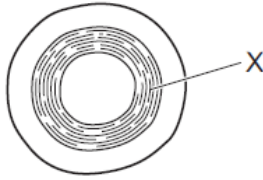


1. **June/2022/Paper_11/No.30**

The diagram shows a transverse section through an artery.



Which tissues are present in layer X?

- A collagen and smooth muscle only
- B elastic fibres and collagen only
- C elastic fibres and smooth muscle only
- D elastic fibres, collagen and smooth muscle

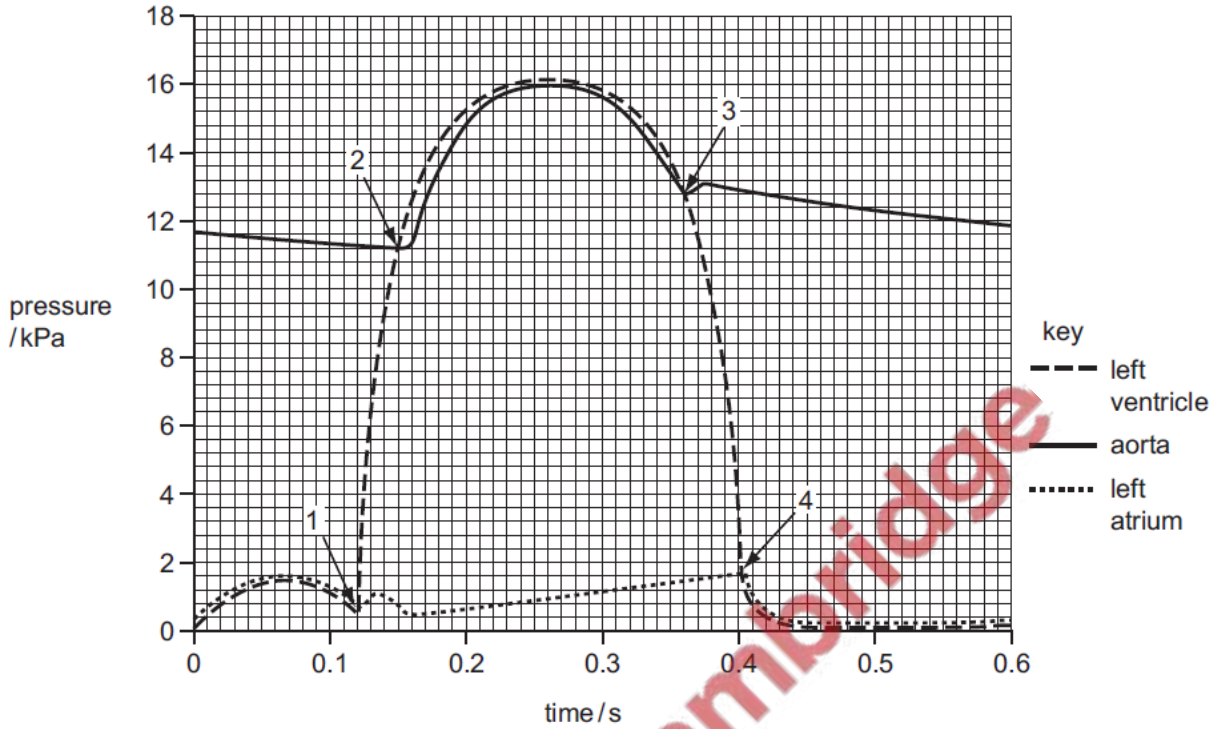
2. **une/2022/Paper_11/No.31**

What is systolic blood pressure?

- A the blood pressure in the arteries when the heart is relaxing
- B the blood pressure in the left ventricle at the start of a contraction
- C the maximum blood pressure in the arteries
- D the maximum blood pressure in the right ventricle

3. June/2022/Paper_11/No.32

The diagram shows pressure changes in the left side of the heart and aorta over time. The length of this cardiac cycle is 0.6s. Points 1, 2, 3 and 4 indicate when atrioventricular valves and semilunar valves either open or close.



What is the total time during one cardiac cycle that the atrioventricular valves and the semilunar valves are both closed at the same time?

- A 0.03 s B 0.04 s C 0.07 s D 0.21 s



4. June/2022/Paper_11/No.39

A person's blood group is determined by antigens present on the red blood cells.

