6.4 The Endocrine System: Glands and Hormones: 10-minute Pack

AQA 7182 · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Identify a hormone produced by the anterior pituitary gland and briefly state one function of that hormone in the human body. Name the gland as the pituitary and give one hormone and one function, in the context of endocrine gland regulation.

(Total for Question 1 is 2 marks)

2 Identify the main hormone produced by the thyroid gland and outline one effect this hormone has on metabolic rate or development in the body. Name the gland and the effect in the context of endocrine control of metabolism.

(Total for Question 2 is 2 marks)

3 State which gland is often called the 'master gland' of the endocrine system and give one reason why it is described that way, in the context of regulation of other glands.

(Total for Question 3 is 1 mark)

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4 Define 'negative feedback' as a general regulatory principle of the endocrine system, and give one concise example other than thyroxine where negative feedback operates to restore hormone levels.

(Total for Question 4 is 2 marks)

5 Identify one way gonadal hormones such as testosterone or oestrogen can influence behaviour and give a brief supporting explanation or example, in the context of puberty or reproduction.

(Total for Question 5 is 2 marks)

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Mark scheme · 6.4 The Endocrine System: Glands and Hormones: 10-minute Pack

Question 1

names a pituitary hormone, for example growth hormone (GH) or adrenocorticotropic hormone (ACTH) oe **B1**

states a correct function linked to that hormone, for example GH stimulates body growth and protein synthesis, ACTH stimulates the adrenal cortex to release cortisol oe **B1**

Answer: Example: Pituitary hormone = growth hormone (GH). Function = stimulates body growth and protein synthesis.

Question 2

identifies thyroxine (T4) or thyroid hormone oe **B1**

outlines an effect, for example increases basal metabolic rate, increases rate of cellular respiration, or supports growth and brain development oe **B1**

Answer: Thyroid hormone = thyroxine (T4). Effect = increases basal metabolic rate and therefore increases cellular respiration.

Question 3

pituitary gland is named as the 'master gland' because it secretes hormones such as TSH and ACTH that regulate other endocrine glands oe **B1**

Answer: The pituitary gland is the 'master gland' because it secretes hormones like TSH and ACTH that stimulate and regulate other endocrine glands.

Question 4

defines negative feedback: a process where a rise in a hormone's level reduces further secretion, or a fall increases secretion, to maintain homeostasis oe **B1**

gives an example, e.g. insulin and blood glucose regulation where rising blood glucose stimulates insulin which lowers glucose and thus reduces further insulin release, or cortisol regulation via the HPA axis oe **B1**

Answer: Negative feedback is when changes in a hormone level reduce further secretion to maintain balance. Example: blood glucose and insulin, where high glucose stimulates insulin release which lowers glucose and so reduces insulin secretion.

Question 5

identifies an influence, e.g. testosterone associated with increased aggression or sexual drive, or oestrogen associated with regulation of menstrual cycle and influence on mood and sexual behaviour oe **B1**

gives a brief explanation or example linking the hormone to the behaviour, e.g. testosterone rises at puberty and contributes to the development of male sexual behaviour and secondary sexual characteristics which affect mating behaviour oe **B1**

Answer: Example: Testosterone can increase sexual drive and contribute to development of male secondary sexual characteristics at puberty, affecting reproductive behaviour.

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