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General Certificate of Education (A-level)
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Psychology A PSYA1

(Specification 2180)

Unit 1: Cognitive Psychology, Developmental Psychology and Research Methods

Final

Mark Scheme

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Section A Cognitive Psychology and Research Methods

Question 1

AO2 = 4 marks **Application of knowledge to explain how research findings support a difference between STM and LTM**

The focus of this answer must be on explaining difference. Candidates may base their explanation on the findings of one experiment such as Murdock (1962) which showed a primacy effect (LTM) and a recency effect (STM), or on a case study such as KF which showed impaired STM but unaffected LTM. Reference to evidence from brain scans would also be relevant, eg Squire (1992) found the hippocampus is active in LTM tasks and areas in the pre-frontal cortex are active during STM tasks.
Alternatively the explanation may relate to a specific feature of STM/LTM e.g. Peterson and Peterson supported the idea of limited duration in STM while Bahrick supported that of relatively permanent LTM. Other relevant features are capacity, encoding and forgetting. STM encoded acoustically and LTM encoded semantically. Baddeley found that lists of similar sounding words confused STM term memory and lists of semantically similar words confused long term memory.
Candidates who describe the findings of one study relating to the capacity of STM can access full marks by simply stating that the capacity of LTM is considered to be unlimited.

AO2 **Application of knowledge and understanding**
4 marks Effective explanation Explanation is accurate, reasonably detailed and demonstrates sound knowledge and understanding of how research findings support a difference. e.g. 1 or more detailed differences + evidence illustrating both parts. (The evidence can be from 1 study)
3 marks Reasonable explanation Explanation is generally accurate but less detailed and demonstrates reasonable knowledge and understanding of how research findings support a difference. e.g. 2 detailed differences (e.g. duration and capacity) or 1 detailed difference + evidence illustrating one part of the difference.
2 marks Basic explanation Explanation demonstrates basic knowledge of how research findings support a difference. e.g. Duration is 20 seconds in STM and unlimited in LTM.
1 marks Rudimentary explanation Explanation demonstrates rudimentary knowledge of how research findings support a difference. e.g. Capacity is smaller in STM than LTM.
0 marks No creditworthy material relating to an explanation of how research findings support a difference.

Question 2

AO1 = 4 marks **Knowledge and understanding of model**

Candidates may describe the original 1974 version of the model or include later additions such as the episodic buffer which was added in 2000.
The working memory model replaced the idea of a unitary STM. It suggests a system involving active processing and short-term storage of information.

Key features include the central executive, the phonological loop (consisting of two components, the phonological store and the articulatory control process), and the visuo-spatial sketch pad.
For 4 marks candidates should refer to components and processes.
Candidates may include a diagram. If this is accurately labelled and sufficiently detailed, this can potentially receive the full 4 marks.

AO1 **Knowledge of the working memory model**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of the model.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant knowledge of the model.
2 marks Basic Basic answer that demonstrates some relevant knowledge of the model, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief (e.g. only naming 2 or more components), or flawed answer demonstrating very little knowledge of the model.
0 marks No creditworthy material.

Question 3 a

AO3 = 4 marks Application of knowledge of research methods

In this experiment a pilot study could be used to:-

- check how long the participant should be given to look at the stimulus material
- check whether the pictures were appropriate and clear
- check whether 20 is an appropriate number of words to use
- check whether the words were appropriate
- check the participants understand the instructions and what they are required to do
- ask a few participants about their experience of taking part

Changes can then be made to the procedure if necessary, to avoid wasting time/money.
There is a depth/breadth trade off. Candidates may cover one point in detail or more than one in less detail.

Vague or general statements which simply state “to save time/money”, “to see of it works”, “to see if there is a difference” = 0
To test/change the hypothesis = 0

AO3 **Application of knowledge of research methods**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed explanation that demonstrates sound knowledge and understanding of why a pilot study would be appropriate, including at least one detail from the experiment.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates sound knowledge and understanding of why a pilot study would be appropriate, including at least one detail from the experiment.
2 marks Basic Basic answer that demonstrates some understanding of why a pilot study would be appropriate in this study, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief or flawed answer demonstrating very little understanding of why a pilot study would be appropriate in this study.
0 marks No creditworthy material.

