

9. Transport in animals

9.4 Blood

Paper 3 and 4

Question Paper

Paper 3

Questions are applicable for both core and extended candidates

- 1 (b) Fig. 1.1 is a diagram of a normal red blood cell.

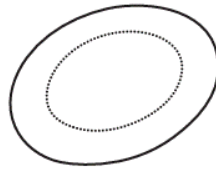


Fig. 1.1

Fig. 1.2 shows three red blood cells that have been placed in different concentrations of a salt solution.

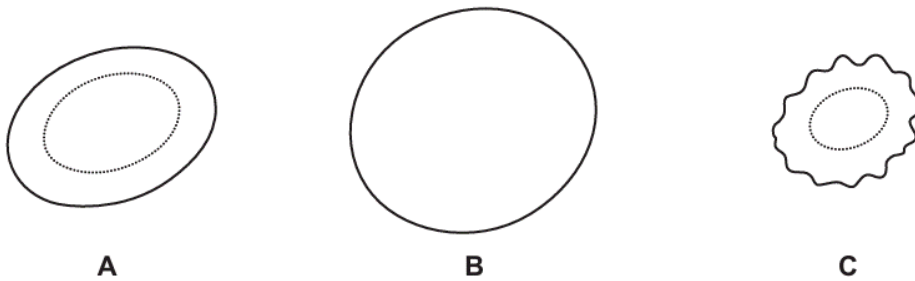


Fig. 1.2

Identify the cell that has been placed in a very concentrated salt solution.

Give reasons for your answer.

cell

reasons

.....

.....

.....

.....

.....

.....

[3]

- (c) Water is needed by all organisms.

State **two** processes in organisms that use water as a solvent.

1

2

[2]

2



- E

(a)

[4]

(b) Describe how platelets in the blood prevent disease.

.....

.....

.....

.....

..... [2]

(c) Blood plasma transports many substances including excretory products and hormones.

(i) Circle the names of **two** excretory products in humans.

amino acids

cellulose

carbon dioxide

glucose

lipase

oxygen

urea

[2]

(ii) State the names of **two** hormones that are produced by the reproductive organs.

1

2 [2]

[Total: 10]

3 (a) Fig. 2.1 is a photomicrograph of human blood.

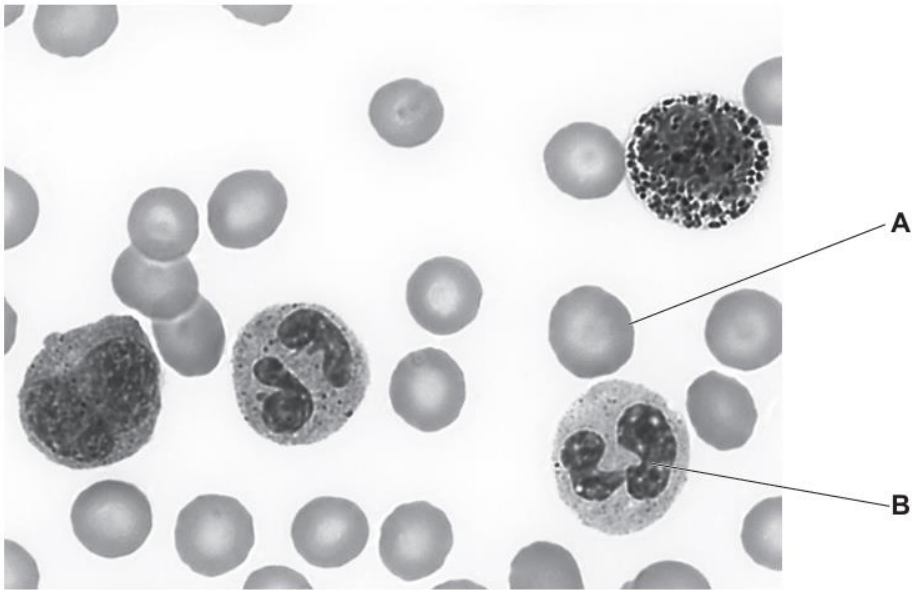


Fig. 2.1

(i) Use the information in Fig. 2.1 to complete Table 2.1 by stating **one** function for each cell.

Table 2.1

identifying letter in Fig. 2.1	function
A	
B	

[2]

(ii) State the name of the component of blood that transports the cells shown in Fig. 2.1.

..... [1]

- 4 (b) Fig. 6.1 is a photomicrograph of blood.

