at the base of the leaves or internodes on twigs?

(a) Apical meristem

(b) Cambium

(c) Intercalary meristem

(d) Epidermis

12. Which of the following statements is incorrect?

(a) Some tissues in plants divide throughout the life

(b) Cell growth in animals is more uniform as compared to plants

(c) Animals have more dead tissues as compared to plants

(d) There is no demarcation of dividing and non-dividing regions in animals

13. What are the identifying features of meristematic tissues?

(a) thick cellulose wall, small vacuoles, dense cytoplasm, small nuclei

(b) thin cellulose wall, almost no vacuoles, dense cytoplasm, prominent nuclei

(c) thin cellulose wall,no vacuoles, sparse cytoplasm, prominent nuclei

(d) thick cellulose, large vacuoles, sparse cytoplasm, small nuclei

14. A permanent slide shows thin walled isodiametric cells with a large vacuole. The slide contains:

(a) Parenchyma cells

(b) Nerve cells

(c) Sclerenchyma cells

(d) Collenchyma cells

15. Aditi observed following observations while looking into a permanent slide.

(i) Cells are long and cylindrical

(ii) Light and dark bands are present.

It could be a slide of :

(a) striated muscle fibre

(b) smooth muscle fibre

(c) neuron

(d) parenchyma cells

16. The inner lining of blood vessels is made up of which tissues?

(a) Nervous tissue

(b) Epithelial tissue

(c) Connective tissue

(d) Muscle tissue

17. What is a tissue?

18. What is histology?

19. Explain the statement 'Tissues exhibit division of labour'. Give examples.

20. What is the utility of tissues in multi-cellular organisms?

21. Why do plants have more dead tissues as compared to animals?

22. Why do plant tissue require less amount of energy in comparison to animal tissues?

23. Why do animals tissues require more energy as compared to plant tissues?

24. Name types of simple tissues.

25. Where is apical meristem found?

26. Which tissue helps in increasing the length of stem and root?

27. Which tissues are responsible for the axial growth of plants?

28. Which tissue makes up the husk of coconut?

29. What are the constituents of phloem?

30. Name the tissue responsible for the movement in our body.

31. What does a neuron looks like?

32. Identify which of the following plant tissues are living or dead?

- Apical Meristem
- Parenchyma
- Aerenchyma
- Collenchyma
- Sclereids
- Tracheids
- Xylem Fibres
- Xylem Parenchyma
- Phloem fibre
- Phloem Parenchyma
- Vessel
- Sieve Tubes

33. Give three features of cardiac muscles.

34. What are the functions of areolar tissue?

35. List the characteristics of meristematic tissues.

36. Where do we find intercalary meristem?

37. Which tissues are responsible for the secondary growth of plants?

38. What do you mean by 'Differentiation' in plant tissues?

39. What is the shape of Parenchyma cells?

40. What is the structure and nature of Parenchyma tissue?

41. Where do you find Parenchyma cells in Plants?

42. What are the identifying features of collenchyma tissue?

43. Where do you find collenchyma tissues in plants?

44. Which tissue primarily attributes to easy bending of various parts of plants (like stem, leaves)?

45. Which plant tissues are often called as stone cells?

46. Deepa was shown two slides of plant tissues: parenchyma and sclerenchyma. She can identify sclerenchyma by the

(a) location of nucleus

(b) size of cells

(c) thickness of cell walls

(d) position of vacuoles

47. What is aerenchyma?

48. What is the primary surface tissue of the entire plant?

49. How does epidermis help xerophytes?

50. Which meristem replaces epidermis as the protective covering?

51. List the functions of epidermis.

52. Which tissue is known as living mechanical tissue?

53. Why the cell walls of collenchyma tissues are unevenly thickened?

54. Are Collenchyma tissues present in roots of the plants?

55. Usually Shrubs and herbs grow in open places and are exposed to forceful winds. But they do not break.Why?

56. Name the chemical released by cork cells?

57. How are complex tissues different from simple tissues?

58. Name two types of complex tissues.

59. Why are Xylem and Phloem are called vascular or conducting tissues?

60. Which plant tissue is considered to have played an important role in survival of terrestrial plants?

61. Why vascular tissue is considered a distinctive feature responsible for survival of plants in terrestrial plants?

62. Is xylem (or phloem) homogenous tissue or heterogeneous tissue?

63. List the cellular elements of xylem tissue?

64. What is the role of xylem tissue?

65. Name the cellular elements of Phloem tissue.

66. List functions of phloem tissue?

67. Which Phloem cellular element has tubular structure with perforated walls?

68. Why are Xylem and Phloem known as conducting tissues?

69. Why are Xylem and Phloem called as vascular tissues?

70. Why are Xylem and Phloem known as complex permanent tissues?

71. Why do meristematic cells lack vacoules?

72. Muscles contain special proteins called _____ that help in muscle movement.

(a) recptor proteins

(b) enzymes

(c) nucleo proteins (DNA, RNA)

(d) contractile proteins (actin and myosin)

