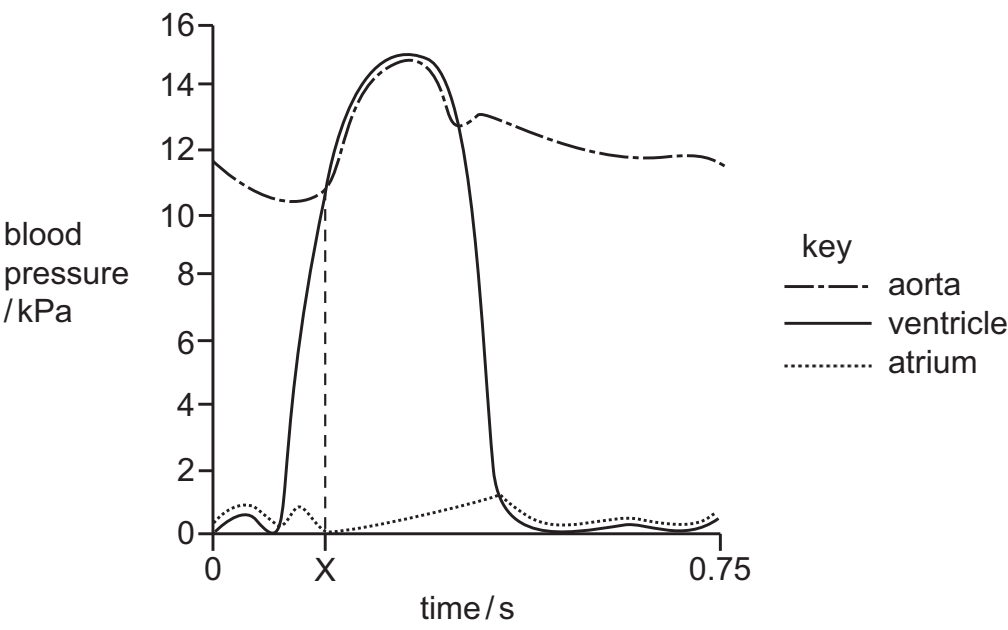


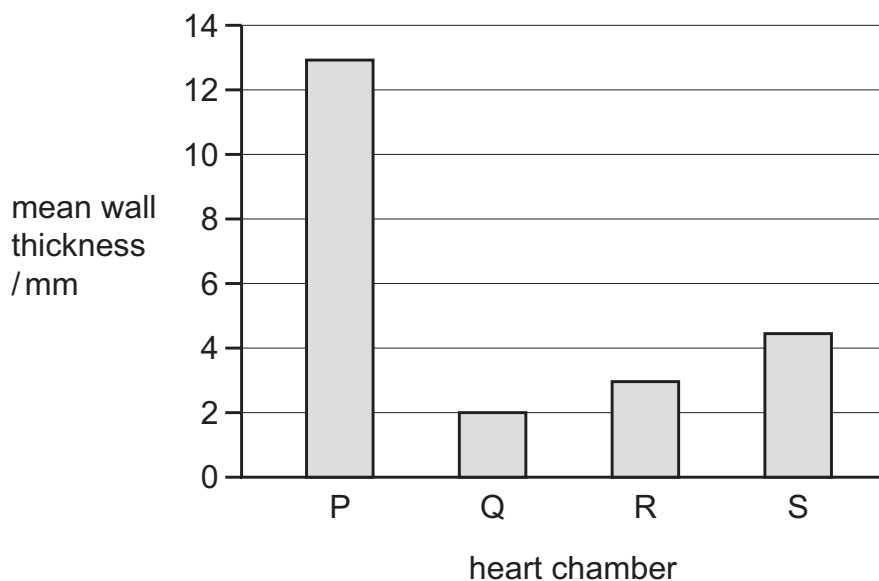
32 The graph shows changes in blood pressure during one cardiac cycle.



