

Blood and blood vessels: practice questions

7 questions · 18 marks · mark scheme at the back

For Edexcel GCSE Biology 1BI0 and Combined Science 1SC0. **Triple only** is not in Combined Science. **Higher tier** is only on the Higher paper.

Name

Total / 18

1 What is the function of platelets? [1 mark]

- A. ☐ To carry oxygen
- B. ☐ To engulf pathogens
- C. ☐ To help the blood to clot
- D. ☐ To produce antibodies

2 Explain how the structure of a red blood cell is related to its function. [3 marks]

3 Describe how phagocytes and lymphocytes protect the body against pathogens. [4 marks]

4 State two substances that are transported in the blood plasma. [2 marks]

A blood sample has 5×10^6 red blood cells in each mm^3 . Calculate the number of red blood cells in 3 mm^3 of this blood. Give your answer in standard form.

Answer =

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Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

C C (to help the blood to clot)

2. [3]

- biconcave disc shape gives a large surface area (for absorbing oxygen) (1)
- contains haemoglobin which combines with oxygen (1)
- no nucleus so there is more room for haemoglobin (1)

3. [4]

- phagocytes engulf pathogens (1)
- and digest them (1)
- lymphocytes produce antibodies (1)
- which destroy pathogens (1) allow bind to pathogens

4. [2]

- carbon dioxide / urea / digested food molecules (glucose, amino acids) / mineral ions / hormones (1)
ignore heat; do not accept oxygen or red blood cells
- any second different substance from the same list (1)
- Max 2

5. [2] **Higher tier**

- $3 \times 5 \times 10^6 = 15 \times 10^6 / 15\,000\,000$ (1)
- 1.5×10^7 (1)

6. [3]

- thick muscular wall to withstand high pressure (1)
- elastic fibres allow the wall to stretch and spring back (1)
- narrow lumen helps maintain high pressure (1)
- Max 3

7. [3]

- walls are one cell thick (1)
- so there is a short diffusion distance (1)
- narrow and forms a large network, giving a large surface area for exchange with cells (1)