

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
GCE Advanced Subsidiary Level and GCE Advanced Level

**MARK SCHEME for the May/June 2009 question paper**  
**for the guidance of teachers**

**9698/01**

**9698 PSYCHOLOGY**

Paper 1 (Core Studies 1), maximum raw mark 100

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.

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### Section A

- 1 In one study reported by Deregowski, the participants were shown the following picture and asked to draw it. Give *two* differences between the performance of the two-dimensional perceivers and the three-dimensional perceivers.

Most likely:

- the 2D perceivers had a shorter viewing time than the 3D perceivers;
- the 2D perceivers drew the image much more easily/accurately than the 3D perceivers;
- the 2D perceivers were not confused by the image whereas the 3D perceivers perceived an impossible figure illusion.

*Difference* must be evident for 2 marks (e.g. 2D perceivers had x whilst 3D perceivers had y)

(2 + 2) [4]

- 2 (a) Outline *one* strategy used by Gardner and Gardner when observing Washoe to avoid observer bias.

Gardner and Gardner could claim Washoe was amazing if they were the only observers.

- sign counted only if it was observed by 3 others;
- if the sign was appropriate and spontaneous;
- if it occurred at least once per day for 15 consecutive days;
- also rumour that deaf adults were used who were experienced users of ASL and so could judge accuracy of sign.

1 mark partial, 2 marks elaboration.

(2)

- (b) Why do psychologists want to avoid observer bias?

Question speculative so any appropriate answer to be given credit.

- to achieve more objective data;
- to be more scientific; to enhance their reputation and competence;
- to avoid type 1 errors.

1 mark partial, 2 marks elaboration.

(2) [4]

- 3 (a) The study by Baron-Cohen, Leslie and Frith on autism involved three groups of children. Why was an independent groups design used in this study?

Most likely:

- because it was impossible for a participant to perform in more than one condition;
- a child can't be 'normal' **and** autistic or have Down Syndrome;
- question is not *what* is an independent groups design.

1 mark partial (explanation/what is independent groups OR naming of the 3 groups);

2 marks explanation of independent groups *and* related to the three groups. (2)

- (b) Suggest *one* disadvantage of an independent groups design.

Most likely:

- participants are compared even though there may be individual differences;
- there is no control of participant variables.

1 mark partial, 2 marks elaboration.

(2) [4]

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- 4 (a) **From the prison simulation study by Haney, Banks and Zimbardo: Give two examples of the pathology of power experienced by the guards.**  
Most likely:
- guards enjoyed the power, some were brutal (e.g. 'john wayne');
  - guards use psychological tactics: privilege cell;
  - guard grant or deny toilet usage;
  - guards stripping prisoners naked and removing beds;
  - guards waking prisoners in night to do 'counts';
  - any other appropriate example to be credited.
- 1 mark each example. (2)
- (b) **Give two examples of the pathological prisoner syndrome experienced by the prisoners.**  
Most likely:
- prisoners react emotionally: psychosomatic rash;
  - sense of helplessness and powerlessness: wear smocks, restricted toilet use;
  - loss of identity: e.g. give numbers to priest;
  - any other appropriate example to be credited.
- 1 mark each example. (2) [4]
- 5 **The study by Piliavin, Rodin and Piliavin on subway Samaritans involved a number of controls. Outline two controls that were applied in this study.**  
Most likely:
- same subway train, same line with no stops for 7½ minutes;
  - same victim appearance: Eisenhower jackets, old slacks and no tie; black cane or liquor bottle in paper bag and smelled of alcohol;
  - same procedure: after 70 seconds victim staggers forward and falls on floor;
  - same recording of data: observers in same place on train recording frequency of helping, etc.
- Awareness of being constant needed. "The subway" or "The victim" is not sufficient.  
1 mark partial (e.g. "subway"), 2 marks expansion. Twice. (2 + 2) [4]
- 6 **The study by Bandura, Ross and Ross on aggression involved observation. Outline two strengths of the way in which the observation was conducted.**  
Most likely:
- observation conducted for 20 minutes divided into 5 second intervals via a timer;
  - had 240 responses for each child;
  - involved two observers so results could be checked for inter-rater reliability;
  - children in one room and observers in another, so children not influenced.
- 1 mark partial, 2 marks expansion. (2 + 2) [4]
- 7 **All studies in psychology raise ethical issues. Outline two ethical issues in the study on conservation by Samuel and Bryant.**  
Most likely:
- confidentiality: no child was named;
  - deception: no child was deceived;
  - harm: no child was harmed in any way;
  - consent: children were too young to give informed consent. Probably no consent from parent. But, consent given from classroom teacher. Is consent needed for a 'normal' classroom activity?
  - withdrawal: children would not understand the right to withdraw. But, would they want to withdraw?
- 1 mark partial, 2 marks elaboration. (2 + 2) [4]

