



# **MARKSCHEME**

**May 2013**

**PSYCHOLOGY**

**Higher Level and Standard Level**

**Paper 1**

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## SECTION A

### Biological level of analysis

**1. Describe *one* study of localization of function in the brain.**

**[8 marks]**

*Refer to the paper 1 section A markbands on the next page when awarding marks.*

The command term “describe” requires candidates to give a detailed account of one study related to localization of function in the brain.

Responses should clearly describe the aim, method, findings and conclusion of the chosen study, displaying clear understanding of, and support for, localization of function in the brain. Candidates should clearly identify the specific part of the brain and its function.

Candidates are not required to give a detailed account of localization of function but should make a clear link between the study and theory to gain marks in the top markband. If the link is only implicit apply the markbands up to a maximum of **[6 marks]**.

Examples of studies include, but are not limited to:

- localization of speech production/understanding
- hippocampal impairment
- the role of the amygdala in aggression
- the role of the prefrontal lobe in decision-making.

If Sperry and Gazzaniga’s study of split-brain patients is described, it is important that the focus of the response is on localization of function. Candidates may refer to areas for language or to the function of corpus callosum.

If a candidate describes localization of function without making reference to a relevant study, apply the markbands up to a maximum of **[3 marks]**.

If a candidate describes a study that is not relevant to localization of function, **[0 marks]** should be awarded.

If a candidate describes more than one study, credit should be given only to the first description.

**Section A markbands**

<b>Marks</b>	<b>Level descriptor</b>
<b>0</b>	The answer does not reach a standard described by the descriptors below.
<b>1 to 3</b>	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
<b>4 to 6</b>	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.
<b>7 to 8</b>	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. Explain how *one* principle that defines the cognitive level of analysis may be demonstrated in *one* example of research (theory or study). *[8 marks]*

*Refer to the paper 1 section A markbands on the next page when awarding marks.*

The command term “explain” requires candidates to give a detailed account of an appropriate principle and show how this principle is clearly demonstrated in a theory or study relevant to the cognitive level of analysis.

Acceptable principles include, but are not limited to:

- mental processes can be scientifically investigated
- internal processes are important mediators between stimuli and responses
- mental representations guide behaviour
- mental processing can be compared to computer function
- cognitive processes are influenced by social and cultural factors
- biological factors may affect cognitive processes.

If the principle used is that sociocultural or biological factors can affect cognitive processes the focus of the research should be on the cognitive principle – that is, if a study or theory that is more typically linked to the biological level of analysis or the sociocultural level of analysis is used, the answer must focus on the cognitive aspects of the research. For example, if using the HM study, candidates should focus on memory aspects not physiological ones

After briefly outlining the principle and giving a brief summary of one study or theory, candidates should make an explicit link between the research and the principle. If a relevant principle and research are identified but are not explicitly linked, then apply the markbands up to a maximum of *[6 marks]*.

If a candidate explains a principle without making reference to research, apply the markbands up to a maximum of *[4 marks]*.

If a candidate only describes a study or theory relevant to the cognitive level of analysis, apply the markbands up to a maximum of *[3 marks]*.

If a candidate explains more than one principle and/or uses more than one example of research, credit should be given only to the first explanation of the first principle and to the first example demonstrating that principle.

**Section A markbands**

<b>Marks</b>	<b>Level descriptor</b>
<b>0</b>	The answer does not reach a standard described by the descriptors below.
<b>1 to 3</b>	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
<b>4 to 6</b>	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.
<b>7 to 8</b>	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 the role of situational *and* dispositional factors in explaining behaviour. [8 marks]**

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

The command term “describe” requires candidates to give a detailed account of how situational and dispositional factors may explain human behaviour.

Answers may clarify that dispositional factors include personality, biological factors and genetics and situational factors are external factors. Candidates may highlight that we seem to perceive the actions of others as stemming primarily from internal dispositions, while viewing our own as largely a response to environmental factors. Candidates may also address the fact that attributional judgment may vary across cultures.

Candidates may explain attribution theory or any other relevant research to help describe the situational and dispositional factors. This approach is appropriate as long as the focus of the answer is on the description of the factors.

It would also be appropriate to refer to studies such as Milgram or Zimbardo in looking at the power of the situation in determining behaviour. In such responses, however, candidates should show knowledge and understanding of the role of dispositional factors using other appropriate research if necessary.

If a candidate describes a relevant study with no link made to dispositional and situational factors, apply the markbands up to a maximum of **[3 marks]**.

If a candidate describes only situational factors or only dispositional factors, apply the markbands up to a maximum of **[4 marks]**.

**Section A markbands**

<b>Marks</b>	<b>Level descriptor</b>
<b>0</b>	The answer does not reach a standard described by the descriptors below.
<b>1 to 3</b>	There is an attempt to answer the question, but knowledge and understanding is limited, often inaccurate, or of marginal relevance to the question.
<b>4 to 6</b>	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.
<b>7 to 8</b>	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.