Question 3 b

AO3 = 2 marks Knowledge and understanding of research methods

0 marks for a directional/correlational/null hypothesis.
1 mark for an appropriate non directional hypothesis where either or both variables are not operationalised e.g. memory will be different in the two conditions and/or when the hypothesis is not written as a statement e.g. "To see if …" or "Is there…..?"
2 marks for an appropriate non directional hypothesis where both variables are operationalised e.g. there will be a difference in the number of words correctly recalled when words are presented with pictures and without pictures.

Question 3 c

AO3 = 2 + 2 marks Knowledge and understanding of research methods

Reasons for using an independent groups design rather than repeated measures include:-
There are no order effects because participants only do the task once.
The same words can be used in both conditions so one set of words is no easier to recall than the other set of words.
Demand characteristics are less likely because participants will be unaware of the other condition.
Credit other appropriate reasons.
Simply stating IGD is quicker/saves time = 0.
In each case 1 mark for a very brief/slightly muddled potentially relevant reason that could explain the use of IGD.
2nd mark for some elaboration of a reason that is relevant/appropriate to this study.

Question 3 d

AO3 = 2 marks Knowledge and understanding of research methods

The focus of this question is on understanding the outcome of this experiment.
Simply re-stating the data in table 1 = 0
e.g. The range for Condition 1 is 11 and for Condition 2 is 13.
Or The range is higher for Condition 1 than for Condition 2.
Or The median for Condition 1 is 13 and Condition 2 is 16.
Or The median for Condition 2 is higher than Condition 1.
1 mark for accurate reference to either median or range
e.g. more words were correctly recalled with pictures than without pictures.
Or The spread/dispersion of scores is larger with pictures than without pictures.
Or There is more individual variation with pictures than without.
2 marks for accurate reference to both difference and dispersion (spread) as above.

Question 3 e

AO2 = 1 + 3 marks Application of knowledge to a novel situation

Candidates may identify strategies based on visual imagery such as method of loci. The peg word method could also be relevant. In this case the first word could be associated with bun, the second with shoe etc. However, for full marks candidates would need to explain how the technique could be used for 20 words. Acronyms or acrostics could be made relevant by using the initial letter of each word. Credit other appropriate strategies.
Simply naming "mnemonic" should not be credited.
1 mark for identification of an appropriate memory strategy
1 mark for a very brief or slightly muddled explanation of how this strategy could have been used to learn the list of 20 words.
Up to 2 further marks for an appropriate explanation of how this strategy could have been used.

Question 4

AO1 = 4 marks Outline of relevant research
AO2 = 4 marks Evaluation of relevant research

AO1
Candidates must select research which relates to both age of witness and eye-witness testimony. There is a wide range of research that could be selected. Candidates might describe in some detail what one research study has shown, or describe more research studies in less detail. Some of the research is contradictory, so unsubstantiated statements such as "research suggests children's memories are worse than adults" are unlikely to receive credit.
Candidates may refer to older and younger adults, e.g. Anastasi & Rhodes (2006) used participants aged 18 – 78 years. They found young and middle aged participants were more accurate at recognising photographs than older participants. Cohen and Faulkner (1988) found older people made more recall errors than younger people. However, Yarmey (1993) found no differences in the ability of older participants to recall physical characteristics of a young woman.
Reference to children as witnesses would also be relevant e.g. Warren et al (2005) found older children were more likely to be influenced by leading questions than adults.
Candidates may refer to more theoretical concepts e.g. own age bias

AO2
Evaluation in relation to lack of ecological validity in laboratory studies or lack of control in real life situations could be relevant. Candidates might refer to the problem of own age bias

which could be a factor in research using identification of college aged photographs. Ethical issues could be relevant as could practical applications of the research.
Commentary on the contradictory nature of the research and the implications of this for court cases could also be credit-worthy.
Candidates may refer to a number of issues in reasonable depth or elaborate on a more restricted range of issues.

