

**MARK SCHEME for the May/June 2011 question paper  
for the guidance of teachers**

**9773 PSYCHOLOGY**

**9773/02**

Paper 2 (Methods, Issues and Applications),  
maximum raw mark 60

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

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## 1 Methodology

- (a) Describe and explain the results in the table above on the dream-duration estimates given by participants after 5 or 15 minutes of rapid eye movements. [4]

Possible answers include:

- All subjects were able to choose the correct dream duration with high accuracy except DN, who estimated correctly 8 times and incorrectly 2 times when awakened after 5 minutes and 5 times correctly and 5 incorrectly when awakened after 15 minutes. This subject, however, made most of his incorrect choices by estimating 15 minutes to be 5 minutes. This is consistent with the interpretation that the dream was longer but he was only able to recall the latter fraction and thus thought it was shorter than it actually was.
- There was a total of 46 correct estimates against 6 incorrect after 5 minutes of REM and 47 correct estimates against 13 incorrect after 15 minutes of REM. This is consistent with the hypothesis that there is a positive correlation between dream duration estimates and time in REM sleep before awakenings.

NOTE: any appropriate answer can receive credit; the hints are for guidance only.

Candidates can either offer one explanation in detail or more explanations in less detail to achieve full marks.

Candidates can achieve **a maximum of 2 marks** for merely describing the results.

2 marks for basic description of the results e.g. 'there was a total of 46 correct estimates against 6 incorrect estimates after 5 minutes of REM and 47 correct estimates against 13 incorrect after 15 minutes of REM'; 2 marks for elaboration, such as reference to a conclusion that can be drawn from the results.

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- (b) Describe two controls that were employed while awakening participants and explain the usefulness of these controls. [8]

Possible controls include:

- The REM or NREM awakenings for participant PM and participant KC were chosen according to a table of random numbers.
- For participant DN, a pattern was followed: first 3 REM awakenings, then 3 NREM awakenings and so on.
- WD was told that he would be awakened only when the recording indicated that he was dreaming but REM and NREM awakenings were then interspersed randomly.
- The type of awakenings for participant IR was chosen according to the whim of the experimenter.
- Whether participants would be woken up either after 5 or 15 minutes of REM sleep was chosen on the basis of a random series.
- For all the awakenings to elicit dream recall the arousing stimulus was the ringing of an ordinary doorbell placed near the bed and sufficiently loud to ensure immediate awakening from all levels of sleep.
- There was no communication between participant and experimenter in any instance until participants had committed themselves to first stating whether they had been dreaming and then if they could relate the content of the dream.

NOTE: any appropriate answer can receive credit; the hints are for guidance only.

1 mark for identification of a control and a further mark for elaboration or explanation. Twice.

Possible usefulness of such controls includes:

- Randomising the awakenings was necessary in order to eliminate the possibility of an unintentional pattern emerging. If trials were not randomised the order of the awakenings might have been directly responsible for the dream recall of participants. Eliminating this confounding variable was useful as it ensured that the validity of the study was not compromised.
- Choosing a pattern of awakenings for participant DN was necessary in order to measure the effect that an imposed pattern of awakenings might have on results. It might be expected that the participant might have learned the pattern and thus displayed demand characteristics, possibly producing more accurate dream recall than other participants. The results of the study indicate that DN was not more accurate than others, although he might have learned the pattern.
- Misinforming participant WD about the timing of awakenings was necessary in order to measure the possible effect of demand characteristics. It might be expected that the knowledge of the aim of the study and that awakenings would occur during REM sleep would have produced more dream recall than with other participants. If that was observed then there was a possibility that other participants might be reporting dreams not because they actually occurred but because they guessed the purpose of the study and they wanted to please the experimenter. The results of the study indicate that WD was not less accurate than other participants and thus we can assume that demand characteristics did not play a role.
- The awakenings of participant IR were chosen by the experimenter in order to control for the possible effect that experimental choice might have on the results.
- An ordinary door bell was used to ensure that all participants were experiencing the same arousing stimulus in the same intensity during awakenings. This controlled for the adverse effect that a difference in arousing stimuli might have produced on dream recall and also increased the reliability of the study as it allows consistency and replication.

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- There was no communication between participants and the experimenter in order to minimise the effect of experimenter bias and/or demand characteristics. If the experimenter asked participants to recall dreams they might have caused participants to respond according to their expectations. It might be that the experimenters gave out conscious or unconscious signals in relation to whether they preferred the participants to report or not report a dream.

NOTE: any appropriate answer can receive credit; the hints are for guidance only.

1 mark for explaining how the use of controls described might be useful and 1 mark for elaboration. Twice.

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**(c) Debate the use of scientific equipment when investigating sleep and dreaming. [8]**

Strengths and weaknesses need to be closely related to the area of sleep and dreaming through the use of examples that can come from any relevant study.