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- 8 (a) **The study by Hodges and Tizard (social relationships) is a longitudinal study. Why did Hodges and Tizard use a longitudinal study?**  
 Most likely: A longitudinal study follows the development of an individual over a period of time. This study wanted to determine the long-term effects of early experience, so tracked the development over a period of 16 years.  
 1 mark partial (e.g. what is a longitudinal study), 2 marks expansion (related to the study). (2)
- (b) **Give one problem Hodges and Tizard faced when conducting their longitudinal study.**  
 Most likely:  
 Attrition: participants are likely to drop out of the study as time passes. This did happen in this study. Numbers not required for 2 marks.  
 1 mark identification of attrition, 2 marks elaboration or description of attrition or related to this study. (2) [4]
- 9 (a) **In the study by Freud, little Hans is reported to have a phobia of horses. What explanation does Freud give for this phobia?**  
 Most likely – Freud: “I had partly interpreted his fear of horses for him – the horse must be his father – whom he had good internal reasons for fearing. Certain details of which Hans had shown he was afraid, the black on horses' mouths and the things in front of their eyes (the moustaches and eyeglasses which are the privilege of a grown-up man) seemed to me to have been directly transposed from his father onto the horses.”  
 1 mark partial (e.g. as above), 2 marks elaboration (some reference to Oedipus complex). (2)
- (b) **Suggest an alternative explanation for the phobia.**  
 Any other appropriate explanation acceptable as question requires speculation.  
  - a father had addressed his child on her departure with these words of warning: 'Don't put your finger to the white horse or it'll bite you';
  - Hans simply has a fear of horses.
 1 mark partial, 2 marks elaboration (2 marks for relatively simple statement). (2) [4]
- 10 **The study by Raine, Buchsbaum and LaCasse involves Positron Emission Tomography (PET) where scans are taken using the cortical peel technique and the box technique. Outline the cortical peel technique and the box technique.**  
 Most likely:  
**Cortical Peel Technique (lateral areas).**  
 Image taken by 'slices' of brain taken from top to bottom. Typically 10 stacked slices are taken (as shown in fig. 1 of the original article).  
 “Surface cortical regions of interest were measured using a modification of the original cortical peel technique Absolute glucose values for each region of interest were expressed as a measure relative to all other regions contained in that slice. The following three prefrontal values (averaged across slices) for each hemisphere were extracted: superior frontal gyrus, middle frontal gyrus, and inferior frontal gyrus. Bilateral **temporal**, **parietal** and **occipital** measures averaged across slices were also taken.”  
**Box Technique (medial areas).**  
 Image is taken of a region (or box); a 3 x 3 pixel region is identified (each pixel 2 mm x 2 mm) as shown in fig. 2 in the article. Medial cortical and subcortical regions of interest were located on PET slices by reference to stereotaxic coordinates. Prefrontal measures extracted from each slice level were as follows: superior frontal gyrus, anterior medial frontal gyrus, medial frontal gyurs and orbital gyrus.  
 1 mark vague identification, 2 marks some elaboration. (2 + 2) [4]

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**11 (a) One test by Sperry on split brain patients looks at vision and *speech*.**

**Briefly describe the procedure of this test.**

Most likely:

- participants would be asked to look at a central fixation point on the screen;
- image would be flashed up for 1/10th second;
- objects presented to different visual fields and ask the split brain patient to say what the objects are.

1 mark max if presented to one **eye** rather than visual field.

1 mark partial, 2 marks elaboration.

(2)

**(b) What were the findings of this test?**

Most likely:

Objects in right visual field (left hemisphere) can be identified verbally; but when objects presented in left visual field (right hemisphere) they cannot be identified.

1 mark partial, 2 marks elaboration.

(2) [4]

**12 (a) The study by Schachter and Singer on emotion involved an angry or a euphoric stooge.**

**Give *one* reason to support the use of a stooge in this study.**

Most likely:

- a stooge keeps a participant naïve about the nature of the study (e.g. effects of adrenaline) and suggests to a participant how he or she may behave;
- without the stooge the study may not have been possible (i.e. to suggest anger or euphoria to the participant).

1 mark partial, 2 marks for elaboration.

(2)

**(b) Give *one* problem with the use of a stooge in psychological research.**

Most likely:

- use of a stooge is unethical as it is deception. The participant thinks the stooge is another participant when the stooge has a specific brief and is working for the experimenter;
- participants may behave in ways in which they would not normally.

1 mark partial, 2 marks elaboration.

(2) [4]

**13 (a) The review by Gould on intelligence testing described the work of Yerkes.**

**What did Yerkes aim to do in relation to intelligence testing?**

Most likely:

- Yerkes wanted psychology to be a rigorous science;
- to introduce rigor with number and quantification;
- to devise an intelligence test;
- also acceptable are comments about supporting the eugenics movements and wanting to support racism.