What is happening at time X?

	aortic semilunar valve	atrium
A	closing	emptying
B	closing	filling
C	opening	emptying
D	opening	filling

- 35** The bar chart shows the mean thickness of the walls of the main chambers in a mammalian heart.



Which row correctly identifies the heart chambers?

	right atrium	left atrium	right ventricle	left ventricle
A	R	Q	S	P
B	Q	S	R	P
C	R	Q	P	S
D	Q	R	S	P

- 33** A person has a small hole in the septum between the ventricles. This is called a ventricular septal defect (VSD). The person has no other heart defects.

What is the direction of the net flow of blood during ventricular systole in the heart of this person?

- A** left ventricle to left atrium
- B** right ventricle to right atrium
- C** left ventricle to right ventricle
- D** right ventricle to left ventricle

34 Which row correctly describes the features for two of the heart chambers?

	left atrium	left ventricle
A	large force of contraction to allow blood to travel a long distance	large force of contraction to allow blood to travel a long distance
B	small force of contraction as blood only needs to travel a short distance	large force of contraction to allow blood to travel a long distance
C	small force of contraction as blood only needs to travel a short distance	small force of contraction as blood only needs to travel a short distance
D	large force of contraction to allow blood to travel a long distance	small force of contraction as blood only needs to travel a short distance

6 (a) A student studied the structure of a mammalian heart.

The student took a photograph of the left side of a dissected heart as shown in Fig. 6.1.

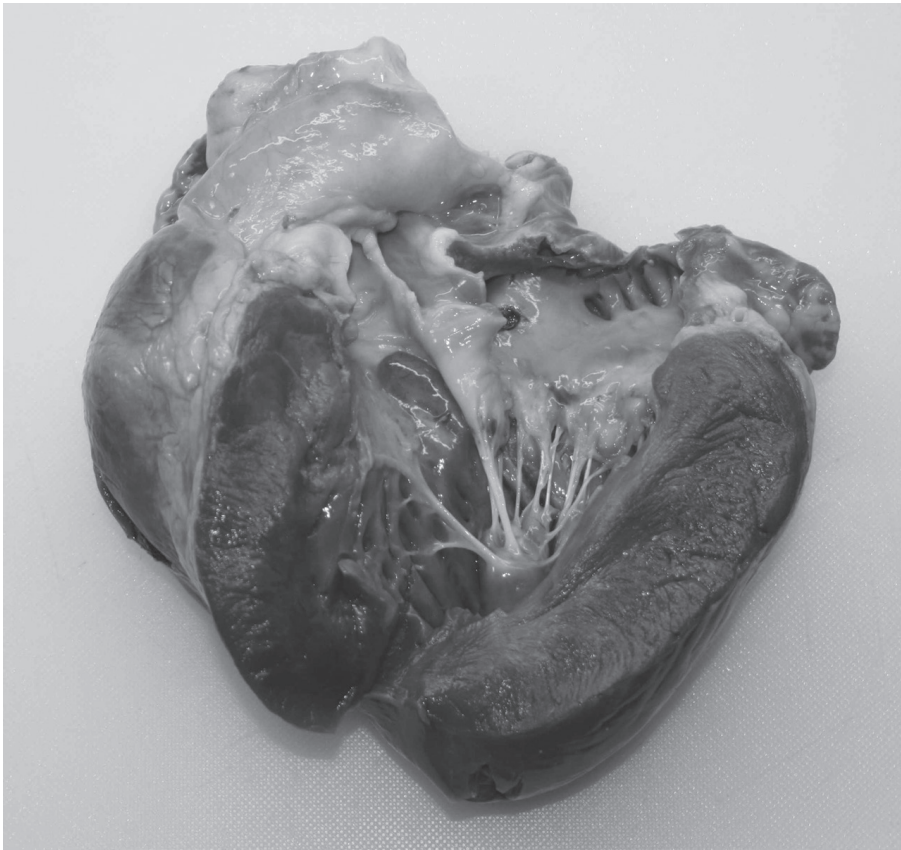


Fig. 6.1

Identify **two** features of the left side of the heart visible in Fig. 6.1 **and** explain how each feature is adapted to the function of the heart.

feature

explanation

.....

