



MARKSCHEME

May 2011

PSYCHOLOGY

Higher Level and Standard Level

Paper 1

9 pages

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SECTION A

Biological level of analysis

1. Explain how *one* hormone influences human behaviour.

[8 marks]

Refer to the paper 1 section A markbands below when awarding marks.

The command term “explain” requires candidates to give a detailed account of how the chosen hormone influences a chosen human behaviour. Responses should make a clear link between the function of the hormone and human behaviour.

A number of different hormones could be chosen, including: adrenaline, cortisol, melatonin, testosterone, estrogen, oxytocin.

Any aspect of human behaviour (*e.g.* aggression, depression, stress, sexual interest) is acceptable as long as the response focuses on how the hormone influences the particular behaviour.

Examples of how hormones influence human behaviour could be the influence of cortisol on memory, oxytocin on attachment, testosterone on aggression, or melatonin on sleep patterns. Responses that address the influence of neurotransmitter such as dopamine, serotonin, GABA and acetylcholine should not be awarded any marks. Where a neurotransmitter and hormone are chemically the same (*e.g.* noradrenaline) answers should make it clear that they are explaining the hormonal function.

Responses should address just one hormone’s influence, and where candidates have provided more than one example, credit should be given only to the first response.

Section A markbands

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 3	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
4 to 6	The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question.
7 to 8	The question is answered in a focused and effective manner and meets the demands of the command term. The response is supported by appropriate and accurate knowledge and understanding of research.

Cognitive level of analysis

2. Outline *one* theory of how emotion may affect *one* cognitive process. [8 marks]

Refer to the paper 1 section A markbands below when awarding marks.

Responses should give a brief account of one theory explaining how emotion may affect one cognitive process.

Responses may focus on any cognitive process that is affected by emotion such as intelligence, perception, memory, decision making. Whichever cognitive process is selected, responses should demonstrate how emotion may affect it.

For instance, responses may include Frank’s explanation that passion serves an important function in decision-making contexts precisely because emotions do not constitute a “rational” calculation of self-interest. It would also be appropriate to explain Brown and Kulik’s explanation of what they called *flashbulb memories*. These authors argue that flashbulb memories involve a special biological mechanism that we have developed through evolution so that highly consequential surprising events are very well remembered. If Freudian repression is included, then the candidate must explicitly justify the relationship to the cognitive level of analysis.

No marks should be awarded for responses that outline only a cognitive process. Low markband answers might outline a potentially appropriate theory, but without any link made to a cognitive process.

Where candidates have provided more than one theory or more than one cognitive process, credit should be given only to the first response.

Section A markbands

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 3	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
4 to 6	The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question.
7 to 8	The question is answered in a focused and effective manner and meets the demands of the command term. The response is supported by appropriate and accurate knowledge and understanding of research.

Sociocultural level of analysis

3. Describe *one* theory or study on the formation of stereotypes.

[8 marks]

Refer to the paper 1 section A markbands below when awarding marks.

Responses should give a detailed account of the theory or study on the formation of stereotypes. Where candidates offer studies on the effect of stereotypes on behaviour, no marks should be awarded.

There are a number of theories which explain the formation of stereotypes including:

- Tajfel’s (1969) social categorization theory
- Campbell’s (1967) theory of gatekeepers and the grain of truth hypothesis
- Hamilton and Gifford’s (1976) illusory correlation theory
- stereotyping as a natural cognitive process (Brislin, 1993)
- cognitive miser theory, as a resource-saving device (Fiske, 2004).

Possible studies could include:

- Tajfel *et al.* (1971) on intergroup discrimination
- Sherif *et al.* (1961) – Robber’s cave experiment on competition between groups
- Qualtrone & Jones (1981) on in-group and out-group influences on decision-making.

Where candidates describe one theory or study, but do not relate clearly relate this to the formation of stereotypes, a maximum of **[4 marks]** should be awarded.

Where candidates have provided more than one theory or study, credit should be given only to the first response.

Section A markbands

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 3	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
4 to 6	The question is partially answered. Knowledge and understanding is accurate but limited. Either the command term is not effectively addressed or the response is not sufficiently explicit in answering the question.
7 to 8	The question is answered in a focused and effective manner and meets the demands of the command term. The response is supported by appropriate and accurate knowledge and understanding.

