

Mark Scheme

Biopsychology

1. The adrenal gland is part of the endocrine system that produces adrenaline to help the body prepare for the fight or flight response.

Using an example of a gland and hormone, outline the function of the endocrine system. Do not use the adrenal gland/adrenaline as your example. **[4 marks]**

Marks for this question: AO1 = 4

Level	Marks	Description
2	3–4	Knowledge of the endocrine system is clear and mostly accurate. The answer is generally coherent with effective use of terminology. Reference is correctly made to one gland and one hormone.
1	1–2	Some knowledge of the endocrine system is evident. The answer lacks accuracy and detail. Use of terminology is either absent or inappropriate. OR knowledge of the endocrine system is at level 2 but the answer does not refer to one gland/hormone.
	0	No relevant content.

Possible content:

- the endocrine system helps to regulate the activity of cells and organs in the body
- the endocrine system communicates chemical messages to the organs of the body
- the thyroid gland produces thyroxine, which increases heart rate and metabolic rates
- the pineal gland produces melatonin, which may help regulate the wake-sleep cycle
- the anterior pituitary gland secretes Luteinizing hormone (LH) & Follicle-stimulating hormone (FSH), which stimulate ovaries to produce oestrogen & progesterone
- the anterior pituitary gland secretes LH & FSH, which stimulate the testes to produce testosterone & sperm
- the posterior pituitary releases oxytocin, which stimulates the uterus to contract during labour and also plays a role in bonding
- the pancreas secretes insulin and glucagon, which help regulate blood sugar levels.

Credit other relevant material.

Note – the gland and hormone referred to do not need to be related.

Note – simply naming a gland and hormone max **1 mark**

2. Kieran completes a quiz in his magazine and announces that he is ‘left brained’. “That’s just silly”, Sam says. “You cannot just be ‘left brained’, the whole brain works together to carry out functions.” “It’s not silly!” Kieran replies. “It says here that the left brain is responsible for speech and language.”

Discuss research into localisation of function in the brain and/or hemispheric lateralisation. Refer to Kieran and Sam’s discussion in your answer. **[16 marks]**

Marks for this question: AO1 = 6, AO2 = 4 and AO3 = 6

Level	Marks	Description
4	13–16	Knowledge of localisation of function in the brain and/or hemispheric lateralisation is accurate and generally well detailed. Application is effective. Discussion of hemispheric lateralisation is thorough and effective. Minor detail and/or expansion of the argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9–12	Knowledge of localisation of function in the brain and/or hemispheric lateralisation is evident but there are occasional inaccuracies/omissions. Application and/or discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	5–8	Limited knowledge of localisation of function in the brain and/or hemispheric lateralisation is present. Focus is mainly on description. Any application and/or discussion is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–4	Knowledge of localisation of function in the brain and/or hemispheric lateralisation is very limited. Discussion/application is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible content:

- localisation of functions in the brain such as the somatosensory cortex, motor cortex, primary visual cortex, primary auditory cortex, Broca's area and Wernicke's area and research supporting these functional divisions.
- **Note** – examiners should be aware that candidates may refer to other specific areas such as the hippocampus and amygdala which would be creditworthy
- hemispheric lateralisation refers to the notion that certain functions are principally governed by one side of the brain
- case studies, eg Phineas Gage, Leborgne (Tan), Lelong, etc., or imaging studies suggesting particular functions are dealt with by one hemisphere, eg Fink, Hallingam et al, 1996, Clarke, Assal & de Tribolet, 1993, etc.
- Sperry's (1968) split brain research studies
- case studies involving damage to the corpus callosum, eg Kim Peek
- Broca's discovery that the speech production area was in the left hemisphere
- Wernicke's discovery that the area for understanding language was in the left hemisphere.

Possible application: - Do not credit application unless it goes beyond material in the stem

- Sam's argument is in line with researchers who suggest that the two hemispheres work together to form most tasks as part of a highly integrated system
- Sam could be referring to the corpus callosum that enables information to be communicated between the two hemispheres
- Kieran is referring to the fact that Broca's area is usually found in the left hemisphere and is considered to play a vital role in speech production. This suggests that language is subject to hemispheric lateralisation
- Kieran is referring to the fact that Wernicke's area is usually found in the left hemisphere and is considered to play a vital role in understanding language. This suggests that language is subject to hemispheric lateralisation.