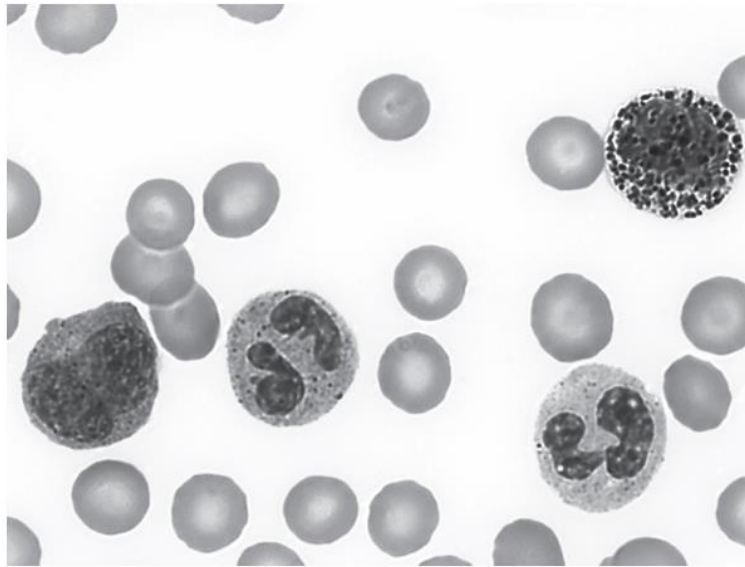


Fig. 6.1

- (i) Label **one** red blood cell on Fig. 6.1 with a label line and the letter **X**. [1]
- (ii) State the name of **one** other type of blood cell in Fig. 6.1.
..... [1]
- (iii) State the names of **two** other components of blood.
1
2 [2]

- 5 (b) Fig. 7.1 shows a photomicrograph of a capillary with red blood cells passing through it.



Fig. 7.1

- (i) State the function of the red blood cells shown in Fig. 7.1.

.....
..... [1]

- (ii) Red blood cells are one component of blood.

State the name of **two** other components of blood.

1
2
[2]

- 6 Fig. 8.1 shows a photomicrograph of some red blood cells.

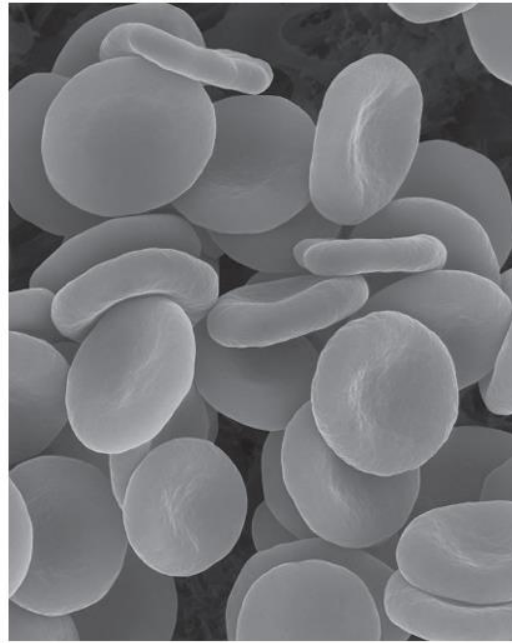


Fig. 8.1

- (a) (i) State the function of a red blood cell.
[1]
- (ii) State **two** ways in which a red blood cell is adapted to its function.
 1

 2
[2]
- (b) State the name of a component of blood that is responsible for clotting.
[1]
- (c) (i) State the name of the disease caused by a blockage in the arteries supplying the heart muscle.
[1]
- (ii) List **three** risk factors that increase the risk of a blockage in the arteries supplying the heart muscle.
 1
 2
 3[3]

Paper 4

Questions are applicable for both core and extended candidates unless indicated in the question

- 7 (a) Red blood cells are specialised cells that transport oxygen.

State the substance in red blood cells that combines with oxygen.

..... [1]

- (b) State the name of the component of blood that promotes blood clotting.

..... [1]

