

Biological Mechanisms - Mark Scheme

Q1.

[AO1 = 2]

1 mark – ghrelin is a hormone / chemical released from stomach and small intestine into the bloodstream in relation to food intake.

Plus

1 mark – levels are lowest after a meal and then rise gradually, increasing feelings of hunger and stimulating eating behaviour.

Q2.

[AO3 = 2]

1 mark for a brief explanation of a limitation (must be explained rather than stated).

Plus

1 mark for elaboration focused on the issue of brain mechanisms of feeding.

Possible limitations:

- problem of extrapolating from non-human animals to humans
- limited behavioural range of non-human animals.

Credit other relevant limitations.

Q3.

Marks for this question: AO1 = 6, AO3 = 10

Level	Marks	Description
4	13 – 16	Knowledge is accurate and generally well detailed. Discussion / evaluation / application is thorough and effective. The answer is clear, coherent and focused. Specialist terminology is used effectively. Minor detail and / or expansion of argument sometimes lacking.
3	9 – 12	Knowledge is evident. There are occasional inaccuracies. Discussion / evaluation / application is apparent and mostly effective. The answer is mostly clear and organised. Specialist terminology is mostly used effectively. Lacks focus in places.
2	5 – 8	Some knowledge is present. Focus is mainly on description. Any discussion / evaluation / application is only partly effective. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.

1	1 – 4	Knowledge is limited. Discussion / evaluation / application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology either absent or inappropriately used.
	0	No relevant content.

Please note that although the content for this mark scheme remains the same, on most mark schemes for the new AQA Specification (Sept 2015 onwards) content appears as a bulleted list.

A01

Neural mechanisms concern the brain and nervous system, and material on, for instance, the role of peripheral hormones can only earn credit if explicitly linked to neural mechanisms (eg as signals to neural mechanisms of satiety / hunger). It is likely that outlines of feeding and satiety centres in the hypothalamus will provide the most popular material, but neural mechanisms of eating are complex and examiners should be alert to less familiar material.

A03

Evaluation is likely to focus on the experimental research support for and against particular models of neural mechanisms. There are many human and animal studies for candidates to draw on, and accurate interpretation of findings should be discussed. Further commentary could include the interplay of central and peripheral mechanisms, and the need to consider the range of biological, psychological, and social factors that can influence eating.

Issues relevant to this question include: reductionism; use of animals in research; ethics; nature / nurture; free will / determinism etc.