Strengths and weaknesses need to be fully explained and not merely identified.

Weaknesses include:

- Equipment might be affected by human error and influenced by those operating it.
- Participants might feel uncomfortable and this might lower the ecological validity of the study.
- Data obtained might be open to misinterpretation.

Strengths include:

- Allows the collection of objective data, free from subjective bias.
- The use of equipment enables reliability.
- The complexity of data obtained might be impossible without the use of equipment.

NOTE: any appropriate evaluation point can receive credit; the hints are for guidance only.

	<b>marks</b>
Debate is comprehensive. Quality and depth of argument (or comment) is impressive. Selection and range of arguments is balanced and competently organised into issues/debates, methods or approaches. Effective use of appropriate supporting examples which are explicitly related to the question. Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout. Evaluation is detailed and quality of written communication is very good. Understanding and usage of psychological concepts, issues and approaches is extensive.	7–8
Debate (positive and negative points) is very good. Quality and depth of argument (or comment) is clear and well developed. Selection and range of arguments is balanced and logically organised into issues/debates, methods or approaches. Good use of appropriate supporting examples which are related to the question. Analysis (key points and valid generalisations) is often evident. Evaluation is quite detailed and quality of written communication is very good. Understanding and usage of psychological concepts, issues and approaches is competent.	5–6

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<p>Debate (positive and negative points) is good.</p> <p>Quality and depth of argument (or comment) is reasonable.</p> <p>Selection and range of arguments may be imbalanced, with some organisation into issues/debates, methods or approaches evident.</p> <p>Reasonable use of appropriate supporting examples which are related to the question.</p> <p>Analysis (key points and valid generalisations) is sometimes evident.</p> <p>Evaluation has some detail and quality of written communication is good.</p> <p>Understanding and usage of psychological concepts, issues and approaches is good.</p>	3–4
<p>Debate (positive and negative points) is reasonable.</p> <p>Quality and depth of argument (or comment) is adequate.</p> <p>Selection and range of arguments is often imbalanced with attempted organisation into issues/debates, methods or approaches evident.</p> <p>Some use of appropriate supporting examples which are often peripherally related to the question.</p> <p>Analysis (key points and valid generalisations) is discernible.</p> <p>Evaluation has little detail and quality of written communication is adequate.</p> <p>Understanding and usage of psychological concepts, issues and approaches is sufficient.</p>	1–2
No or irrelevant answer.	0

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## 2 Issues, Approaches and Perspectives

(a) Describe two practical applications of the cognitive approach to psychology. [6]

Practical applications include:

- cognitive interview technique
- cognitive behavioural therapy
- line-ups
- diagnosis of autism
- cognitive maps

NOTE: any appropriate answer can receive credit; the hints are for guidance only.

Practical applications may be taken from key studies, from further research or from 'explore more'. Practical applications may also be taken from a Paper 3 option. The choice of practical application will reflect the synoptic nature of the whole 2-year course.

	<b>marks</b>
Description of the two practical applications is accurate, includes most aspects and has elaboration. The candidate clearly understands what they have written. Effective use of appropriate supporting examples which are explicitly related to the question.	5–6
Description of the two practical applications is accurate, has some elaboration and some understanding. Good use of appropriate supporting examples which are related to the question.	3–4
Description of the two practical applications is basic with little or no elaboration and with little understanding. Reasonable use of appropriate supporting examples which are related to the question.	1–2
No or irrelevant answer.	0

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**(b) Contrast the cognitive approach in psychology with the behaviourist approach when explaining how a language is learnt. [6]**

The question requires not only knowledge of the cognitive and behaviourist approaches to psychology but also the ability to contrast. Further than this, it requires candidates to apply their knowledge of the different approaches to explain how a language is learnt.

- The behaviourist approach treats language in the same way as all other behaviours and it is governed by the same laws of learning, namely association, imitation and reinforcement. Reinforcement of appropriate grammar and language through the use of rewards would lead to the acquisition of that language and grammar. Equally through imitation someone learning a new language would copy what the teacher has said and thus pick up new expressions.
- The mind has a language-based processor to learn language. Language comes with understanding. Language requires a number of sophisticated cognitive processes such as perception, attention, storage and retrieval of information amongst others.

NOTE: any appropriate answer can receive credit; the hints are for guidance only.

