Revision Sheet

Pearson Edexcel · International A-Level · Biology · Unit 1 Molecules, Diet, Transport and Health

22 vocabulary items · 22 marks of exam questions (4 questions)

Part 1 · Vocabulary review (22 items). The terms this unit is examined on most. Mark it yourself from the answer key.

Section A · Chinese to English

Write the English word.

1. _____ [1]
2. _____ [1]
3. _____ [1]
4. _____ [1]
5. _____ [1]
6. _____ [1]
7. _____ [1]
8. _____ [1]
9. _____ [1]
10. _____ [1]
11. _____ [1]
12. _____ [1]
13. _____ [1]
14. _____ [1]
15. _____ [1]
16. _____ [1]

17. _____ [1]
18. _____ [1]
19. _____ [1]
20. _____ [1]
21. _____ [1]
22. _____ [1]

Part 2 · Exam questions (22 marks, 4 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

23 Mutations can give rise to cancer.

(a) What is a mutation?

(1)

- ☒ **A** a change in the amino acid sequence in DNA
- ☒ **B** a change in the amino acid sequence in a protein
- ☒ **C** a change in the base sequence in DNA
- ☒ **D** a change in the base sequence in a protein

(b) Name **two** types of mutation.

(1)

1 .....

24 The blood clotting process has to be fast to prevent loss of blood from wounds.

(a) Which molecule traps red blood cells and platelets in the formation of a blood clot at a wound?

(1)

- ☒ **A** cholesterol
- ☒ **B** collagen
- ☒ **C** fibrin
- ☒ **D** fibrinogen

(b) How many of the following are converted into an active enzyme during blood clotting?

- fibrin
- fibrinogen
- prothrombin
- thrombin

(1)

- ☒ **A** 1
- ☒ **B** 2
- ☒ **C** 3
- ☒ **D** 4

(c) How many of the following are soluble in blood plasma?

- fibrin
- fibrinogen
- prothrombin
- thrombin

(1)

- ☒ **A** 1
- ☒ **B** 2
- ☒ **C** 3
- ☒ **D** 4

(d) Thromboplastin is stored inside platelets.

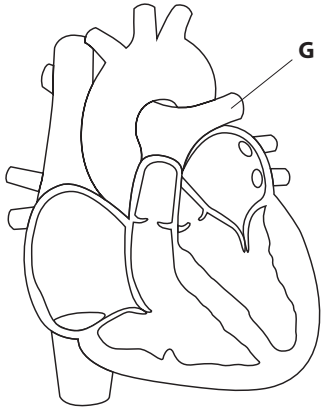
Explain the advantages of storing thromboplastin inside platelets.

(3)

(Total for Question 24 = 6 marks)

25 The cardiac cycle describes the events that take place in the heart during one complete heartbeat.

(a) The diagram shows a heart in one of the stages, stage **F**, of the cardiac cycle.



(i) What is the name of the blood vessel labelled **G**?

(1)

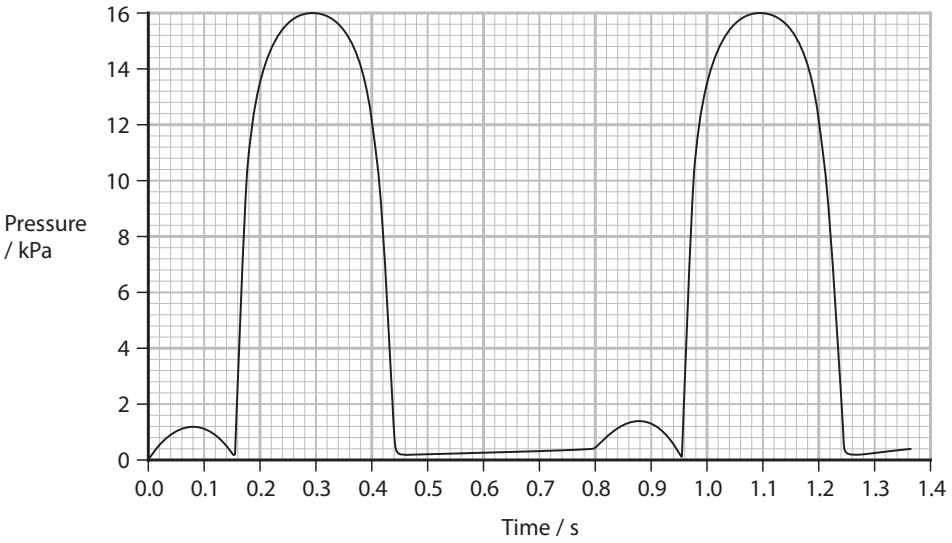
- ☒ **A** aorta
- ☒ **B** pulmonary artery
- ☒ **C** pulmonary vein
- ☒ **D** vena cava

(ii) Which row of the table identifies the stages before and after stage **F**?

(1)

	Stage before stage F	Stage after stage F
☒ **A**	atrial systole	cardiac diastole
☒ **B**	atrial systole	ventricular systole
☒ **C**	ventricular systole	atrial systole
☒ **D**	ventricular systole	cardiac diastole

(b) The graph shows pressure changes in the left ventricle of a person.



(i) Calculate the heart rate of this person.

Express your answer to 3 significant figures.

(2)

Answer ..... beats min^{-1}

(ii) Another line could be drawn on this graph to show the pressure changes in the right ventricle.

Describe the shape and position of this line.

Give reasons for your answer.

(3)

(Total for Question 25 = 7 marks)

26 Polysaccharides, lipids, nucleic acids and proteins are large molecules found in living organisms.

(a) Polymers are large molecules made of monomers. The table gives information about some of these polymers.

Complete the table by filling in the empty boxes with either the name of the monomer, the elements present in each monomer or the type of bond between monomers.

(4)

Polymer	Monomer	Elements present in monomer	Type of bond between monomers
polysaccharides	monosaccharide	.....	glycosidic
nucleic acid	.....	carbon, hydrogen, oxygen, phosphorus and nitrogen	.....
protein	amino acid	.....	peptide

(b) Triglycerides are lipids.

Describe how an unsaturated triglyceride is synthesised.

(3)

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(Total for Question 26 = 7 marks)