Section B assessment criteria

A — Knowledge and comprehension

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 3	The answer demonstrates limited knowledge and understanding that is of marginal relevance to the question. Little or no psychological research is used in the response.
4 to 6	The answer demonstrates limited knowledge and understanding relevant to the question or uses relevant psychological research to limited effect in the response.
7 to 9	The answer demonstrates detailed, accurate knowledge and understanding relevant to the question, and uses relevant psychological research effectively in support of the response.

B — Evidence of critical thinking: application, analysis, synthesis, evaluation

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 3	The answer goes beyond description but evidence of critical thinking is not linked to the requirements of the question.
4 to 6	The answer offers appropriate but limited evidence of critical thinking or offers evidence of critical thinking that is only implicitly linked to the requirements of the question.
7 to 9	The answer integrates relevant and explicit evidence of critical thinking in response to the question.

C — Organization

Marks	Level descriptor
0	The answer does not reach a standard described by the descriptors below.
1 to 2	The answer is organized or focused on the question. However, this is not sustained throughout the response.
3 to 4	The answer is well organized, well developed and focused on the question.

SECTION B

4. **Discuss the use of brain imaging technologies to investigate the relationship between biological factors and behaviour.** *[22 marks]*

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term “discuss” requires candidates to offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

At least two brain imaging technologies should be discussed and could include:

- CAT
- PET
- fMRI.

Discussion could be focused on:

- advantages and limitations of brain imaging technology – non-invasive, side effects.
- ecological validity
- certain techniques may be more appropriate than others – for example, functional (PET, fMRI) versus structural (CAT, MRI) scanning.

Studies could relate to abnormal behaviour, neuromarketing, localization of function:

- Gazzaniga (2008) – MRI scans in split brain cases
- Ramachandran (2000) – using the fMRI to measure plasticity in the somatosensory cortex in phantom limb patients.
- The use of PET scans in determining disorders like autism, Alzheimer’s disease or schizophrenia.

Studies should focus on how the technology is used to investigate the relationship between biological factors and behaviour. Ethical considerations should refer to the use of the technology and not focus on the application of studies that have used the technology.

Where candidates have discussed only one example of a brain imaging technology, a maximum of **[11 marks]** should be awarded.

Description of non-imaging techniques which are not related to the discussion should be awarded no marks.

5. To what extent is *one* cognitive process reliable?**[22 marks]**

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term “to what extent” requires candidates to consider the merits or otherwise of an argument or concept; in the case of this question, the reliability of a cognitive process. Opinions and conclusions should be presented clearly and supported with appropriate evidence and sound argument.

The cognitive process discussed may be one of many such as:

- Memory – reconstructive memory, false memories, eye-witness testimony, flashbulb memory, memory distortions. Studies could include those by Bartlett, Loftus.
- Perception – top-down/bottom-up processing, visual illusions, values, context, cultural factors. Studies could include Wright *et al.* (2001) who studied race bias.
- Cognitive processes such as decision-making, thinking, and language could also be discussed.

Whichever cognitive process is selected, the focus of the response should be on its reliability, by providing a range of arguments that is supported by empirical research and evidence.

Where candidates discuss the reliability of more than one cognitive process, credit should be given only for the first example. It should be noted that a good discussion of reliability of a single cognitive process may refer to other cognitive processes; for example, a candidate may discuss attention as part of a discussion of memory or memory/schema theory as an influence on perception.

6. Discuss factors influencing conformity.

[22 marks]

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term “discuss” requires candidates to offer a considered and balanced review of factors influencing conformity. More than one factor should be addressed.

There are a number of factors influencing conformity that can be discussed, including:

- culture
- groupthink
- risky shift
- minority influence
- group size.

Individual factors could include Crutchfield’s conforming personality theory (1956) that argues that personality factors influence whether or not an individual will conform.

In a meta-analysis, Bond (2005) found differences in the effect of group size based on the type of social influence. Specific research on the influence of unanimity and accuracy, cohesion, confidence, gender, status, cultural norms, among others could be cited.

Candidates may discuss a relatively small number of factors in greater depth or a greater number of factors in less depth, thereby demonstrating a breadth of understanding. Both approaches are equally acceptable.

If factors influencing obedience, rather than conformity, are discussed, no marks should be awarded for this. Responses discussing Stanford Prison Study should not be awarded marks unless they clearly address the influence of societal roles on conformity.