

Chapter 19 Blood Circulation and Transport

Paper 1

Answer **all** questions. Each question is followed by four options, **A**, **B**, **C** and **D**. For each question, choose **one** answer only

1.

Type of blood cell	Function
<i>P</i>	Protects body from disease
<i>Q</i>	Transports oxygen
<i>R</i>	Helps in blood clotting

The table above shows three types of blood cells *P*, *Q*, and *R* and their respective functions. Which of the following blood cells has/have nucleus?

- A** *P* only
 - B** *P* and *Q* only
 - C** *Q* and *R* only
 - D** *P*, *Q* and *R*
2. Which of the following is **true** about platelets?
- A** Platelets have nuclei
 - B** Platelets are formed in the liver
 - C** Platelets transport oxygen
 - D** Platelets help the clotting of blood
3. Which of these is **true** about red blood cells and white blood cells?
- | | | |
|----------|-------------------------|---------------------------|
| | <i>Red blood cells</i> | <i>White blood cells</i> |
| A | Have nuclei | Do not have nuclei |
| B | Do not transport oxygen | Transport oxygen |
| C | Biconcave in shape | Do not have a fixed shape |
| D | Produced by bone marrow | Produced by heart |
4. Which of the following parts of the heart has the highest pressure during heartbeat?
- A** Right ventricle
 - B** Left ventricle
 - C** Left atrium
 - D** Right atrium

5.

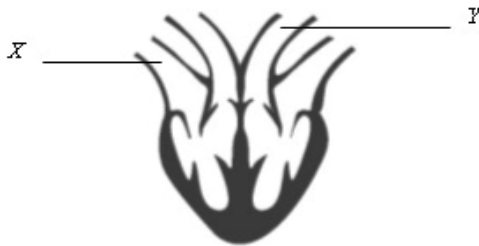
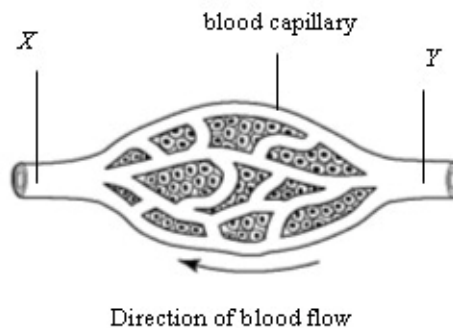


Figure 1

Figure 1 shows the structure of the heart. Which of the following is **true** about the blood vessels X and Y?

- | | X | Y |
|----------|---------------------------|----------------------------|
| A | Does not have valve | Has valve |
| B | Thin wall | Thick wall |
| C | Carries oxygenated blood | Carries deoxygenated blood |
| D | Blood under high pressure | Blood under low pressure |

6.



The figure above shows the structure of a blood capillary. Which of the following are the characteristics of blood vessels X and Y?

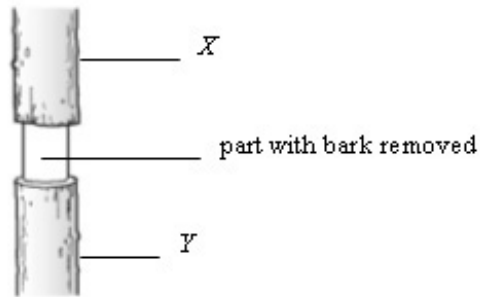
- | | X | Y |
|----------|--------------------------|----------------------------|
| A | Carries oxygenated blood | Carries deoxygenated blood |
| B | Has thick muscular wall | Has thin wall |
| C | Has small lumen | Has large lumen |
| D | Has valve | Does not have valve |

7. Which of the following is **not** a characteristic of red blood cells?

- A** Biconcave in shape
- B** Do not have nuclei
- C** Contain haemoglobin
- D** Less in number as compared to white blood cells

8. A student with AB blood group can receive blood from a donor with
- A O blood type only
 - B AB blood type only
 - C AB and O blood types only
 - D A, B, AB and O blood types
9. Which of the following blood vessels carries deoxygenated blood?
- A Aorta
 - B Pulmonary vein
 - C Pulmonary artery
 - D Renal artery

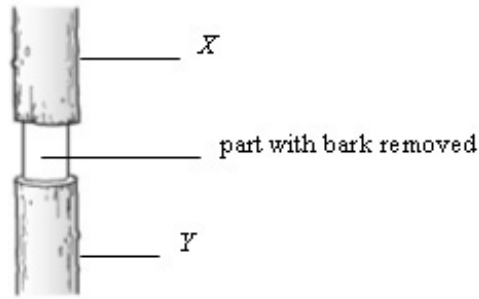
10.



A section of a stem has its bark and phloem cut and removed as shown in the figure above. After it has been left for two weeks, it is found that

- A section X has become swollen
- B section Y has become swollen
- C sections X and Y have become swollen
- D section Y secretes water droplets

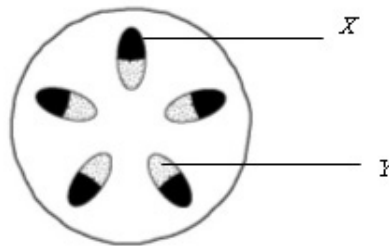
11.