AO1 **Knowledge and understanding**	**AO2** **Application of knowledge and understanding**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed description that demonstrates sound knowledge and understanding of research into how age can affect accuracy of EWT. There is appropriate selection of material to address the question.	**4 marks Effective commentary/evaluation** Effective use of material to address the question and provide informed commentary/evaluation. Broad range of issues in reasonable depth or a narrower range in greater depth.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant knowledge and understanding of research into how age can affect accuracy of EWT. There is some evidence of selection of material to address the question.	**3 marks Reasonable commentary/evaluation** Material is not always used effectively but produces a reasonable commentary/evaluation. A range of issues in limited depth, or a narrower range in greater depth.
2 marks Basic Basic answer that demonstrates some relevant knowledge and understanding of research into how age can affect accuracy of EWT, but lacks detail and may be muddled. There is little evidence of selection of material to address the question.	**2 marks Basic commentary/evaluation** The use of material provides only basic commentary/evaluation demonstrates basic analysis. Superficial consideration of a restricted range of issues.
1 mark Very brief and or flawed Very brief or flawed answer that demonstrates very little knowledge of research into how age can affect accuracy of EWT. Selection of material is largely inappropriate.	**1 mark Rudimentary commentary/evaluation** The use of material provides only a rudimentary commentary. Evaluation of research is just discernible or absent.
0 marks No creditworthy material	**0 marks** No creditworthy material

Question 5

AO1 = 4 marks Knowledge of the cognitive interview

Note – There is a breadth/depth trade off here. Accurate answers which describe 1 technique in detail can be awarded full marks, as can answers which outline 4 techniques.

The main techniques used in a cognitive interview are:-
Context reinstatement – trying to mentally recreate an image of the situation, including details of the environment, such as the weather conditions, and the individual's emotional state including their feelings at the time of the incident.
Recall from a changed perspective – trying to mentally recreate the situation from different points of view e.g. describing what another witness present at the scene would have seen.
Recall in reverse order – the witness is asked to describe the scene in a different chronological order e.g. from the end to the beginning.
Report everything – the interviewer encourages the witness to report all details about the event, even though these details may seem unimportant.

The main additional features of the enhanced cognitive interview are:-
Encourage the witness to relax and speak slowly.
Offer comments to help clarify witness statements.
Adapt questions to suit the understanding of individual witnesses.

AO1 **Knowledge of the cognitive interview**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of the cognitive interview.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant knowledge of the cognitive interview.
2 marks Basic Basic answer that demonstrates some relevant knowledge of the cognitive interview, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief or flawed answer demonstrating very little knowledge of the cognitive interview.
0 marks No creditworthy material.

Section B Developmental Psychology and Research Methods

Question 6

AO1 = 2 Knowledge of attachment

Attachment can be defined as an emotional relationship between two people in which each seeks closeness and feels more secure when in the presence of the attachment figure.
1 mark for a very brief or slightly muddled answer e.g. an emotional bond.
2nd mark for accurate elaboration e.g. an emotional bond between two people..

Question 7

AO2 = 6 Application of knowledge of the learning theory of attachment

Learning theory suggests attachment develops through classical and operant conditioning. According to classical conditioning food (UCS) produces pleasure (UCR). Max's mother was associated with the food and becomes a conditioned stimulus. According to operant conditioning food satisfied Max's hunger and made him feel comfortable again (drive reduction). Food was therefore a primary reinforcer. His mother was associated with food and became a secondary reinforcer. Max became attached to his mother because she was a source of reward. Social learning theory could also be credited.
The explanation must be directly linked to Max and his mother.
Answers which make no reference to Max and his mother maximum 3 marks.
Unrelated descriptions of classical or operant conditioning are not credit-worthy.

AO2 **Application of knowledge of the learning theory of attachment**
6 marks Effective The answer offers an effective explanation of Max's attachment according to learning theory. The selection and application of psychological knowledge is appropriate and effective.
5 - 4 marks Reasonable The answer offers a reasonable explanation of Max's attachment according to learning theory . The selection and application of psychological knowledge is mostly appropriate.
3 - 2 marks Basic The answer offers a basic explanation of Max's attachment according to learning theory. The selection and application of psychological knowledge is sometimes appropriate.
1 marks Rudimentary The answer offers a rudimentary explanation of Max's attachment according to learning theory. The selection and application of psychological knowledge is muddled and/or mostly inappropriate.
0 Marks No creditworthy material

Question 8

AO1 = 6 marks **Outline of research into cultural variations in attachment.**
AO2 = 6 marks **Evaluation of research into cultural variations in attachment.**

AO1

Candidates may refer to one study in reasonable detail, or more than one in less detail. They may cover methodology, findings and/or conclusions.

