

# Transport in Animals

## Question Paper 1

|            |  |
|------------|--|
| Level      | IGCSE                                      |
| Subject    | Biology (0610/0970)                        |
| Exam Board | Cambridge International Examinations (CIE) |
| Topic      | Transport in Animals                       |
| Sub-Topic  |  |
| Booklet    | Question Paper 1                           |

**Time Allowed:** 28 minutes

**Score:** /23

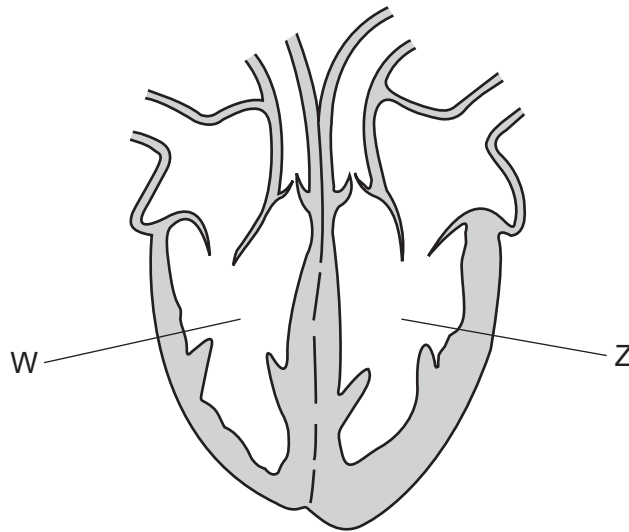
**Percentage:** /100

**Grade Boundaries:**

|      |     |     |     |     |     |     |     |      |
|------|-----|-----|-----|-----|-----|-----|-----|------|
| 9    | 8   | 7   | 6   | 5   | 4   | 3   | 2   | 1    |
| >85% | 75% | 68% | 60% | 53% | 48% | 40% | 33% | <25% |

1. Which substances are dissolved in human blood plasma?
  - A carbon dioxide, haemoglobin and glucose
  - B carbon dioxide, oxygen and haemoglobin
  - C glucose, hormones and urea
  - D oxygen, urea and starch
  
2. Which chamber of the heart has the thickest muscle wall?
  - A left atrium
  - B left ventricle
  - C right atrium
  - D right ventricle

3. The diagram shows the human heart and some of the blood vessels connected to it.



Before blood in W reaches Z it must

- A gain glucose.
  - B give up heat to the skin.
  - C pass through capillaries.
  - D travel to the head.
4. Which blood vessel has a high carbon dioxide concentration, a low oxygen concentration and a high blood pressure?
- A aorta
  - B pulmonary artery
  - C pulmonary vein
  - D vena cava

5. What is the fluid in the blood called?

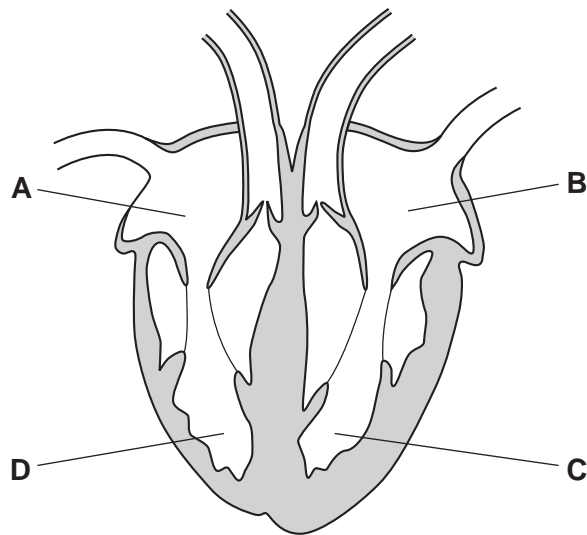
- A lymph
- B mucus
- C plasma
- D tissue fluid

6. What is a method of reducing the risk of coronary heart disease?

- A angioplasty
- B by-pass' surgery
- C controlled exercise
- D inserting a stent

7. The diagram shows a section through the heart.

Which part pumps blood to the aorta?



P

8. The diagram shows a section through a blood vessel in the leg.



Which type of blood vessel is shown, and in which direction does the blood flow?

|          | type of vessel | direction of flow |
|----------|----------------|-------------------|
| <b>A</b> | artery         | P to Q            |
| <b>B</b> | artery         | Q to P            |
| <b>C</b> | vein           | P to Q            |
| <b>D</b> | vein           | Q to P            |

9. Which row shows the chambers of the heart, from those with the thickest walls to those with the thinnest walls?

|          | thickest        | →               | thinnest        |
|----------|-----------------|-----------------|-----------------|
| <b>A</b> | atria           | left ventricle  | right ventricle |
| <b>B</b> | atria           | right ventricle | left ventricle  |
| <b>C</b> | left ventricle  | right ventricle | atria           |
| <b>D</b> | right ventricle | left ventricle  | atria           |

