



THE SCIENCE
ACADEMY

O-LEVEL BIOLOGY E-TRIAL

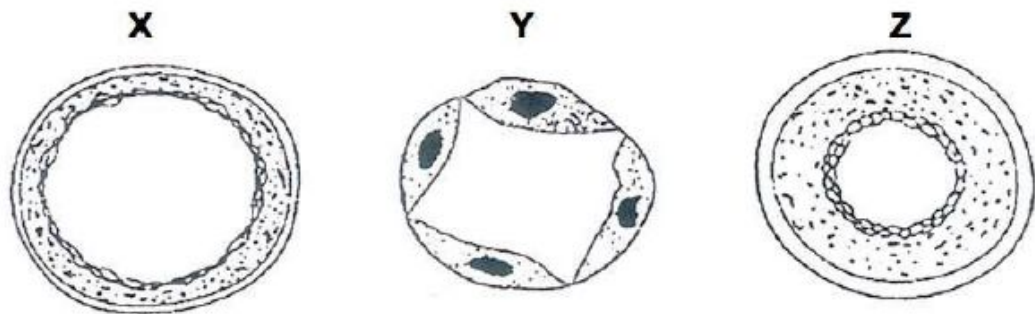
O LEVEL BIOLOGY

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Transport in Human - 1

The figure shows the cross-sectional view of three types of blood vessels X, Y and Z.



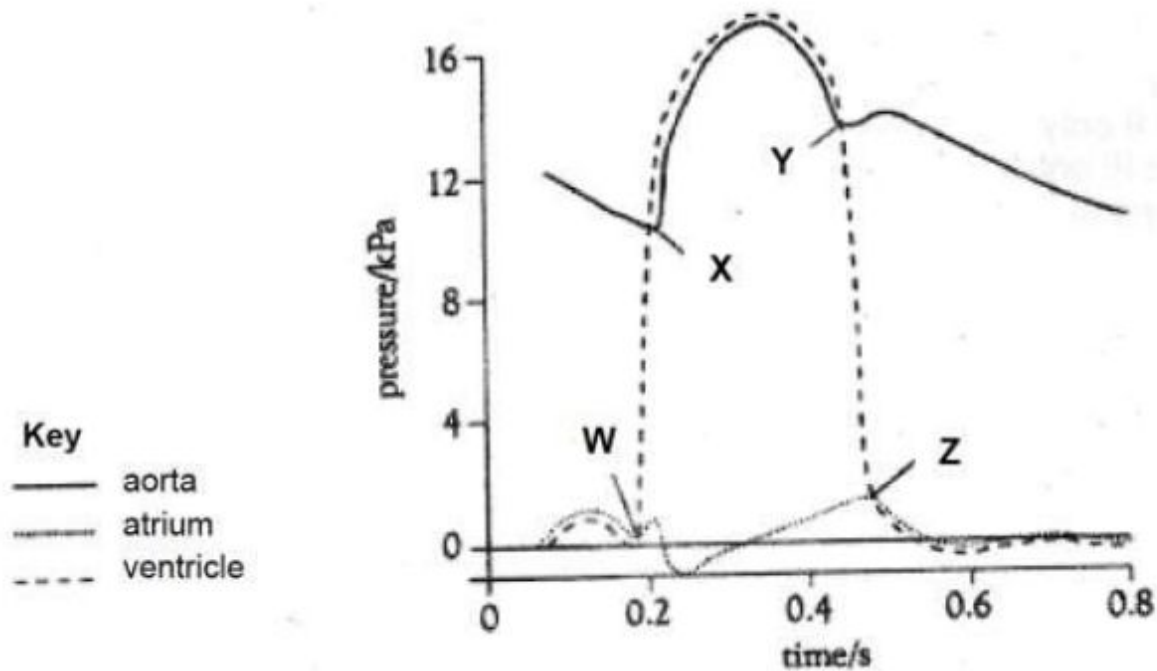
Which of the following option correctly describes the features of each vessel?

	Allows fluid to pass through wall	Carries fluid at high pressure
A.	X	Y
B.	Y	Z
C.	Y	X
D.	Z	X



Transport in Human - 2

The diagram below shows information on blood pressure in the aorta, left atrium and left ventricle during a cardiac cycle. Which of the following correctly describes what happens between points X and Y?

