Mark schemes

Q1.

[AO1 = 4]

2 marks: for a clear, coherent definition of hormones.
1 mark: for a limited and/or muddled definition.

Content:
A chemical messenger that circulates in the blood and controls how cells/organs work/influences behaviour or mood.

Plus

1 mark for identification of a hormone

Plus

1 mark for an accurate outline of the function of the identified hormone.

Possible content:
- melatonin: helps regulate the wake-sleep cycle
- thyroxine: increases metabolic rates and affects growth
- insulin/glucagon: help regulate blood sugar levels
- testosterone: controls the development of male physical features
- oestrogen: controls the development of female physical features.

Credit other hormones and their functions.

Note – in absence of definition of hormones, mark(s) can be awarded for the example of a hormone

[4]

Q2.

[AO1 = 4]

Award **up to 2 marks** for **each** gland as follows:

2 marks for a clear and coherent explanation of the function of a gland.

1 mark for a muddled/limited explanation.

Possible content:

- the pituitary gland controls the release of hormones from all other glands, eg it produces the adrenocorticotrophic hormone (ACTH) which is involved in the stress response by stimulating the production and release of cortisol from the adrenal glands
- the thyroid gland produces thyroxine which aids heart and digestive functioning, metabolism, brain development, bone health and muscle control
- the adrenal gland produces adrenaline which triggers the fight or flight response and increases heart rate, breathing rate, contracts blood vessels etc
- the testes produce testosterone which controls the development of male physical features such as development of male genitalia, facial and body hair growth, deepening of the voice etc. It is also it is involved in development of the masculine gender
- the ovaries produce oestrogen which controls the development of female physical features such as the development of female genitalia, breast development, menstruation, etc. It is also involved in the development of the feminine gender
- the pancreas produces insulin which maintains normal blood glucose levels by allowing cells to absorb glucose from the blood. It is also involved in the breakdown of fat and protein.

Credit accurate functions of other glands.

Note: No marks for simply naming glands.

[4]