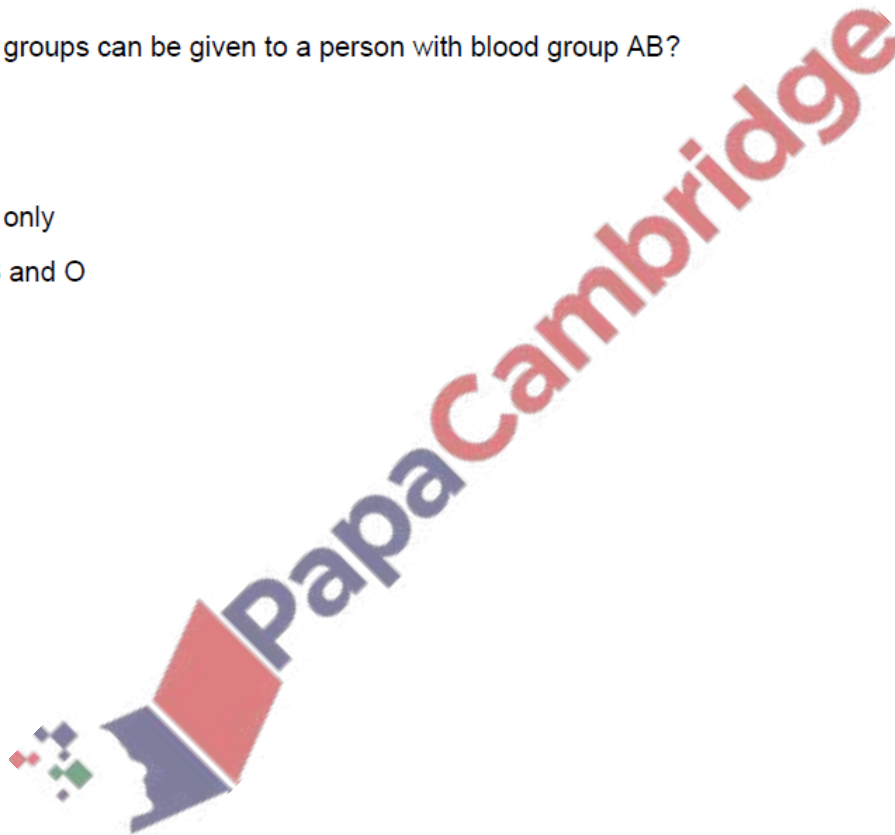
The table shows the antigens and antibodies in the blood of people with different blood groups.

blood group	presence of A or B antigens on red blood cells	presence of antibodies to A or B in plasma
A	A only	anti-B only
B	B only	anti-A only
AB	A and B	neither
O	neither	anti-A and anti-B

During a blood transfusion, it is essential that the person receiving the blood does not have antibodies to the donor's blood.

Which blood groups can be given to a person with blood group AB?

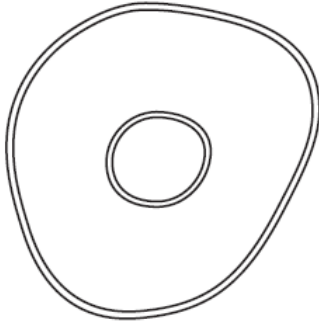
- A AB only
- B O only
- C A and B only
- D A, B, AB and O



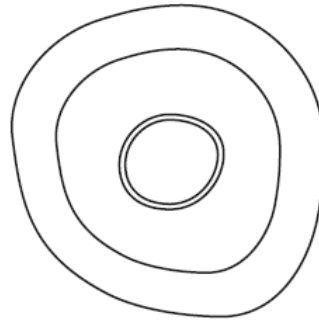
5. June/2022/Paper_12/No.31

Which plan diagram represents the tissues in a major vein?