A section of a stem has its bark and phloem cut and removed as shown in the figure above. Which of the following accumulates in part X?

- A Food
- B Water
- C Mineral salt
- D Carbon dioxide

12.



The figure above shows a cross-section of the stem of a dicotyledon plant. What are structures X and Y?

- | | X | Y |
|---|-----------------|-----------------|
| A | Phloem | Vascular bundle |
| B | Xylem | Phloem |
| C | Phloem | Xylem |
| D | Vascular bundle | Xylem |

13.

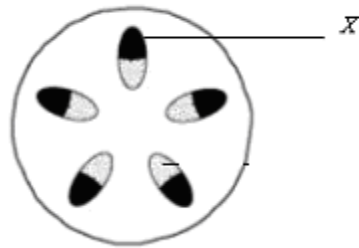
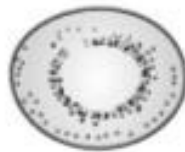


Figure 4

Which of the following is the function of the structure labelled X?

- A** Transports water and mineral salt
- B** Transports food substances
- C** Prevents excessive loss of water
- D** Allows oxygen to enter

14



The figure above shows a type of blood cell. The function of this blood cell is to

- A** destroy bacteria
- B** transport oxygen
- C** produce antitoxin
- D** clot blood

15. Which of the following is the function of blood?

- I** Controls body temperature
 - II** Protects body from bacteria
 - III** Carries waste material to excretory organs
-
- A** I and II only
 - B** I and III only
 - C** II and III only
 - D** I, II and III

16. Which of the following are the characteristics of red blood cells?

- I** Have fixed shape
- II** Have nuclei
- III** Contain haemoglobin

- A** I and II only
- B** I and III only
- C** II and III only
- D** I, II and III

17. White blood cells

- I** produce antibodies in the body
- II** digest bacteria in the blood
- III** do not have nuclei

- A** I and II only
- B** I and III only
- C** II and III only
- D** I, II and III

18. Which of the following are characteristics of a blood capillary?

- I** Has valve
- II** Has thick muscular wall
- III** Carries blood from arteries to veins

- A** I only
- B** III only
- C** I and III only
- D** I, II and III

19.

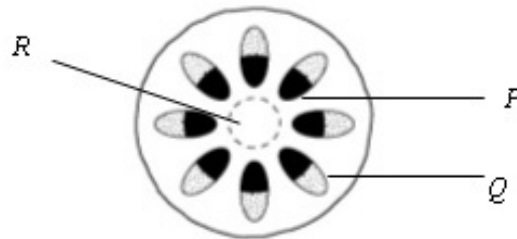
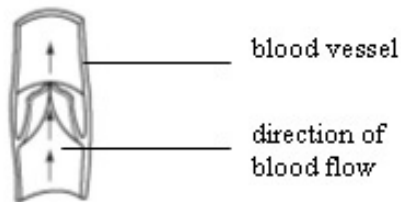


Figure 6

The root of a dicotyledon plant which is submerged in red-coloured water is placed under sunlight. After three hours, the plant is taken out and its stem is cut transversely. Which of the parts labelled *P*, *Q* and *R* will be coloured red?

- I** *P*
- II** *Q*
- III** *R*

- A** I only
- B** III only
- C** II and III only
- D** I, II and III



20.

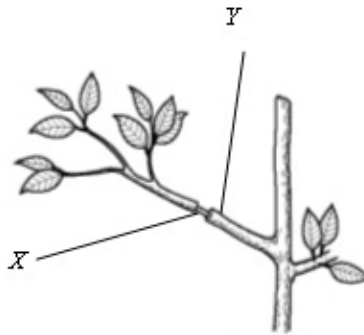
The figure above shows the structure of a blood vessel. Which of the following is probably the blood vessel?

- I** Pulmonary vein
- II** Blood capillary
- III** Vena cava

- A** I and II only
- B** I and III only
- C** II and III only
- D** I, II and III

Paper 2

Answer the question.



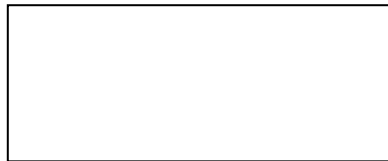
The figure above shows a stem of a plant with a section of its bark removed. The plant is watered every day for a period of two weeks.

- (a) (i) What is accumulated at the part marked X at the end of the experiment?

- (ii) Explain your answer in (a)(i).

- (b) What happens to the part of the plant marked Y at the end of the experiment?

- (c) Draw in the space below your observation at the end of the experiment.



- (d) Name the plant structure that was removed which caused the change in the stem.

- (e) Will the plant still be alive after one week? Explain.

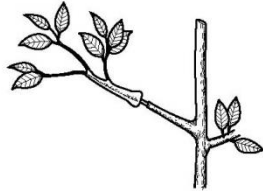
Answers:

Paper 1

1	A	11	A
2	D	12	C
3	C	13	B
4	B	14	B
5	B	15	D
6	D	16	B
7	D	17	A
8	D	18	B
9	C	19	A
10	A	20	B

Paper 2

- (a) (i) Food.
(ii) Food cannot be transported to the bottom of the stem.
- (b) It withers.
- (c)



- (d) Phloem
- (e) Yes, water can still be transported from the roots to the stem through the xylem.