Much of the research has used the strange situation. Van Ijzendoorn and Kroonenberg's meta-analysis found secure attachment was the most common in all cultures studied. The lowest % of secure attachment was shown in China, and the highest in Great Britain. Avoidant attachment was more common in West Germany but rare in Israel and Japan. Variation within cultures was 1.5 times greater than the variation between cultures.

Candidates may also refer to Takahashi who found high levels of resistant attachment in Japanese infants. Research relating to infants raised on Israeli Kibbutzim is also credit-worthy.

In the unlikely event that candidates refer to theories/models, answers should be marked on their merits.

AO2

Candidates may refer to ethical issues because the strange situation may have been stressful for the infant. The validity of research using the strange situation can be questioned. Children who have been in day care may appear to be insecurely avoidant because they are used to being separated from their mother. The strange situation was developed in America and may have limitations in studying attachment types in different cultures. Candidates may refer to positive aspects of the strange situation such as replication of the controlled conditions.

The Van Ijzendoorn and Kroonenberg's meta-analysis can be criticised because of the limited number of studies in some countries. Also the problems of over-generalising from a limited sample could be relevant.

AO1 **Knowledge and understanding**	**AO2** **Evaluation/Commentary**
6 marks Accurate and reasonably detailed Accurate and reasonably detailed description that demonstrates sound knowledge and understanding of research into cross cultural variations in attachment. There is appropriate selection of material to address the question.	**6 marks Effective evaluation** Effective use of material to address the question and provide informed evaluation. Effective evaluation of research. Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth. Clear expression of ideas, good range of specialist terms, few errors of grammar, punctuation and spelling.
5 - 4 marks Less detailed but generally accurate Less detailed but generally accurate description that demonstrates relevant knowledge and understanding of research into cross cultural variations in attachment. There is some evidence of selection of material to address the question.	**5 - 4 marks Reasonable evaluation** Material is not always used effectively but produces a reasonable evaluation. Reasonable use of research evidence. A range of issues and/or evidence in limited depth, or a narrower range in greater depth. Reasonable expression of ideas, a range of specialist terms, some errors of grammar, punctuation and spelling.
3 - 2 marks Basic Basic description that demonstrates some relevant knowledge and understanding of research into cross cultural variations in attachment, but lacks detail and may be mudded. There is little evidence of selection of material to address the question.	**3 - 2 marks Basic evaluation** The use of material provides only a basic evaluation. Basic use of research evidence. Superficial consideration of a restricted range of issues and/or evidence. Expression of ideas lacks clarity; some specialist terms used; errors of grammar, punctuation and spelling detract from clarity.
1 mark Very brief/flawed Very brief or flawed description that demonstrates very little knowledge or understanding of research into cross cultural variations in attachment. Selection of information is largely or wholly inappropriate.	**1 mark Rudimentary evaluation** The use of material provides only a rudimentary evaluation. Use of research evidence is just discernible or absent. Expression of ideas poor; few specialist terms used; errors of grammar, punctuation and spelling often obscure the meaning.
0 marks No creditworthy material presented.	**0 marks** No creditworthy material presented.

