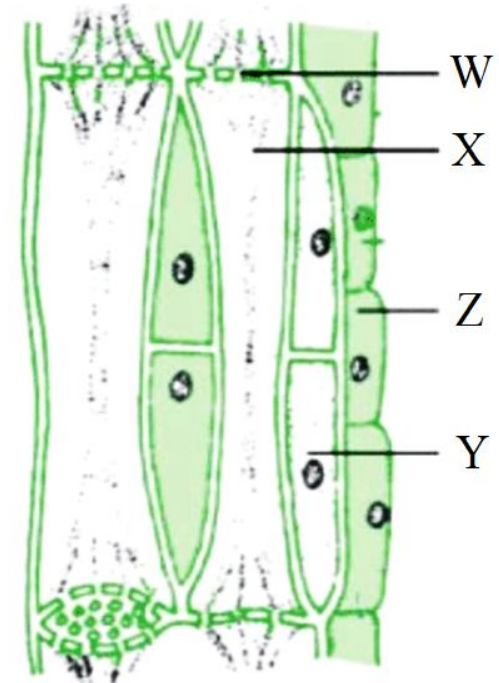


CASE STUDY QUESTION 23

Read the following and answer any four questions from (i) to (v)

The food which is prepared by the process of photosynthesis in the leaves of a plant has to be transported to other parts like stem, roots, branches etc. Therefore this food is transported to other parts of the plant through a kind of tubes called phloem. The transport of food from leaves to other parts of a plant is called translocation. The food made by the leaves is in the form of simple sugar. Phloem is present in all the parts of a plant. Phloem is a long tube made of many living cells joined end to end. The living cells of phloem are called sieve tubes.

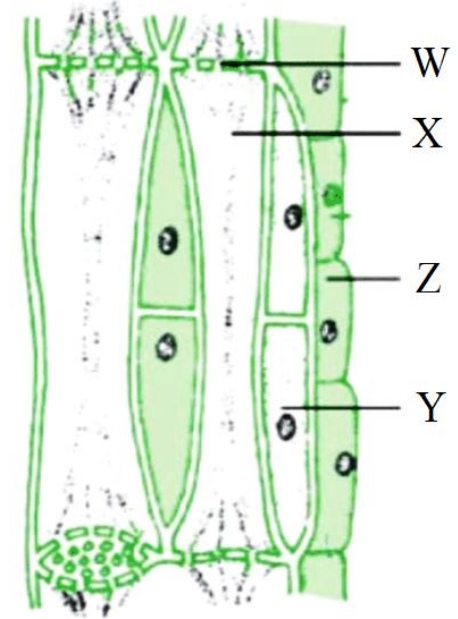


(i) Identify the correct pair of labelled parts with the help of this figure.

- (a) W – Sieve plate, Y – Companion cell
- (b) X – Sieve plate, Z – Companion cell
- (c) Y – Sieve tubes, Z – Sieve plate
- (d) X – Companion cell, Y – Phloem parenchyma

The given figure is Lateral Section of phloem in which
W represents sieve plate,
X represents sieve tubes,
Y represents companion cell and
Z represents phloem parenchyma.

Ans: (a) W – Sieve plate, Y – Companion cell



(iv) The phloem tissue in plants is responsible for the transport of
(a) amino acids (b) hormones (c) sugar (d) all of these.

Ans: (d) all of these.

The phloem translocates the food (sugar) made in the leaves. Besides food molecules, phloem also transports amino acids, hormones synthesised in shoot tips and root tips and other metabolites.

(v) Which of the following is not a part of phloem?
(a) Companion cells (b) Tracheids (c) Sieve plate (d) Sieve tube

Ans: (b) Tracheids

Components of phloem are sieve tubes, companion cells, phloem parenchyma and sieve plates. Tracheids are constituent of xylem tissue.