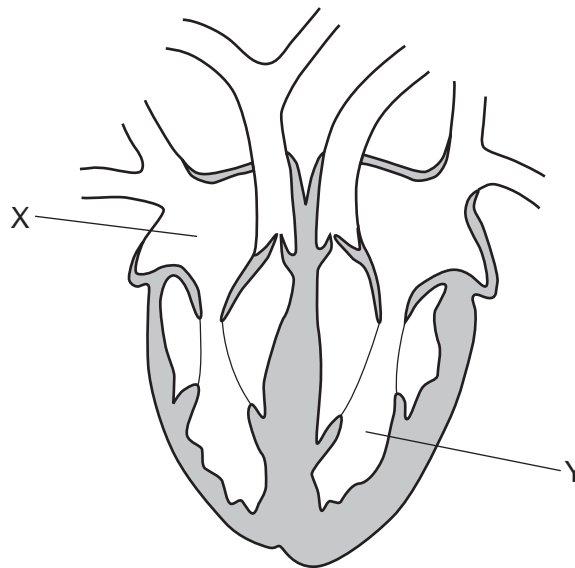
10. Why is aspirin sometimes used as a drug to reduce the risk of coronary heart disease?

- A It reduces blood pressure.
- B It reduces pain.
- C It reduces the tendency for blood to clot.
- D It relaxes artery walls.

11. Which statement is correct for **most** veins in the human body?

- A They carry blood at high pressure.
- B They have a pulse.
- C They have valves.
- D They take blood away from the heart.

12. The diagram shows a vertical section through a human heart.

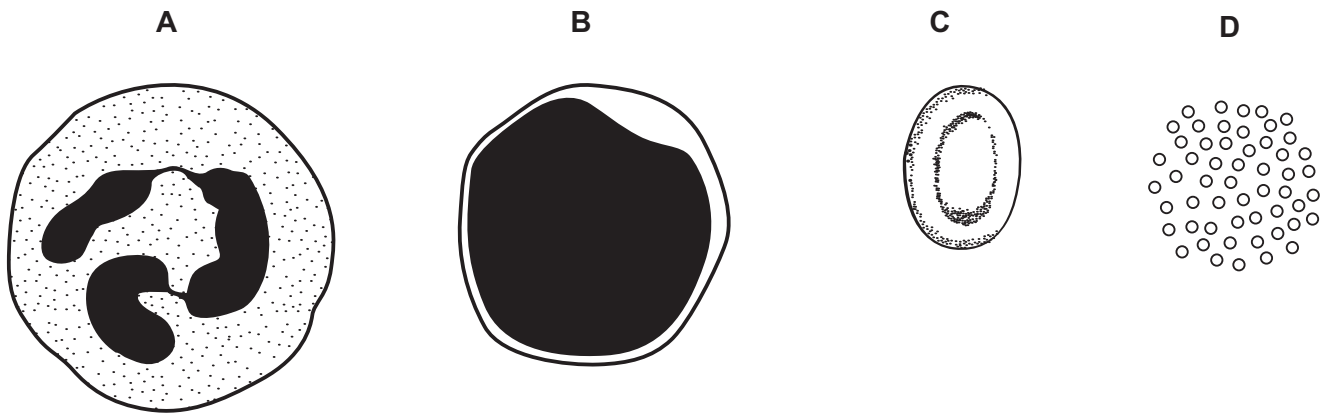


What are X and Y?