Question 9 a

AO3 = 2 + 2 marks Knowledge and understanding of research methods

Suitable behavioural categories for investigating children's aggressive behaviour could be:- pushing, hitting, biting, punching, swearing, etc.
Maximum 2 marks - 1 for each suitable behaviour category.
Candidates may suggest recording playground behaviour on CCTV for later analysis by ticking a box when a relevant behaviour is shown by the child. Alternatively the researcher could watch each child's behaviour in the playground and tick the box when each behaviour is shown. In this case where the researcher stands and whether the children know they are being observed would be relevant.
1 mark for a very brief or slightly muddled explanation e.g. use a tally chart
2nd mark for accurate elaboration

Question 9 b

AO3 = 4 marks Knowledge of research methods

There are no ethical issues named in the specification, so any potentially relevant issues in this research should be credited.
Although the psychologist would not be responsible for the behaviour of the children in the playground he might consider his responsibility if he saw that one of the children was being harmed.
Likely ethical issues include informed consent, right to withdraw, confidentiality or respect.
Ways of dealing will depend on the issue selected.
There are different routes to achieving 4 marks depending on the ethical issue selected, but for full marks both the ethical issue and how the psychologist could have dealt with it should be clear.

AO3 **Knowledge of research methods**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound understanding of one relevant ethical issue and how the psychologist could have dealt with this issue.
3 marks **Less detailed but generally accurate** answer that demonstrates relevant understanding of one relevant ethical issue and how the psychologist could have dealt with this issue. or **Accurate and reasonably detailed answer** that demonstrates sound understanding of one relevant ethical issue or how the psychologist could have dealt with an issue.
2 marks Basic Basic answer that demonstrates some relevant understanding of one relevant ethical issue and/or how the psychologist could have dealt with an ethical issue, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief or flawed answer demonstrating very little understanding of a relevant ethical issue and/or how the psychologist could have dealt with an issue.
0 marks No creditworthy material.

Question 9 c

AO3 = 4 marks Knowledge of research methods

There are different routes to full marks in this question. Candidates explain one advantage in reasonable detail or more advantages in less detail.
Advantages of using an interview rather than a questionnaire could include it would allow the interviewer to clarify questions and answers; it might be easier to see if participants were answering honestly because their reactions could be observed; it is easier to collect detailed qualitative data.

AO3 **Knowledge of research methods**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound understanding of one or more advantages of using interviews rather than questionnaires in this situation.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant understanding of one or more advantages of using interviews rather than questionnaires in this situation.
2 marks Basic Basic answer that demonstrates some relevant understanding of one or more advantages of using interviews rather than questionnaires in this situation, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief or flawed answer demonstrating very little understanding of one or more advantages of using interviews rather than questionnaires in this situation.
0 marks No creditworthy material.

Question 10

AO1 = 4 marks Outline of one relevant study

Generally the effects of day care on peer relationships are positive. e.g. Field (1991) found the more time children spend in day care, the more friends they had. The EPPE project (2003) looked at large numbers of children in different types of pre-school provision and found high quality care was associated with greater sociability with other children. However, Dilalla (1988) found children who spend more time in day care were less cooperative and helpful in their relations with other children. Campbell (2000) found children who were in care for a long time each day were less socially competent than children who spent shorter days in care.

Candidates may refer to older studies. This is acceptable as long as they relate to day care (not institutional care) and peer relations. Candidates who refer to aggression would need to make a link with peer relations.

Candidates are likely to outline findings, but description of procedure is also relevant.

Anecdotal answers which contain relevant material but make no reference to identifiable research should be restricted to 1 mark.

AO1 **Knowledge of one research study into the effects of day care on peer relations**
4 marks Accurate and reasonably detailed Accurate and reasonably detailed answer that demonstrates sound knowledge of one study into the effects of day care on peer relations.
3 marks Less detailed but generally accurate Less detailed but generally accurate answer that demonstrates relevant knowledge of one study into the effects of day care on peer relations.
2 marks Basic Basic answer that demonstrates some relevant knowledge of one study into the effects of day care on peer relations, but lacks detail and may be muddled.
1 mark Very brief/flawed Very brief or flawed answer demonstrating very little knowledge of one study into the effects of day care on peer relations.
0 marks No creditworthy material.

Assessment Objectives

QUESTION	AO1 MARK	AO2 MARK	AO3 MARK
1		4	
2	4		
3a			4
3b			2
3c			4
3d			2
3e		4	
4	4	4	
5	4		
Cognitive Totals	12	12	12

6	2		
7		6	
8	6	6	
9a			4
9b			4
9c			4
10	4		
Developmental and Research Totals	12	12	12
Totals	24	24	24

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