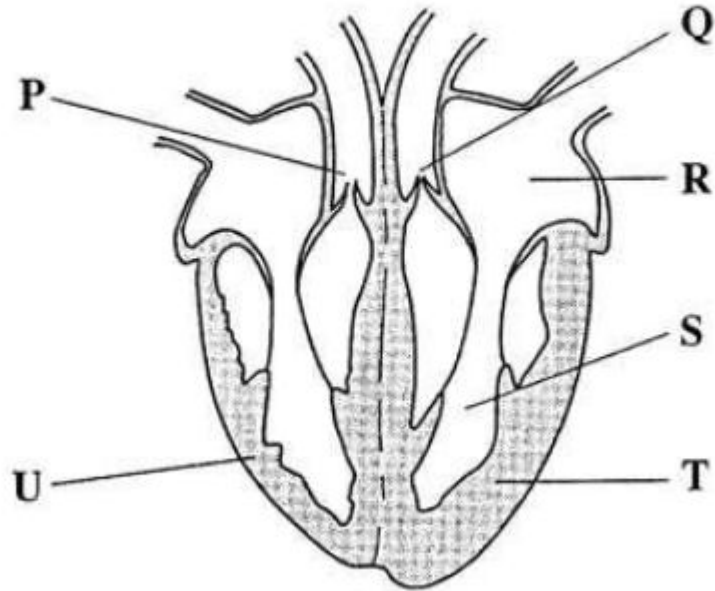


- A. Tricuspid valves are open while semi-lunar valves are closed.
- B. Both bicuspid and semi-lunar valves are closed.
- C. Tricuspid valves are closed while semi-lunar valves are open.
- D. Bicuspid valves are closed while semi-lunar valves are open



Transport in Human - 3

The diagram below shows a section through the human heart.



What features suggest that the blood leaves the heart at a different pressure, going to the lungs and to the body?

- A. Chambers R and S have different volumes.
- B. The walls of the atria are thinner than the walls of the ventricles.
- C. Valve P is stronger than Valve Q.
- D. Wall T is more muscular than wall U.



Transport in Human - 4

When the skin is cut, the blood forms clots. In which order would the components of the blood become involved?

	First	→		Last
A.	Fibrin	Platelet	Thrombin	Fibrinogen
B.	Fibrin	Thrombin	Platelet	Fibrinogen
C.	Platelet	Fibrin	Fibrinogen	Thrombin
D.	Platelet	Thrombin	Fibrinogen	Fibrin



Transport in Human - 5



Which blood transfusion will result in the agglutination of blood?

	Donor's Blood Group	Recipient's Blood Group
A.	A	O
B.	A	AB
C.	O	A
D.	O	AB



Transport in Human - 6

A sample of blood is taken from Edwin and two drops are put onto a white tile. The drops of blood are then tested with serum containing antibodies A and antibodies B respectively. The results of the test are shown below.

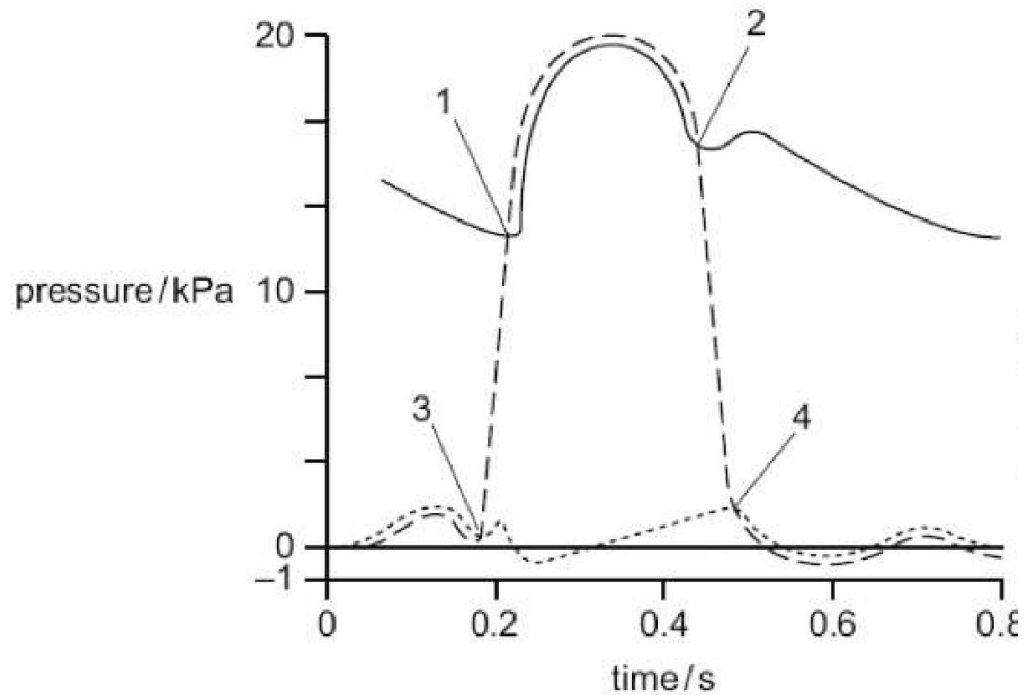
	serum with antibodies A	serum with antibodies B
Blood samples		

What does this tell you about the characteristics of the blood type of Edwin?

- A. His red blood cells contain antigen A.
- B. His red blood cells do not have any antigens.
- C. His blood type is AB.
- D. He can donate blood to another person of blood type B.



Transport in Human - 7



With reference to the semi-lunar and bicuspid valves, what is happening at points 1, 2, 3 and 4?

	Semi-lunar valve		Bicuspid valve	
	Open	Close	Open	Close
A.	1	2	3	4
A.	1	2	4	3
A.	2	3	1	4
A.	2	3	4	1