1 mark partial 2 marks elaboration.

(2)

**(b) Suggest whether Yerkes was successful in achieving this aim.**

Speculative question so any appropriate answer credited.

He devised a test, but it was biased in so many ways.

1 mark partial, 2 marks elaboration.

(2) [4]

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- 14 (a) The study by Rosenhan (sane in insane places) suggests that doctors are strongly biased towards type-two errors.

**What is a type two error?**

A type two error is labelling a healthy person sick (a false positive) when they are actually healthy. Labelling pseudo-patients as schizophrenic when they are not.

1 mark partial, 2 marks elaboration. (2)

- (b) **Suggest why doctors have this bias.**

Doctors should avoid type one errors at all costs. This would be to say an ill person is healthy and is negligence. To be accurate is best (say ill person is ill and healthy is healthy). But, if there is doubt, as in this study, best strategy is to make a type two error.

1 mark partial, 2 marks elaboration. (2) [4]

- 15 (a) The study by Thigpen and Cleckley on multiple personality disorder involved the Rorschach (ink blot) projective test.

**What were the results of this test for Eve White and Eve Black?**

Most likely:

The **Rorschach** record of Miss Black is by far healthier than that of Mrs White. Miss Black has a hysterical tendency, while Mrs White's shows anxiety, obsessive-compulsive traits, rigidity and an inability to deal with her hostility.

**Personality dynamics.** The projective tests indicate **repression in Mrs White** and **regression in Miss Black**. The dual personality appears to be the result of a strong desire to regress to an early period of life, namely the one before marriage.

1 mark Eve White OR Eve Black, 2 marks for comparison (as in bold above). (2)

- (b) **Suggest one weakness of this projective test.**

Most likely:

- subjective interpretation on part of tester;
- based on Freudian interpretations of personality (which may be wrong);
- no hard or objective evidence.

1 mark partial. 2 marks elaboration. (2) [4]

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### Section B

#### 16 Some studies in psychology gather both the quantitative and qualitative data.

Schachter and Singer (emotion)

Thigpen and Cleckley (multiple personality disorder)

Dement and Kleitman (sleep and dreaming)

##### (a) Outline the procedure of your chosen study.

**Dement:** electrodes attached, participants woken during REM and asked to recall dream. Several variations involving estimated length of dream and words used.

**Thigpen:** use of many methods to gather data: over 100 hours of interviews, also hypnosis, psychometric and projective tests.

**Schachter:** longest procedure: injections; creation of cognition; rooms with euphoric or angry stooge.

No answer or incorrect answer. (0)

Anecdotal evidence, general statements, minimal detail, minimal focus. (1–3)

Attempt to outline some of main aspects of procedure though with omission of detail or lack of clarity (comment with some comprehension). (4–6)

Main aspects of procedure identified and described in good detail. Outline is clear, focused and well expressed. (7–10)

[max 10]

##### (b) Describe the quantitative and qualitative results of your chosen study.

**Dement:** Quantitative: e.g. number of dreams recalled from REM and NREM. Qualitative: subjective dream report or whether having dream and details of dream.

**Thigpen:** Quantitative: results from IQ test, memory test and EEG. Qualitative: interviews and Rorschach.

**Schachter:** Quantitative: observations through one-way mirror; Qualitative: self report questionnaires.

No answer or incorrect answer. (0)

Anecdotal description of either type of data, brief detail, minimal focus. (1–3)

Appropriate sets of data identified, description shows some understanding. Some detail and expansion both types of data.

Max 5 marks for only quantitative or only qualitative. (4–6)

Appropriate results for both types identified.

Description is clear, has good understanding, is focused and well expressed. Good detail each aspect of measure explained fully. (7–10)

[max 10]

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**(c) Using your chosen study as an example, what are the strengths and weaknesses of the *qualitative* approach?**

Indicative content: most likely answers (any appropriate answer receives credit):

Advantage – can give in depth, rich in detail, insightful & therefore not reductionist.

Advantage – can help us understand **why** people behave in a particular way.

Disadvantage – may be problems of interpretation. Words and descriptions are more subjective than numbers and are more open to bias and misinterpretation by participants.

Disadvantage – often cannot make statistical comparisons.

Disadvantage – may be more prone to researcher bias as can select the information that best fits hypothesis.

Disadvantage – participants may give socially desirable answers. Participants want to look good.

