(iii) Heparin is ...
blood vessels.

Q. 8. Given below are three figures A, B and C.

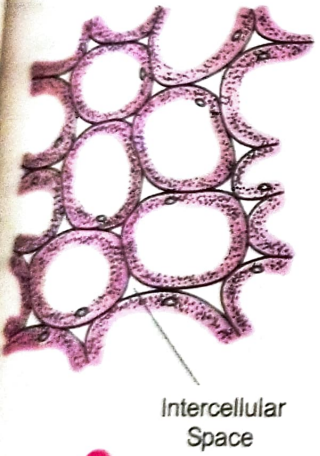
(a) Identify figures A, B and C.

(b) Which one is commercially exploited to get jute and hemp ?

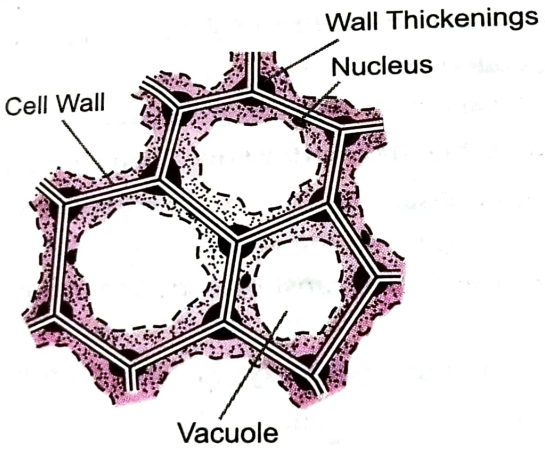
(c) Which one is modified to store products ?

(d) Which one has deposition of lignin ?

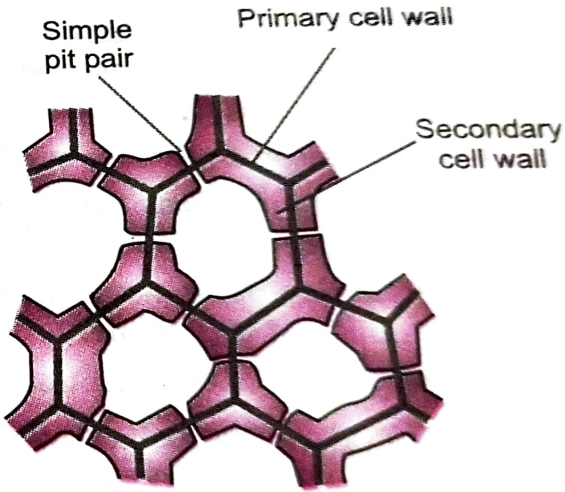
(e) Which one of these provides both mechanical strength and flexibility ?



A



B



C

QUESTIONS WITH ANSWERS

Q. 1. (*i*) Which type of tissue is affected by HIV infection ?

(*ii*) List any two precautions one should take to prevent spread of AIDS ?

(*iii*) Is it necessary to isolate AIDS patients from healthy ones ? Comment.

Ans. (*i*) Fluid Tissue (Blood and Lymph)

(*ii*) Disposable syringes should be used, and before transfusion of blood, it should be screened for HIV

(*iii*) AIDS does not spread through air or by living with infected person. It spreads by using contamin needles and unprotected sex. So, it is not necessary to isolate the HIV infected person.

Q. 2. (*i*) Which tissue is responsible for storage of fat in the body ?

(*ii*) How can we control obesity ?

(*iii*) What are the effects of morning walk and regular physical exercise on obesity ?

Ans. (*i*) Adipose tissue.

(*ii*) We can control obesity by having balanced diet, by increasing the amount of fiber rich food and decrea saturated fat and high calorie products in our diet, and above all through regular exercise.

(*iii*) Morning walk and regular physical exercise help in burning calories and thereby help in reducing deposition in the body.

Q. 3. (*i*) What happens to the plants if their tips are removed ?

(*ii*) What are meristems ?

(*iii*) How meristems are classified ?

Ans. (*i*) In plants, apical meristems are present and their removal will stop the further longitudinal growth of plants.

(*ii*) Meristems are tissues present in plants and are composed of rapidly dividing cells with dense cytoplasm contents.

(*iii*) These are classified on the basis of their position in the plant body. They are present on apices and also lateral sides.

Q. 4. (*i*) Why are only some parts of plants used for making ropes ?

(*ii*) Cotton fibres are obtained from which part of cotton plant ?