**Section B assessment criteria****A — Knowledge and comprehension**

<b>Marks</b>	<b>Level descriptor</b>
<b>0</b>	The answer does not reach a standard described by the descriptors below.
<b>1 to 3</b>	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.
<b>4 to 6</b>	The answer demonstrates limited knowledge and understanding relevant to the question or uses relevant psychological research to limited effect in the response.
<b>7 to 9</b>	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**

<b>Marks</b>	<b>Level descriptor</b>
<b>0</b>	The answer does not reach a standard described by the descriptors below.
<b>1 to 3</b>	The answer goes beyond description but evidence of critical thinking is not linked to the requirements of the question.
<b>4 to 6</b>	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.
<b>7 to 9</b>	The answer integrates relevant and explicit evidence of critical thinking in response to the question.

**C — Organization**

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



**SECTION B****4. Discuss two effects of the environment on physiological processes.****[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, supported by appropriate evidence, of the way in which the environment affects physiological processes.

Candidates may address two effects of the environment on two different physiological processes or may address two different effects of the environment on one physiological process. Both approaches are equally acceptable. The physiological processes should be clearly identified.

Examples of how the environment may affect physiological processes include:

- effects of jet lag on bodily rhythms
- effects of deprivation on neuroplasticity
- effects of environmental stressors on reproductive mechanisms.

Examples of studies include, but are not limited to:

- Michael Meaney’s (1988) study on how environmental stressors lead to hippocampal cell loss in rats
- Rosenzweig and Bennett’s (1972) study on stimulating environments and dendritic branching
- Small and Vorgan’s (2008) study on the effect of computer use on the brain.
- Studies by Maguire *et al.* (2000), Draganski *et al.* (2004), Brefczynski-Lewis *et al.* (2007) and Tierney *et al.* (2001).

Discussion may include but is not limited to:

- methodological and ethical issues
- other contributing factors – such as personality, age, or genetic predisposition
- empirical evidence
- application of the findings.

If a candidate discusses more than two effects of the environment, credit should be given only to the first two discussions.

If a candidate discusses only one effect of the environment, apply the markbands up to a maximum of **[11 marks]**.

5. **Examine how cognitive and biological factors interact in emotion.**

*[22 marks]*

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

The command term “examine” requires candidates to consider an argument in a way that uncovers the assumptions and interrelationships of how cognitive and biological factors interact in emotion.

Examples of appropriate theories and studies include, but are not limited to:

- Schachter and Singer’s (1962) two-factor theory, which proposes that physiological arousal and cognition are the central elements in emotional experience
- Dutton and Aron’s (1974) study on misattribution of arousal on emotion
- Lazarus’s (1975) theory that the experience of stress is not only physiological, but very dependent also on the cognitive appraisal of situations
- LeDoux’s (1999) model of two different biological pathways, which explains how emotional stimuli are processed in different parts of the brain depending on the degree of cognitive evaluation involved, especially in relation to fear and anxiety
- the role of the cerebral hemispheres in the cognitive and affective experience of emotion
- Speisman *et al.*’s (1964) experimental study that demonstrated how biological and cognitive factors interact in emotion.

The **interaction** between the cognitive and biological factors is the focus of the question, so candidates must include both factors in their answer.

Candidates may examine a smaller number of factors in order to demonstrate depth of knowledge, or may examine a larger number of factors in order to demonstrate breadth of knowledge. Both approaches are equally acceptable.

**6. Discuss the role of *one* cultural dimension on human 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, supported by appropriate evidence, of the role of a specific cultural dimension on human behaviour.

Cultural dimensions include, but are not limited to:

- power distance: the way people perceive power differences and how they react to power relations
- individualism versus collectivism: how much people define themselves apart from their group memberships and how it affects their behaviour
- masculinity versus femininity: differences between “masculine” and “feminine” cultures and their effects on individual behaviour
- uncertainty avoidance: society’s tolerance for uncertainty and ambiguity and its effect on behaviour
- long- versus short-term orientation (Confucian dynamism): time perspective in a society for the gratification of people’s needs and its effect on behaviour
- monochronous versus polychronous time orientation: another form of time perspective in which punctuality, deadlines, and future orientation affect behaviour.

It is important that candidates make a link between the cultural dimension and human behaviour, demonstrating how the selected cultural dimension affects human behaviour. For example, when examining the role of Confucian dynamism, responses may refer to how it affects management leadership, creative behaviour, identification with workplace, perseverance, and/or respect for tradition.

Discussion may include but is not limited to:

- methodological issues
- empirical evidence
- application of the findings
- other contributing factors.

If a candidate discusses the role of more than one cultural dimension, credit should be given only to the first discussion.

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