	<b>marks</b>
Comparisons are appropriate. Description of comparisons is accurate and detailed. Relationship of how a new language is learnt to the comparisons is explicit. Understanding is full.	5–6
Comparisons are attempted. Description of comparisons is generally accurate with good detail. Relationship of how a new language is learnt to the comparisons is evident. Understanding is good.	3–4
Comparisons are attempted. Description of comparisons is evident with some detail. Relationship of how a new language is learnt to comparisons is evident in parts. Some understanding is evident.	1–2
No or irrelevant answer.	0



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**(c) Use examples from research to explain the benefits of using the experimental method in cognitive psychology. [8]**

Any relevant research will be credited. Research may be taken from key studies, from further research or from 'explore more'. Practical applications may be taken from a Paper 3 option. The choice of practical application will reflect the synoptic nature of the whole 2-year course.

Candidates will receive marks for explaining the benefits of any type of experimental method, including lab experiments, field experiments and natural experiments.

Benefits include:

- Control of variables allows cause and effect to be established.
- Relatively easy to replicate because of the use of standardised procedures and this allows reliability.
- Allows the use of complex equipment and thus the collection of objective data.

	<b>marks</b>
Explanation is accurate and use of psychological terminology is comprehensive. Description of knowledge (theories/studies) is accurate, coherent and detailed. Understanding (such as elaboration, use of example, quality of description) is very good. Apposite examples are used throughout. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good.	7–8
Explanation is mainly accurate and use of psychological terminology is competent. Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Understanding (such as elaboration, use of example, quality of description) is good. Appropriate examples are used throughout. The answer has structure and organisation. Quality of written communication is good.	5–6
Explanation is basic and use of psychological terminology is adequate. Description of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Understanding (such as elaboration, use of example, quality of description) is reasonable. Peripherally relevant examples are used throughout. The answer has some structure or organisation. Quality of written communication is good.	3–4
Explanation and use of psychological terminology is evident. Description of knowledge (theories/studies) is sometimes accurate, has coherence and is brief. Understanding (such as elaboration, use of example, quality of description) is discernible. Examples are used occasionally. The answer has discernible structure or organisation. Quality of written communication is adequate.	1–2
No or irrelevant answer.	0

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### 3 Applications

- (a) **Describe psychological evidence and/or theory that could be relevant to the issues raised in the source.** [10]

Candidates are required to identify and describe in detail evidence and/or theories relevant to the issues raised in the source.

The Piliavin et al. and the Loftus and Palmer studies are obvious examples but any relevant research will be credited. Candidates can use any appropriate evidence from any other key theory and study or from any key application and the 'explore more' section.

	<b>marks</b>
Description of knowledge (theories/studies) is accurate, coherent and detailed. Use of terms is accurate and use of psychological terminology is comprehensive. The theories/studies described are wide-ranging. Understanding (such as elaboration, use of example, quality of description) is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good.	8–10
Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Use of terms is mainly accurate and use of psychological terminology is competent. The theories/studies described cover a reasonable range. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good.	5–7
Description of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Use of terms is basic and use of psychological terminology is adequate. The theories/studies described cover a range. Understanding (such as elaboration, use of example, quality of description) is reasonable. The answer has some structure and organisation. Quality of written communication is good.	3–4
Description of knowledge (theories/studies) is sometimes accurate, has some coherence but is brief. Use of terms and use of psychological terminology is discernible. The theories/studies described cover a narrow range. Understanding (such as elaboration, use of example, quality of description) is sufficient. The answer has a little structure and/or organisation. Quality of written communication is adequate.	1–2
No or irrelevant answer.	0

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- (b) Explain the issues raised in the source using the evidence and/or theory you described in part (a). [10]**

Candidates are required to apply their knowledge of the studies and/or theories described in part **(a)** to explain the events raised in the source. At least two events need to be explained with the evidence explicitly applied to the source. Some evaluation of the suggested evidence and/or theories in explaining the issues raised is necessary, although this does not need to be extensive.

	<b>marks</b>
Quality of explanation and depth of argument is impressive. Application of knowledge (theories/studies) described in part <b>(a)</b> is accurate, coherent and detailed. Use of terms is accurate and use of psychological terminology is comprehensive. Understanding (such as elaboration, use of example, quality of description) is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good. Relationship to the events raised in the source is explicit.	8–10
Quality of explanation and depth of argument is very good. Application of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Use of terms is mainly accurate and use of psychological terminology is competent. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident.	5–7
Quality of explanation and depth of argument is competent. Application of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Use of terms is basic and use of psychological terminology is adequate. Understanding (such as elaboration, use of example, quality of description) is reasonable. The answer has some structure and organisation. Quality of written communication is good. Relationship to the events raised in the source is evident in parts.	3–4
Quality of explanation and depth of argument is basic. Application of knowledge (theories/studies) is sometimes accurate, has some coherence but is brief. Use of terms and use of psychological terminology is discernible. Understanding (such as elaboration, use of example, quality of description) is sufficient. The answer has a little structure and/or organisation. Quality of written communication is adequate. Relationship to the events raised in the source is implicit.	1–2
No or irrelevant answer.	0