ASSIGNMENT QUESTIONS SET – 3
CHAPTER – 6
TISSUES

1. Which of the following tissues has dead cells?

(a) Parenchyma

(b) Sclerenchyma

(c) Collenchyma

(d) Epithelial tissue

2. Find out incorrect sentence

(a) Parenchymatous tissues have intercellular spaces

(b) Collenchymatous tissues are irregularly thickened at corners

(c) Apical and intercalary meristems are permanent tissues

(d) Meristematic tissues, in its early stage, lack vacuoles

3. Girth of stem increases due to

(a) apical meristem

(b) lateral meristem

(c) intercalary meristem

(d) vertical meristem

4. Which cell does not have perforated cell wall?

(a) Tracheids

(b) Companion cells

(c) Sieve tubes

(d) Vessels

5. Intestine absorb the digested food materials. What type of epithelial cells are responsible for that?

(a) Stratified squamous epithelium

(b) Columnar epithelium

(c) Spindle fibres

(d) Cuboidal epithelium

6. A person met with an accident in which two long bones of hand were dislocated. Which among the following may be the possible reason?

(a) Tendon break

(b) Break of skeletal muscle

(c) Ligament break

(d) Areolar tissue break

7. While doing work and running, you move your organs like hands, legs etc. Which among the following is correct?

(a) Smooth muscles contract and pull the ligament to move the bones

(b) Smooth muscles contract and pull the tendons to move the bones

(c) Skeletal muscles contract and pull the ligament to move the bones

(d) Skeletal muscles contract and pull the tendon to move the bones

8. Which muscles act involuntarily?

(i) Striated muscles

(ii) Smooth muscles

(iii) Cardiac muscles

(iv) Skeletal muslces

(a) (i) and (ii)

(b) (ii) and (iii)

(c) (iii) and (iv)

(d) (i) and (iv)

9. Meristematic tissues in plants are

(a) localised and permanent

(b) not limited to certain regions

(c) localised and dividing cells

(d) growing in volume

10. Which is *not* a function of epidermis?

(a) Protection from adverse condition

(b) Gaseous exchange

(c) Conduction of water

(d) Transpiration

11. Select the incorrect sentence

(a) Blood has matrix containing proteins, salts and hormones

(b) Two bones are connected with ligament

(c) Tendons are non-fibrous tissue and fragile

(d) Cartilage is a form of connective tissue

12. Cartilage is not found in

(a) nose

(b) ear

(c) kidney

(d) larynx

13. Fats are stored in human body as

(a) cuboidal epithelium

(b) adipose tissue

(c) bones

(d) cartilage

14. Bone matrix is rich in

(a) fluoride and calcium

(b) calcium and phosphorus

(c) calcium and potassium

(d) phosphorus and potassium

15. Contractile proteins are found in

(a) bones

(b) blood

(c) muscles

(d) cartilage

16. Voluntary muscles are found in

(a) alimentary canal

(b) limbs

(c) iris of the eye

(d) bronchi of lungs

17. Nervous tissue is not found in

(a) brain

(b) spinal cord

(c) tendons

(d) nerves

18. Nerve cell does not contain

(a) axon

(b) nerve endings

(c) tendons

(d) dendrites

19. Which of the following helps in repair of tissue and fills up the space inside the organ?

(a) Tendon

(b) Adipose tissue

(c) Areolar

(d) Cartilage

20. The muscular tissue which function throughout the life continuously without fatigue is

(a) skeletal muscle

(b) cardiac muscle

(c) smooth muscle

(d) voluntary muscle

21. Which of the following cells is found in the cartilaginous tissue of the body?

(a) Mast cells

(b) Basophils

(c) Osteocytes

(d) Chondrocytes

22. The dead element present in the phloem is

(a) companion cells

(b) phloem fibres

(c) phloem parenchyma

(d) sieve tubes

23. Which of the following does not lose their nucleus at maturity?

(a) Companion cells

(b) Red blood cells

(c) Vessel

(d) Sieve tube cells

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

(a) cuticle

(b) stomata

(c) lignin

(d) suberin

25. A long tree has several branches. The tissue that helps in the side ways conduction of water in the branches is

(a) collenchyma

(b) xylem parenchyma

(c) parenchyma

(d) xylem vessels

26. If the tip of sugarcane plant is removed from the field, even then it keeps on growing in length. It is due to the presence of

(a) cambium

(b) apical meristem

(c) lateral meristem

(d) intercalary meristem

27. A nail is inserted in the trunk of a tree at a height of 1 metre from the ground level. After 3 years the nail will

(a) move downwards

(b) move upwards

(c) remain at the same position

(d) move sideways

28. Parenchyma cells are

(a) relatively unspecified and thin walled

(b) thick walled and specialised

(c) lignified

(c) none of these

29. Flexibility in plants is due to

(a) collenchyma

(b) sclerenchyma

(c) parenchyma

(d) chlorenchyma

30. Cork cells are made impervious to water and gases by the presence of

(a) cellulose

(b) lipids

(c) suberin

(d) lignin

31. Survival of plants in terrestrial environment has been made possible by the presence of

(a) intercalary meristem

(b) conducting tissue

(c) apical meristem

(d) parenchymatous tissue

32. Choose the wrong statement

(a) The nature of 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

33. Animals of colder regions and fishes of cold water have thicker layer of subcutaneous fat. Describe why?