

APOLLO

Transport SL

Biology

First assessment 2025

7 questions | questions

15. What are features of veins?

	Valves	Wall
A.	present	thick
B.	absent	thick
C.	absent	thin
D.	present	thin

14. Which environmental condition(s) would increase the rate of transpiration in plants?

- I. Increased carbon dioxide concentration in the atmosphere
- II. Increased temperature of the atmosphere
- III. Decreased humidity of the atmosphere relative to the inside of the leaf

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

Turn over

Section B

Answer **one** question. Up to one additional mark is available for the construction of your answer. Answers must be written within the answer boxes provided.

7. Mitosis produces genetically identical cells, which become specialized by expressing specific genes. This ensures that tissues and organs are adapted to their functions.
- (a) Outline how the behaviour of chromosomes during mitosis ensures the production of genetically identical cells. [4]
 - (b) Describe how mRNA is produced in the nucleus. [4]
 - (c) Explain how the structures of arteries and veins are adapted to their functions. [7]

15. What is a property of veins?

- A. Flexible to allow compression
- B. Elastic to maintain blood pressure
- C. Fenestrations for rapid exchange
- D. Narrow lumen to carry deoxygenated blood

14. The micrograph shows a transverse section of blood vessels in a human leg muscle.

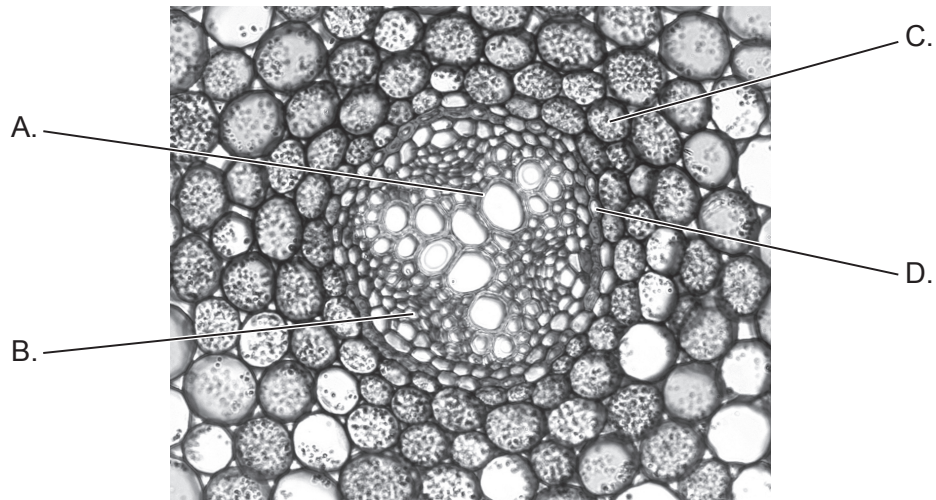


Which is the main contributor to the movement of blood along vessel X?

- A. The smooth surface of the inner lining
- B. Stretching and recoiling of the vessel walls
- C. Differences in plasma solute concentration
- D. Contraction of muscles adjacent to the vessel

15. The micrograph of a transverse section of buttercup (*Ranunculus sp.*) root shows the stele (central part) and surrounding cortex cells.

Where is lignin found?



- 18.** What is always a consequence of the evaporation of water from mesophyll cells in leaves of a healthy plant?
- A. Plasmolysis occurs in mesophyll cells.
 - B. Photosynthesis stops.
 - C. Stomata close to reduce transpiration.
 - D. Water moves up the stem in the xylem.