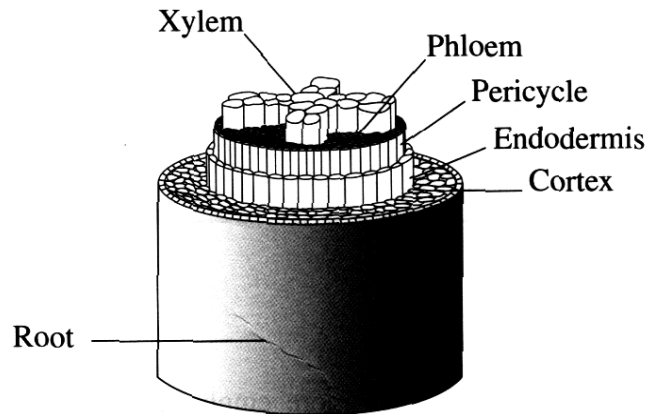


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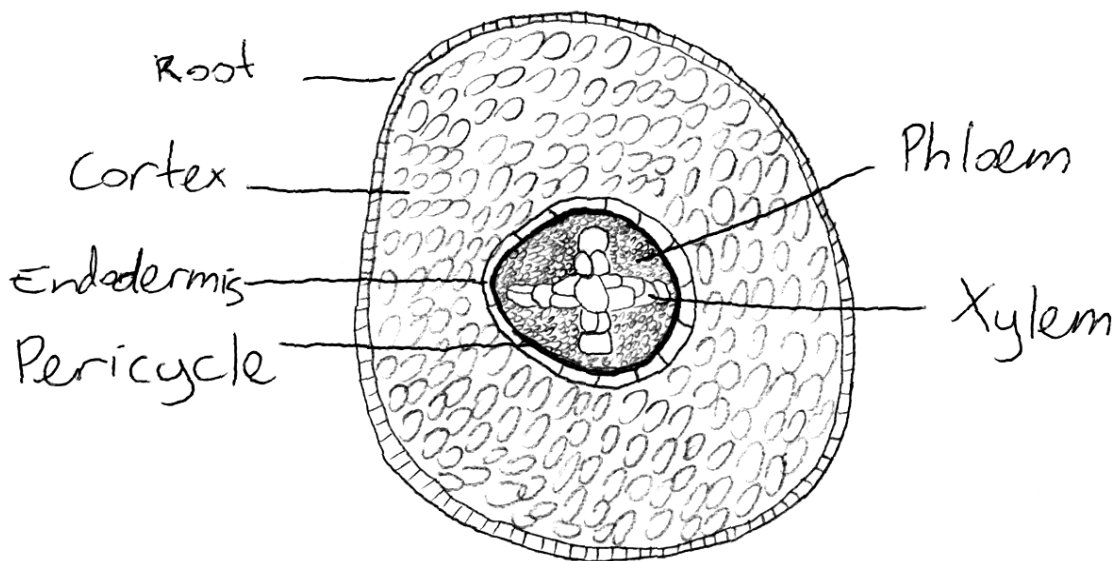
Question 17 (6 marks)

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

Areas in plants where sugar is made (as a product of photosynthesis) ~~are~~ and/or stored are called sugar sources. Areas of the plant that need sugar/starch and the other nutrients carried in the phloem vessel (sap) are called sugar sink. The concentration of sap is higher at sugar sources than at sugar sinks. One current theory is¹⁰ that sap follows the concentration gradient (from source to sink) and so moves materials through plants.