6.5 The Fight or Flight Response and the Role of Adrenaline: 10-minute Pack

AQA 7182 · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Define the sympathomedullary pathway as it is used to describe the acute fight or flight response in humans.

(Total for Question 1 is 2 marks)

2 Name the gland that contains the adrenal medulla which releases adrenaline during the fight or flight response.

(Total for Question 2 is 1 mark)

3 State the role of the hypothalamus in initiating the acute fight or flight response in the sympathomedullary pathway.

(Total for Question 3 is 2 marks)

4 Explain one negative consequence of repeatedly triggering the acute fight or flight response for an otherwise healthy adult, limited to physiological or behavioural outcomes directly linked to repeated adrenaline surges.

(Total for Question 4 is 4 marks)

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Mark scheme · 6.5 The Fight or Flight Response and the Role of Adrenaline: 10-minute Pack

Question 1

states that the sympathomedullary pathway involves activation of the sympathetic branch of the autonomic nervous system by the hypothalamus oe — **B1**

states that the adrenal medulla is stimulated to release adrenaline into the bloodstream as part of this pathway oe — **B1**

Answer: The sympathomedullary pathway is when the hypothalamus activates the sympathetic autonomic system and the adrenal medulla releases adrenaline into the bloodstream.

Question 2

adrenal gland or adrenal glands cao — **B1**

Answer: The adrenal gland.

Question 3

identifies that the hypothalamus detects a threat or stressor and activates the sympathetic branch of the autonomic nervous system oe — **B1**

states that this activation leads to signals sent to the adrenal medulla to release adrenaline oe — **B1**

Answer: The hypothalamus detects a threat and activates the sympathetic nervous system, triggering the adrenal medulla to release adrenaline.

Question 4

identifies a plausible negative consequence directly linked to repeated adrenaline surges, e.g. persistently raised blood pressure or increased risk of cardiovascular strain oe — **M1**

explains the mechanism, e.g. repeated vasoconstriction and elevated heart rate increase wear on blood vessels and the heart, making hypertension more likely oe — **A1**

relates a behavioural outcome if present, e.g. ongoing vigilance or anxiety-related behaviours that disrupt sleep or daily functioning oe — **M1**

explains why this matters, e.g. reduced quality of life and increased healthcare needs if the acute response is triggered too often oe — **A1**

Answer: Repeated adrenaline surges can lead to persistently raised blood pressure and cardiovascular strain because repeated vasoconstriction and elevated heart rate place extra wear on the heart and vessels. Behaviourally, chronic triggering can produce ongoing hypervigilance and sleep disruption, reducing quality of life and increasing health risks.

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