Possible discussion points:

- gender differences, eg Harast et al (1997)
- lateralisation patterns shift with age, eg Szaflarski et al 2006, with most tasks generally becoming less lateralised in healthy adulthood
- functions such as language are too complex to be assigned to just one area and instead involve networks of brain regions
- support for functional differentiation from aphasia cases used as a counter-argument
- equipotentiality theory – Lashley 1930
- issues with generalising from non-human animals to humans in lesion studies
- findings from plasticity studies that show compensation by undamaged regions on the opposite hemisphere, eg Danelli et al 2013
- issues generalising from case studies or from 'abnormal' patients, eg participants in the split brain research
- discussion of patient J.W. who could speak about information presented to the left or right brain (Turk et al, 2002)
- issues with generalising from studies with small participant numbers.

Credit other relevant material.

Social Influence

1. Outline consistency as a factor in minority influence. **[2 marks]**

Marks for this question: AO1 = 2

2 marks for a clear and coherent outline of consistency as a factor in minority influence.

1 mark for a limited/muddled outline.

Possible content:

- consistency is repeating the same message, that challenges the beliefs held by the majority
- consistency may be within the members of the group (synchronic) or over time (diachronic)
- this draws attention to the minority view.

Credit other relevant content including outline embedded within an example.

2. In psychology, participants are often deceived about the real aims of the research. Explain why researchers often use deception in conformity research studies. **[2 marks]**

Marks for this question: AO3 = 2

2 marks for a clear and coherent explanation of why deception is often used in conformity research studies.

1 mark for a limited/muddled explanation of why deception is often used in conformity research studies.

Possible content:

- conformity is about changing behaviour because of perceived pressure from other people – knowing the pressure was not real but part of an experiment, would reduce the effect on behaviour and make any findings less valid
- once participants know what the real aim of the study is, they could try to help/hinder the researcher because of demand characteristics. This means that the behaviour being measured would be less likely to be natural behaviour. This may make the findings less valid.

Credit other relevant content including the use of examples to illustrate why deception is often used in conformity research studies.

3. Amal is in a car park spray painting her name on a wall. A police officer on duty walks over to Amal and stands right next to her. When the police officer tells her to stop, Amal obeys. Explain how two situational variables could have influenced Amal to obey the police officer. **[4 marks]**

Marks for this question: AO1 = 2, AO2 = 2

For **each** situational variable award marks as follows:

2 marks for a clear and coherent explanation with appropriate application

1 mark for a limited/muddled explanation/application.

Possible content:

- uniform – Amal is likely to obey the police officer because he is wearing his uniform as this will indicate the officer as a legitimate authority figure
- proximity – Amal is in the direct presence of/close proximity to the police officer as he stands next to her therefore, she is more likely to obey as she might fear the immediate consequences of not obeying.

Credit other relevant content.

Note: no marks for simply naming the variables.

4. Briefly evaluate social support as an explanation of resistance to social influence. **[4 marks]**

Marks for this question: AO3 = 4

Level	Marks	Description
2	3–4	Evaluation of social support as an explanation of resistance to social influence is clear and has some detail. The answer is generally coherent with effective use of appropriate terminology.
1	1–2	Evaluation of social support as an explanation of resistance to social influence is limited/muddled. Terminology is either absent or inappropriately used.
	0	No relevant content.

Possible evaluation:

- use of evidence to support the explanation, eg use of specific studies of non-conformity/disobedience such as variations of Asch's and/or Milgram's basic experiments that demonstrated increased resistance, Rank & Jacobson (1977)
- social support is a purely situational explanation of resistance to social influence which depends on other people which contrasts with locus of control which is a dispositional explanation
- resistance to social influence in reality is likely to be due to a combination of situational and dispositional explanations.

Credit other relevant evaluation points.