No answer or incorrect answer. (0)

Anecdotal description, brief detail, minimal focus. Very limited range. Description may be inaccurate, incomplete or muddled. (1–3)

Advantages and disadvantages which are focused on the question, are psychologically informed but lack detail, elaboration or example. (4–5)

Max mark of 5 if only strengths or weaknesses. (4–5)

Advantages and disadvantages which are focused on the question and are psychologically informed. There is reasonable detail with some elaboration or examples. Discussion becoming clear and shows some understanding. (6–7)

Range of advantages and disadvantages (4 or more) which are focused on the question and are psychologically informed. There is good detail with elaboration and examples. Discussion is good and shows understanding. (8–10)

[max 10]

**(d) Suggest a different way of gathering data for your chosen study and say what effect, if any, this would have on the results.**

No answer or incorrect answer. (0)

Anecdotal suggestion, brief detail, minimal reference to question.

Description may be inaccurate, incomplete or muddled.

There may be no reference to effect on results. (1–3)

Some appropriate suggestions which are focused on question.

Description shows some understanding.

Some detail and expansion of aspects, with some consideration of effect on results.

Max mark of 6 if no effect on results. (4–6)

Range of appropriate suggestions which are focused on question.

Description is detailed with good understanding and clear expression.

The changes are well considered and reflect understanding of the area in question.

Consideration of effect on results is appropriate. (7–10)

[max 10]



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17 The term ecological validity refers to whether psychological research can be applied to real life situations.

Tajfel (intergroup categorisation)

Milgram (obedience)

Loftus and Palmer (eyewitness testimony)

(a) Outline the main findings of your chosen study.

Indicative content:

**Tajfel:** boys chose maximum difference in preference to maximum joint profit or maximum in-group profit.

**Milgram:** all participants went to 300 volts; 63% went to 450 volts. Participants showed signs of distress.

**Loftus:** exp 1: speeds for verbs: smashed 40.8 through to 31.8 for contacted. Exp 2: 16 yes for smashed and 34 no.

No answer or incorrect answer. (0)

Anecdotal evidence, general statements, minimal detail, minimal focus. (1–3)

Attempt to outline some of main findings though with omission of detail or lack of clarity (comment with some comprehension). (4–6)

Main findings identified and described in good detail. Outline is clear, focused and well expressed. Good range of findings. (7–10)

[max 10]

(b) Describe ways in which your chosen study is low in ecological validity.

Indicative content:

**Tajfel:** boys going to laboratory; judging dots/choosing artistic preference. Using matrices to allocate points to others.

**Milgram:** going to laboratory, being deceived; giving electric shocks to others.

**Loftus:** viewing video clips of accidents in a laboratory; going away for 1 week.

No answer or incorrect answer. (0)

Anecdotal description of sample and sampling technique, brief detail, minimal focus. (1–3)

Appropriate sample and sampling technique identified, description shows some understanding. Some detail and expansion. (4–6)

Appropriate sample and sampling technique described.

Description is clear, has good understanding, is focused and well expressed. Good detail and sample and sampling technique explained fully. (7–10)

[max 10]

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**(c) Using your chosen study as an example, what are the advantages and disadvantages of studying everyday life in a laboratory?**

Indicative content: most likely answers (any appropriate answer receives credit):

Advantage – participants are available and willing. E.g. may be students (course credits) or may be volunteers (paid).

Advantage – more control over variables.

Advantage – procedure can be replicated many times.

Disadvantage – increased control leads to decrease in ecological validity.

Disadvantage – cannot generalise to other groups the restricted sample does not represent.

Disadvantage – it is reductionist in that the sample may never be isolated in such a way from real life.

No answer or incorrect answer. (0)

Anecdotal description, brief detail, minimal focus. Very limited range. Description may be inaccurate, incomplete or muddled. (1–3)

Advantages and disadvantages which are focused on the question, are psychologically informed but lack detail, elaboration or example.

Max mark of 5 if only strengths or weaknesses. (4–5)

Advantages and disadvantages which are focused on the question and are psychologically informed. There is reasonable detail with some elaboration or examples. Discussion becoming clear and shows some understanding. (6–7)

Range of advantages and disadvantages (4 or more) which are focused on the question and are psychologically informed. There is good detail with elaboration and examples. Discussion is good and shows understanding. (8–10)

[max 10]

**(d) Suggest changes to your chosen study that might improve its ecological validity and say what effect, if any, this would have on the results.**

No answer or incorrect answer. (0)

Anecdotal suggestion, brief detail, minimal reference to question.

Description may be inaccurate, incomplete or muddled.

There may be no reference to effect on results. (1–3)

Some appropriate suggestions which are focused on question.

Description shows some understanding.

Some detail and expansion of aspects, with some consideration of effect on results.

Max mark of 6 if no effect on results. (4–6)

Range of appropriate suggestions which are focused on question.

Description is detailed with good understanding and clear expression.

The changes are well considered and reflect understanding of the area in question.

Consideration of effect on results is appropriate. (7–10)

[max 10]