

Full Higher Separate content. ★ = Higher Tier. ◆ = Separate Science only.

Q1. Compare the nervous system and the endocrine system in terms of speed, duration and specificity of response.

[3 marks]

Q2. Name FOUR endocrine glands in the human body and state the hormone each produces and its function.

[4 marks]

★ HIGHER TIER

Q3. ★ Explain why the pituitary gland is called the "master gland".

[2 marks]

Total: 9 marks

Q1 (3 marks)

Compare the nervous system and the endocrine system in terms of speed, duration and specif...

- Nervous: fast electrical signals, short-lived, very specific target [1]
- Endocrine: slower chemical hormones in blood, longer-lasting effects [1]
- Endocrine: hormones affect all target organs with the right receptor; nervous affects specific single effector [1]

Q2 (4 marks)

Name FOUR endocrine glands in the human body and state the hormone each produces and its f...

- Pancreas: insulin (lowers blood glucose) and glucagon (raises blood glucose) [1]
- Pituitary: FSH/LH (controls reproduction), ADH (water balance), growth hormone [1]
- Adrenal glands: adrenaline (fight or flight response — increases heart rate) [1]
- Thyroid: thyroxine (controls metabolic rate) / Testes: testosterone / Ovaries: oestrogen/progesterone [1] — any 4 correct

Q3 (2 marks) [★ HT]

★ *Explain why the pituitary gland is called the "master gland".*

- Pituitary produces hormones that control many other endocrine glands [1]
- E.g. pituitary releases FSH which stimulates the ovaries to produce oestrogen — it controls other hormonal responses [1]