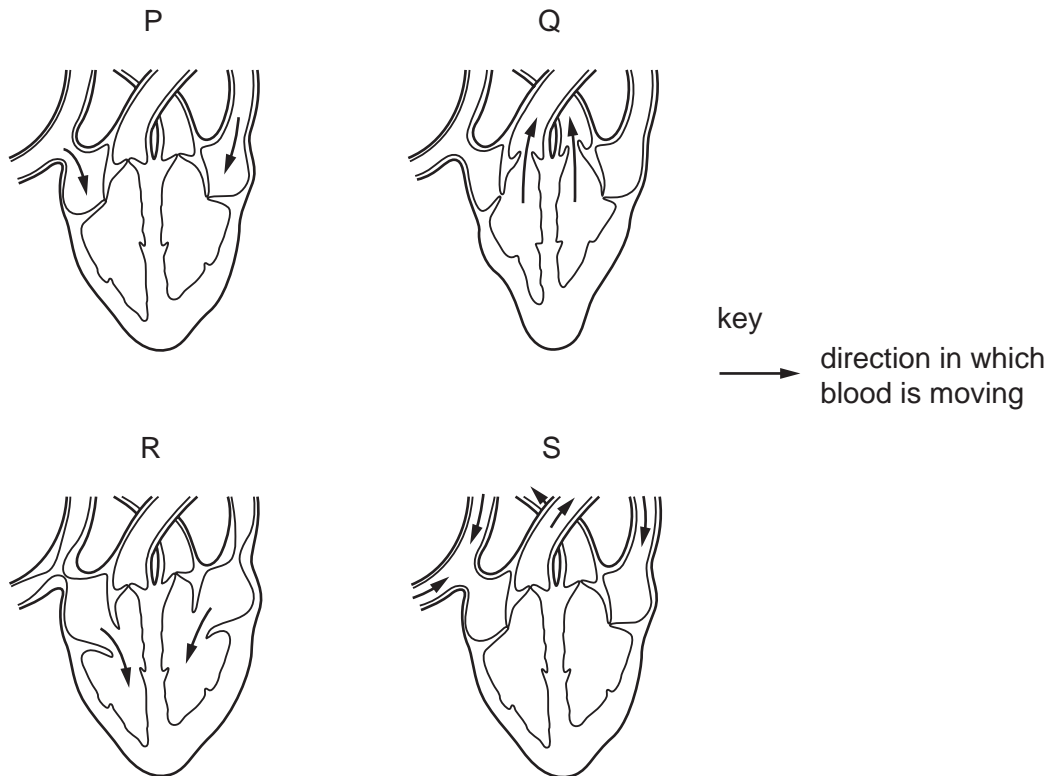
|          | X               | Y               |
|----------|-----------------|-----------------|
| <b>A</b> | left atrium     | right ventricle |
| <b>B</b> | left ventricle  | right atrium    |
| <b>C</b> | right atrium    | left ventricle  |
| <b>D</b> | right ventricle | left atrium     |

13. The diagrams show some components of the blood of a mammal.

Which component causes the blood to start clotting?



14. The diagrams show four different stages in **one** heart beat.



What is the correct order for the stages after stage P?

- A Q → R → S
- B R → Q → S
- C R → S → Q
- D S → R → Q

15. Where does haemoglobin become oxyhaemoglobin?
- A** heart
  - B** kidneys
  - C** liver
  - D** lungs
16. What is the correct sequence for blood being pumped from the heart to the lungs?
- A** left atrium → left ventricle → pulmonary artery
  - B** left atrium → left ventricle → pulmonary vein
  - C** right atrium → right ventricle → pulmonary artery
  - D** right atrium → right ventricle → pulmonary vein
17. Which structures in plants and in humans normally carry amino acids?

|          | arteries | phloem | ureters |
|----------|----------|--------|---------|
| <b>A</b> | ✓        | ✓      | x       |
| <b>B</b> | ✓        | x      | ✓       |
| <b>C</b> | x        | ✓      | x       |
| <b>D</b> | x        | x      | ✓       |

18. Why is the circulatory system of mammals described as a double circulation?
- A** Blood flows firstly through arteries and then through veins.
  - B** Blood flows through the heart twice on one complete circuit of the body.
  - C** In the heart, blood flows firstly through atria and then through ventricles.
  - D** The atria and the ventricles contract alternately.



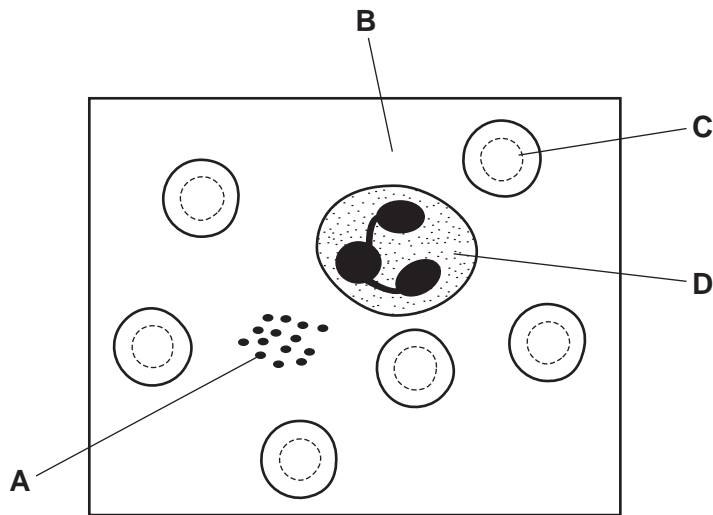
19. Which substance is transported by haemoglobin?

- A nitrogen
- B oxygen
- C urea
- D water

20. The diagram shows human blood as seen through a light microscope.

A person's blood is unable to clot.

Which component of the blood is **not** functioning properly?



21. In which list do all three blood vessels carry oxygenated blood?
- A** aorta, pulmonary artery, renal artery
  - B** aorta, pulmonary vein, renal artery
  - C** vena cava, pulmonary artery, renal vein
  - D** vena cava, pulmonary vein, renal vein
22. In a person with a low platelet level, which process is slower than normal?
- A** antibody formation
  - B** blood clotting
  - C** oxygen carriage
  - D** phagocytosis
23. Which blood vessel contains valves?
- A** arteriole
  - B** capillary
  - C** renal artery
  - D** renal vein