8 Fig. 5.1 shows a photomicrograph of human blood.

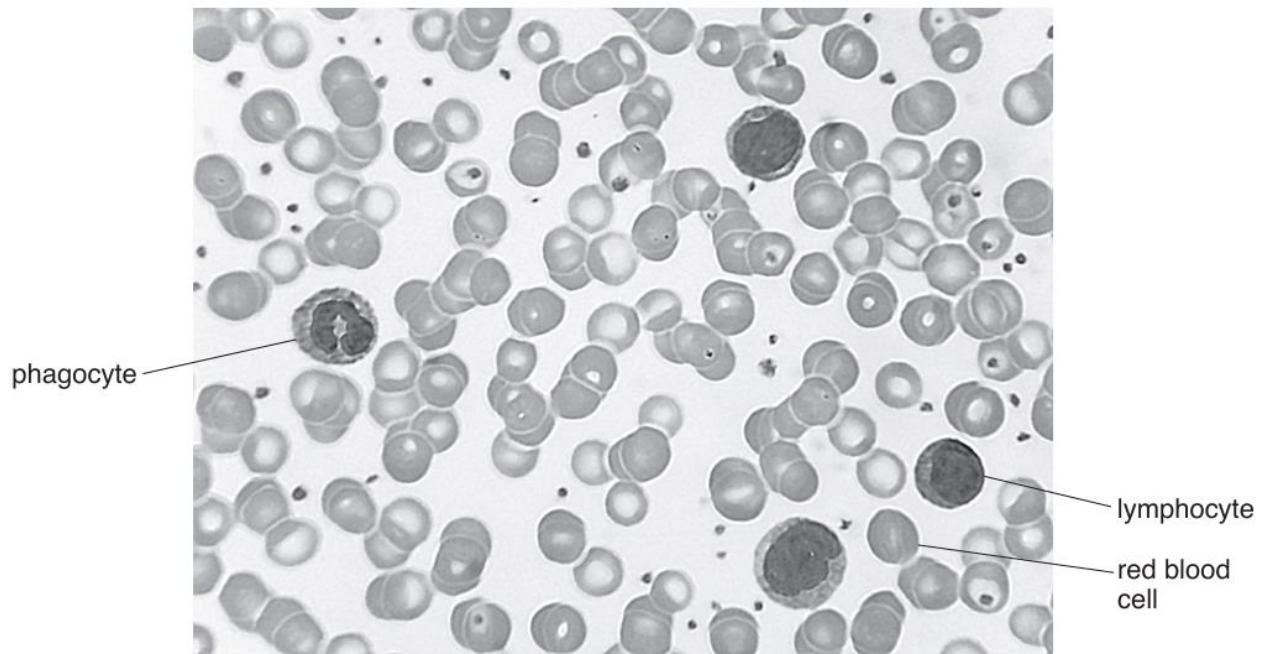


Fig. 5.1

(a) Describe the differences in appearance and the roles of the **three** cells labelled in Fig. 5.1.
(extended only)

[6]

(b) Fig. 5.2 shows some of the stages of blood clotting.

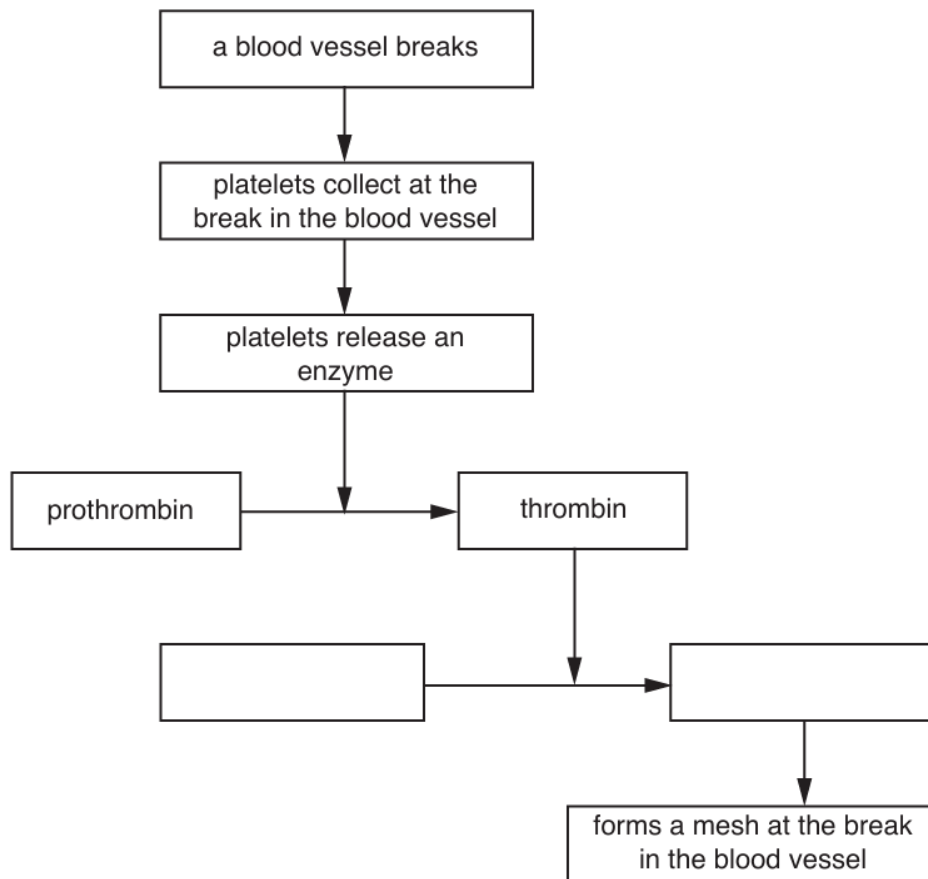


Fig. 5.2

(i) Complete Fig. 5.2 by filling in the **two** empty boxes. (extended only) [1]

(ii) State **two** roles of blood clotting.

.....

.....

.....

.....

..... [2]