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9.2 Transport in the Phloem of Plants

Easy



BIOLOGY

IB HL

9.2 Transport in the Phloem of Plants

Question Paper

| | |
|------------|---------------------------------------|
| Course | DP IB Biology |
| Section | 9. Plant Biology (HL Only) |
| Topic | 9.2 Transport in the Phloem of Plants |
| Difficulty | Easy |

EXAM PAPERS PRACTICE

Time allowed: 10
Score: /5
Percentage: /100

Question 1

The micrograph below shows part of a cross section of a plant stem.

Which of the structures **A-D** represents the xylem tissue?

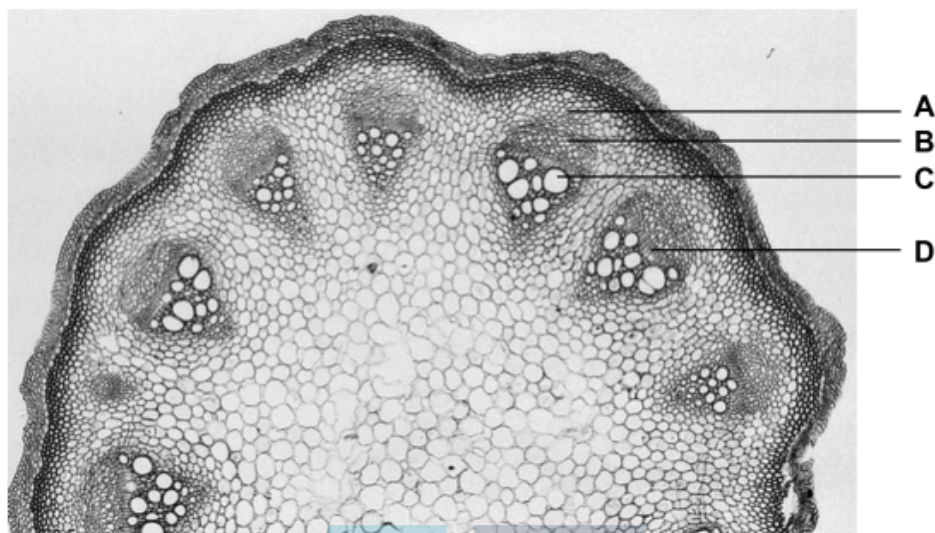


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[1 mark]

Question 2

Which row correctly identifies a structure and its related function in a **companion cell**?

| | Structure | Function |
|-----------|-----------------------------------|---|
| A. | Many mitochondria present | Translation of polypeptides that will form cell surface membrane proteins |
| B. | Nucleus and cell organelles | Carrying out the cell processes of the sieve tube cells |
| C. | Plasmodesmata | Linking adjacent companion cells with each other |
| D. | Small amount of cytoplasm present | Facilitating the movement of assimilates |

[1 mark]

Question 3

Which of the following aphid characteristics makes them suitable to use when investigating phloem transport rates?

- I. Phloem sap makes up the bulk of their diet.
- II. They have specialised mouthparts called stylets.
- III. The stylet can be easily severed during investigations.
- IV. Their mouthparts are able to pierce through plant tissue to reach the phloem.

- A. I and IV only.
- B. I, III, and IV only.
- C. II, III, and IV only.
- D. I, II, III, and IV.

[1 mark]

Question 4

The movement of phloem sap is an active process.

Which of the following is the most suitable explanation for this?

- A. Phloem sap flows from the source to the sink.
- B. ATP is required to load organic compounds into the phloem at the source.
- C. Water leaves the phloem sieve tube at the sink.
- D. Water moves into the phloem at the source by osmosis.

[1 mark]

Question 5

Which of the following is **not** a structural feature of phloem tissue?

- A. Lignified cell walls to withstand the hydrostatic pressure.
- B. Columns of sieve tube cells.
- C. Companion cells containing cell components that facilitate the loading and unloading of organic compounds.
- D. Sieve plates with pores allows for the continuous movement of organic compounds.

[1 mark]