FOUNDATION

1.5 Homeostasis and Response: 10-minute Pack

AQA 8461 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Name the hormone produced by the pancreas that lowers blood glucose concentration.

(Total for Question 1 is 1 mark)

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2 Complete the sequence for the reflex arc: stimulus -> receptor -> ? -> effector -> response. Name the missing part of the pathway and briefly state its role.

(Total for Question 2 is 2 marks)

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3 Calculate the increase in blood glucose concentration in mmol per litre.

(Total for Question 3 is 2 marks)

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4 Calculate the difference in pupil diameter between bright and dim light. Then state which change is a reflex that helps protect the retina.

(Total for Question 4 is 3 marks)

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Mark scheme · 1.5 Homeostasis and Response: 10-minute Pack

Question 1

insulin cao	**B1**

Answer: Insulin

Question 2

relay neurone or coordination centre or spinal cord (accept relay neuron or coordinator)	**B1**
brief role: transmits the signal from the receptor to the effector or connects sensory and motor neurones, oe	**B1**

Answer: relay neurone

Question 3

calculates difference: 6.5 - 4.5	**M1**
2.0 mmol per litre cao	**A1**

Answer: 2.0 mmol per litre

Question 4

calculates difference: 6.0 - 2.0	**M1**
4.0 mm cao	**A1**
state: pupils constrict in bright light to protect the retina or pupils dilate in dim light to let more light in, oe (accept either phrasing that mentions protection)	**B1**

Answer: Difference 4.0 mm. Pupil constriction in bright light protects the retina.

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