(*iii*) In which state of our country, Jute growing is a major source of income.

Ans. (*i*) Sclerenchymatous tissue which consists of thick-walled dead cells is located in parts where strength support is required. Only such parts can be used for making strong ropes etc.

(*ii*) From seed coat epidermis of cotton plant.

(*iii*) West Bengal.

Q. 5. Give reason as to why one finds water hyacinth plant always on the water surface.

Ans. Water hyacinth plant has aerenchyma tissue which encloses plenty of air in its spongy petioles. Air makes th plant lighter than water enabling it to float on the surface of water.

Q. 6. (*a*) Among plant tissues, which one is the most simple and unspecialized primitive tissue ? List its functions of this tissue.

(*b*) Does the above mentioned tissue has special types ? If yes, mention them in detail.

Ans. (*a*) **Parenchyma.** If forms the basic packing tissue of plant body that has in between specialized tissues.

(*b*) Yes ; There are 3 special types.

(*i*) In storage tissues, the parenchymatous cells enlarge to store nutrients and water. These are called **storag parenchyma.**

(*ii*) In aquatic plants, large air cavities are present in the ground tissue. These cavities store gases and provide buoyancy to aquatic plants to help them afloat. Such parenchyma are called **aerenchyma.**

(*iii*) The parenchymatous cells containing chloroplasts perform the process of photosynthesis. Such parenchyma is called **chlorenchyma** (*e.g.*, mesophyll of leaves).

Q. 7. Which plant tissue is responsible for providing mechanical support and how ?

Ans. Sclerenchyma. It consists of thick walled dead cells. These cells have hard and extremely thick secondary walls due to uniform deposition of lignin. This lignin deposition is so thick that the cell walls become strong, rigid and impermeable to water. The cell lumen becomes very narrow or nearly absent. These cells are cemented with the help of conspicuous middle lamella ; a wall that lies between the adjacent cells and made up of pectin, lignin and protein.

Q. 8. Why are xylem and phloem called complex permanent tissues ? What are their chief constituents ? Also, mention their role.

Ans. These are a group of more than one type of cells having a common origin and working together as a unit to perform a common function. Both xylem and phloem are together called vascular tissues.

Xylem is composed of (*i*) Tracheids (*ii*) Vessels (*iii*) Xylem parenchyma, and (*iv*) Xylem fibres.

It is the major conducting tissue. It serves in the upward movement of water and mineral salts from root to different aerial parts of the plant.

Phloem is composed of (*i*) Sieve tubes (*ii*) Companion cells (*iii*) Phloem parenchyma, and (*iv*) Phleom fibres.

Phloem is the chief food conducting tissue of vascular plants. It is responsible for translocation of organic solutes from leaves to all other plant body parts.

Q. 9. (*a*) Which is the simplest kind of tissue in animals ? Name other animal tissues also.

(*b*) List atleast three functions of this simplest animal tissue.

Ans. Epithelial tissue.

Other three types of tissues present in animals are : Muscular tissues, connective tissues and nervous tissues.

Functions

(*i*) Epithelial tissue covers the body surface as an outer layer of skin and provides protection to the underlying tissues from mechanical injury, entry of germs and harmful chemicals.

(*ii*) It forms the inner lining of mouth, alimentary canal and other internal organs inside the body and protect these organs.

(*iii*) Epithelial lining of intestive absorbs water and digested food.

Q. 10. (*a*) What are animal connective tissues ? Give its types.

(*b*) What is the main function of adipose tissue ? Where are such tissues found in human body?

(*c*) Tendons and ligaments belong to which category of connective tissue ? Write differences between them.

Ans. (*a*) Connective tissues of animals are the tissues which serve the function of binding and joining one tissue to another, forming protective sheath and packing material around the various organs, carrying materials to different regions, and forming a supporting framework of the body etc.

They are of five types –

(*i*) Areolar tissue (*ii*) Dense regular connective tissue (*iii*) Adipose tissue (*iv*) Skeletal tissue (*v*) Vascular tissue.

(*b*) Adipose tissue is primarily a fat-storing tissue. Such tissues are found beneath the skin, in the covering of the heart, around the blood vessels and kidneys, and in yellow bone marrow.

(*c*) Tendons and ligaments belong to dense regular connective tissue. For differences between tendons and ligaments, refer to Table 2.5., Page 80.