

Higher Combined version — Higher Tier (★) included; Separate-only (◆) removed.

Q1. Describe THREE adaptations of red blood cells for carrying oxygen.

[3 marks]

Q2. Describe the roles of the four components of blood.

[4 marks]

Total: 7 marks

Q1 (3 marks)

Describe THREE adaptations of red blood cells for carrying oxygen.

- Biconcave disc shape — large surface area for O₂ diffusion [1]
- No nucleus — more space for haemoglobin/more O₂ carried per cell [1]
- Contain haemoglobin — binds O₂ reversibly in lungs, releases in respiring tissues [1]

Q2 (4 marks)

Describe the roles of the four components of blood.

- Red blood cells: carry O₂ as oxyhaemoglobin [1]
- White blood cells: phagocytes engulf pathogens (phagocytosis); lymphocytes produce antibodies [1]
- Plasma: liquid that transports dissolved substances — glucose, CO₂, hormones, urea, amino acids [1]
- Platelets: cell fragments involved in clotting at wound sites [1]