.....

.....

feature

explanation

.....

.....

.....

- (b) Cardiac muscle is described as myogenic. This means the electrical activity controlling the rhythm of a regular heartbeat begins within the muscle tissue of the heart.

Describe how electrical activity within the heart controls each heartbeat.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [4]

- (c) Tissue fluid is formed from blood plasma as it flows through capillaries.

Fig. 6.2 is a diagram of a capillary and some adjacent tissue cells in a capillary network.

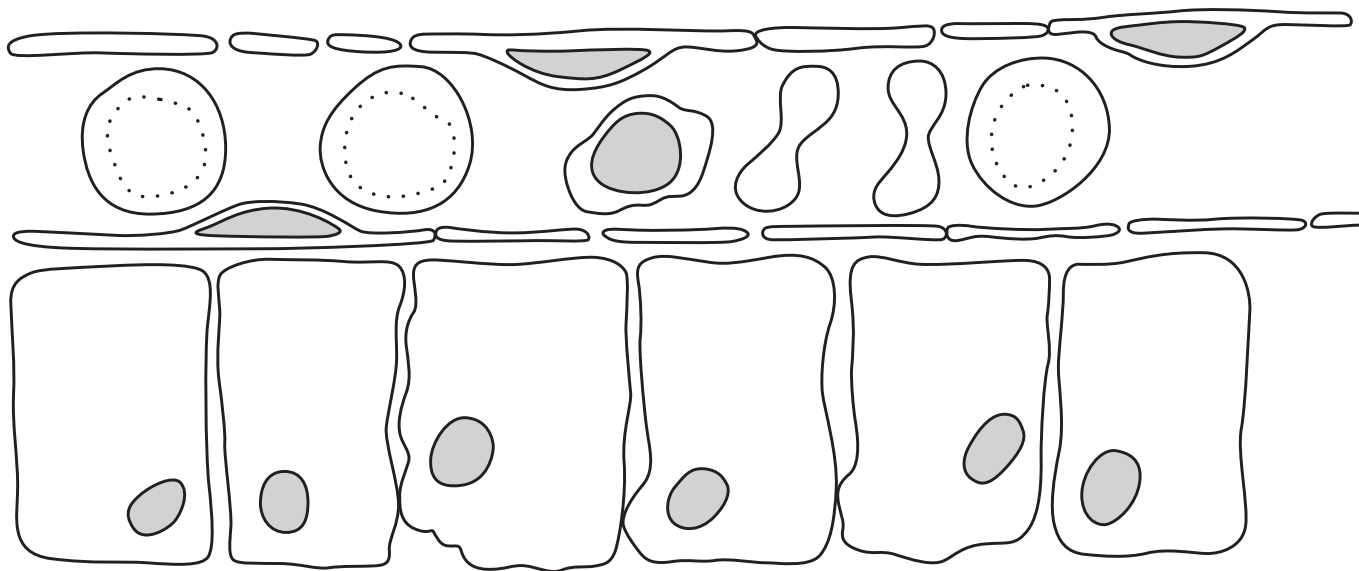


Fig. 6.2

- (i) Describe **two** functions of tissue fluid.

.....

.....

.....

.....

- (ii) With reference to Fig. 6.2, describe how tissue fluid is formed.

[3]

- (d)** Measles is a common disease caused by a virus. Vaccination to prevent the disease has been very successful.

- (i) A child receives a vaccine for measles.

Explain why only some of the T-lymphocytes in the child respond to the measles vaccine.

.....

.....

.....

.....

.....

[2]

- (ii) Describe the events that occur in an immune response to a vaccine that result in lymphocytes that provide long-term immunity to measles.

Handwriting practice lines (dotted lines on a solid background) for the letter 'a'.