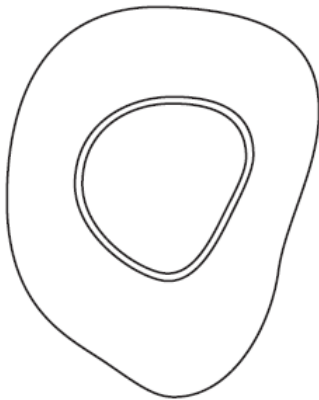
A



B



C



D

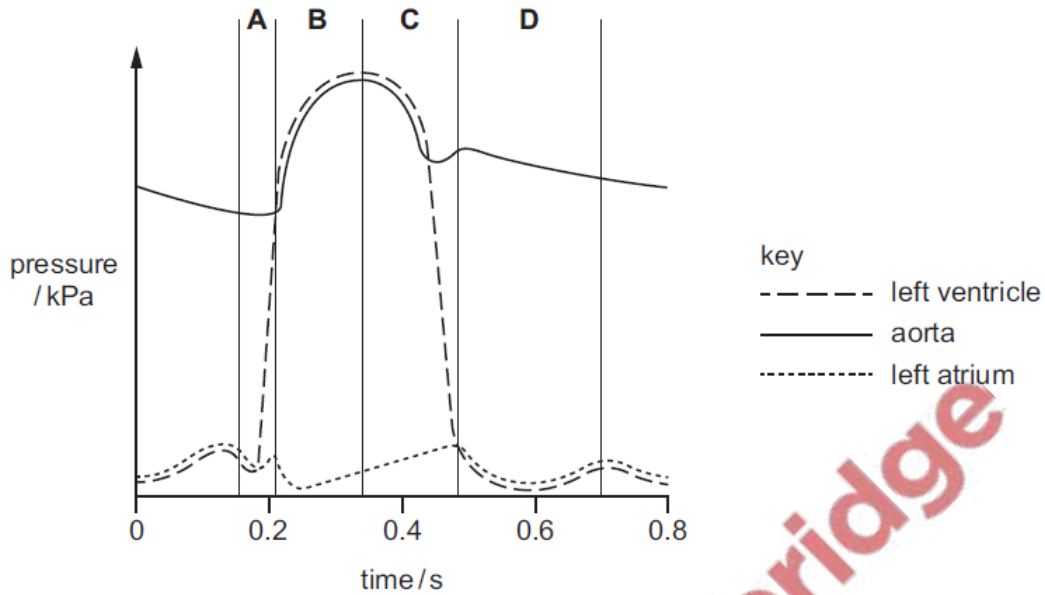


PapaCambridge

6. June/2022/Paper_12/No.32

The diagram shows the pressure changes in various structures of the left side of the heart during the cardiac cycle.

At the end of which period is the ventricle full of blood?



7. June/2022/Paper_12/No.33

Which description of movement of substances during tissue fluid formation is correct?

- A Low hydrostatic pressure forces substances out of the capillary at the arterial end allowing small substances to enter the fluid that bathes the cells.
- B Tissue fluid moves back into the venule due to a net hydrostatic pressure change in the capillary.
- C Movement of water in tissue fluid into the capillary by osmosis is due to the low water potential and low hydrostatic pressure inside the capillary.
- D A high water potential of the surrounding tissue fluid causes substances to leave the capillaries at the arterial end.

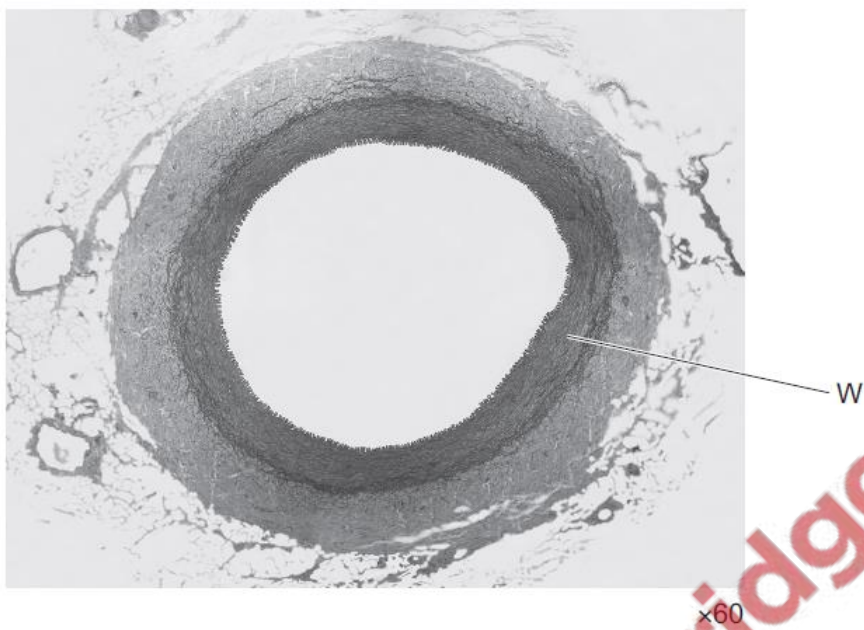
8. June/2022/Paper_12/No.34

Which row shows the change in concentration of some substances in red blood cells when carbon dioxide diffuses from active cells?

