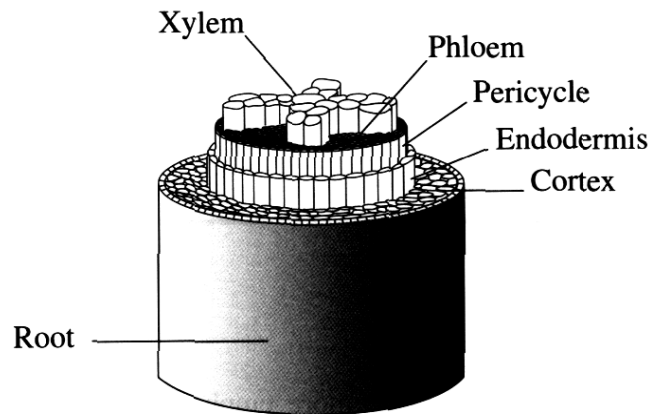


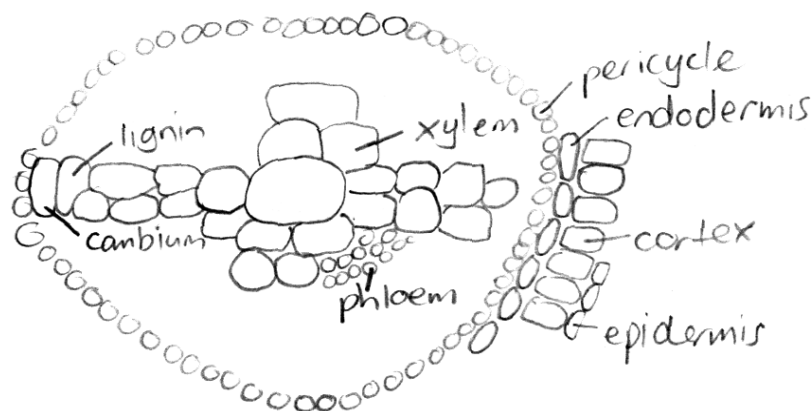
Marks

Question 17 (6 marks)

The diagram shows the arrangement of tissues in a young plant root.



- (a) From this diagram, draw a transverse section of the plant root. Clearly label the location of xylem and phloem tissue. 3



- (b) Describe ONE current theory about the processes responsible for the movement of materials through phloem tissue in plants. 3

Phloem carries nutrients and sugars from the leaves to where they are needed in the plant. These sugars can move up and down the plant. If these sugars need to go against the concentration gradient active transport occurs, in which energy is used to transport them. Sugars move through sieve cells in the phloem to where they are needed, the 'sink'. Both active and passive transport of nutrients and sugars occur.

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