	carbonic anhydrase	hydrogencarbonate ions	hydrogen ions
A	decreases	no change	no change
B	increases	increases	increases
C	no change	decreases	increases
D	no change	increases	increases

9. June/2022/Paper_13/No.30

The photomicrograph shows a section through a structure found in mammals viewed using a light microscope.



What are the main components of layer W?

- A collagen fibres only
- B elastic fibres and collagen fibres
- C smooth muscle and elastic fibres
- D squamous epithelial cells forming an endothelium

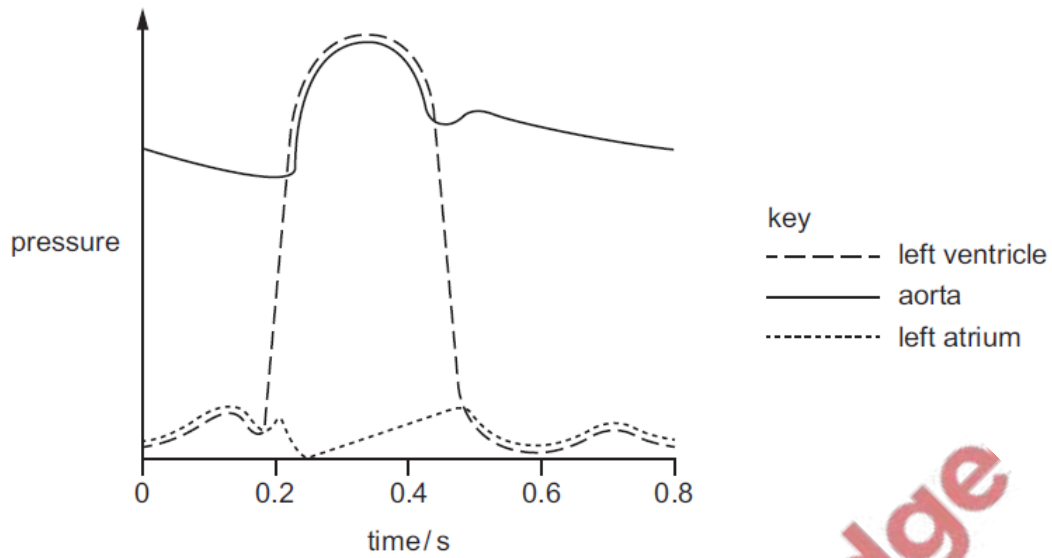
10. June/2022/Paper_13/No.31

Which statement correctly links muscular or elastic arteries to their function?

- A The aorta is an example of a muscular artery as it transports blood from the left ventricle of the heart.
- B Arteries further away from the heart are muscular arteries as they transport blood at high pressure.
- C Elastic arteries expand when the heart contracts and then recoil as the heart relaxes to maintain pressure.
- D Muscular arteries facilitate smoother blood flow than elastic arteries as their walls expand and recoil.

11. June/2022/Paper_13/No.32

The graph shows the changes in pressure that occur in the left side of the heart during one cardiac cycle.



What is the heart rate in beats per minute?

- A 75 B 80 C 120 D 150

12. June/2022/Paper_13/No.33

Which events occur during ventricular systole?

- 1 Atrioventricular valves close.
- 2 Muscle in ventricle walls relaxes.
- 3 Semilunar valves open.

- A 1, 2 and 3 B 1 and 2 only C 1 and 3 only D 2 and 3 only

13. June/2022/Paper_13/No.39

A person's blood group is determined by antigens present on the red blood cells. Antibodies in the plasma of the person who receives the blood can make some blood transfusions unsafe.

The table shows the antigens and antibodies in the blood of people with different blood groups.

blood group	presence of A or B antigens on red blood cells	presence of antibodies to A or B in plasma
A	A only	anti-B only
B	B only	anti-A only
AB	A and B	neither
O	neither	anti-A and anti-B

Which blood groups can be given to a person with blood group A?

- A** A and AB **B** A and O **C** B and O **D** AB only

