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GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the May/June 2014 series

9698 PSYCHOLOGY

9698/11 Paper 1 (Core Studies 1), maximum raw mark 80

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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Cambridge is publishing the mark schemes for the May/June 2014 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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Section A

1 From the study by Mann et al. (lying) 'self-manipulations', 'illustrators' and 'pauses' were recorded behaviours. Describe <u>two</u> examples of these behaviours. [4]

Self-manipulations: frequency of scratching the head, wrists etc. (touching the hands was counted as hand/finger movements rather than self-manipulations)
Illustrators: frequency of arm and hand movements which were designed to modify and/or supplement what was being said verbally
Pauses: number of seconds where there is a noticeable pause in the monologue of the participant, when the suspect actually stops between words for a period of approximately 0.5 s or more, stopping the free flow of conversation for a period of time whilst the suspect thinks of the next word

1 mark partial (brief description), 2 marks full (detailed description), 2 marks per behaviour × 2

N.B. No marks for 'mmm'/'errr' (speech disturbances)
N.B. No marks for identifying self-manipulations/illustrators/pauses as these are in the question. Examples are likely to come from two different categories but do not have to.

2 Loftus and Pickrell (false memories) used a repeated measures design to compare recall of true and false events.

(a) Describe what is meant by a 'repeated measures design'. [2]

The experimental design/how participants are allocated to conditions such that all participants do all conditions/levels of the IV

1 mark partial (brief description), 2 marks full (expanded description, could be contextualised e.g. IV is true/false)

e.g. Each participant does every part/condition of the experiment = 1 mark
Each participant does every level/condition of the IV = 2 marks

N.B. No marks for 'every participant does the same' type answers, this is about (standardisation of) *procedure*, so is irrelevant.

(b) Describe the results for the number of words that were used to recall true and false memories. [2]

mean number of words used: True: 138
False: 49.9
1 mark partial ('true more words (than false)'/one figure correct), 2 marks full (both figures approximately correct)

e.g. One subject used 349 words in the true but 90 in the false = 2 marks
Most stories were longer for true but one participant used 20 words for true, 21 for false = 2 marks
About three times as many for true as false = 2 marks

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3 Baron-Cohen et al. found a small but non-significant gender difference in the revised eyes test for the general population and student controls (groups 2 and 3).

(a) State the gender difference they expected to find and why they expected to find this difference. [2]

Females better – because trend for female superiority in previous version of test / because females generally have better theory of mind, better empathisers etc.

1 mark partial (statement of difference or reason), 2 marks full (statement of difference and reason)

(b) What reason did Baron-Cohen et al. give for these results being non-significant? [2]

"If the effect size is relatively small, the chance of detecting a sex difference would be low"/not a big difference, so unlikely to see it in a small sample

1 mark partial (brief reason), 2 marks full (detailed reason)

e.g. 'not a big difference' idea = 1 mark

4 To test depth perception in kittens, Held and Hein used the visual cliff apparatus.

(a) Describe the visual cliff apparatus. [2]

Deep and shallow sides; either side of a raised bridge; below which was glass (over both sides); patterned surfaces under the glass; ('vertical' was at a slight angle);

Marks are for description of the apparatus itself, not what the kittens did or how they were treated.

Accept labelled diagrams ***if*** they contain appropriate information.

1 mark partial (brief description), 2 marks full (detailed description, must include the part in **bold**)

(b) Describe the results of the visual cliff test for the active kittens. [2]

10 kittens: 12 crossings each to shallow side, none to deep shallow side.

1 mark partial (brief description), 2 marks full (detailed description)

e.g. The active kittens were more likely to cross to the shallow than the deep side / were less likely than the passive kittens to cross to the deep side = 1 mark
(All) Active kittens always chose the shallow side = 1 mark

e.g. (All 8 or 10) Active kittens made 12 crossings to the shallow side and none to the deep side = 2 marks

N.B. Accept 'cliff' as meaning 'deep' in the absence of any other information

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5 According to Milgram, his study on obedience produced <u>two</u> surprising findings. Describe <u>both</u> of these surprising findings. [4]

Strength of obedient tendencies: 26/40 participants followed instructions to hurt another person (disregarding learned moral conduct; even though they had no special powers to enforce his commands; and disobedience would bring no material loss)

Extraordinary tension generated by the procedure: the participants did not stop but endured emotional strain (against what their conscience dictates; e.g. twitching, stuttering, pulling earlobe, twisted hands, pushed his head into his hands, muttered 'Oh God, let's stop it')

2 marks for a surprising finding × 2

1 mark partial (brief description), 2 marks full (detailed description)

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6 In the study by Bandura et al. (aggression), most results were obtained by observation.

(a) Give an example of <u>one</u> behaviour that was recorded as 'imitative aggression' and one behaviour that was recorded as 'non-imitative aggression'. [2]

Imitative aggression:
Imitation of physical aggression: This category included acts of striking the Bobo doll with the mallet, "sitting on the doll **and** punching it in the nose", kicking the doll, and tossing it in the air.
(accept 'punch on nose' alone but not 'sitting on doll' alone)
Imitative verbal aggression: Subject repeats the phrases, "Sock him," "Hit him down," "Kick him," "Throw him in the air," or "Pow."
Mallet aggression: Subject strikes objects other than the Bobo doll aggressively with the mallet.

Non-imitative aggression:
Punches Bobo doll: Subject strikes, slaps, or pushes the doll aggressively. **[N.B. first point above]**
Non-imitative physical and verbal aggression: This category included physically aggressive acts directed toward objects other than the Bobo doll
Hostile remarks except for those in the verbal imitation category; e.g. "Shoot the Bobo," "Cut him," "Stupid ball," "Knock over people," "Horses fighting, biting"
Aggressive gun play: Subject shoots darts or aims the guns and fires imaginary shots at objects in the room.

Imitative = 1 mark
Non-imitative = 1 mark
To earn mark must be a behaviour, not a category name (**N.B.** 'punching' is both category name and behaviour).

N.B. the following are imitative but **non-aggressive so are irrelevant**: *Imitative nonaggressive verbal responses*: Subject repeats, "He keeps coming back for more," or "He sure is a tough fella."
Sits on Bobo doll: Subject lays the Bobo doll on its side and **sits on it**, but does not aggress toward it.

(b) Describe the results for 'imitative aggression'. [2]

Accept any data for male and/or female models and/or participants or totals as expansion, or other ways to expand

1 mark partial (no data or simple description), 2 marks full (some approximately accurate data, relative data or detailed description)

e.g. Physical imitative aggression generally higher for male model = 1 mark
Imitative aggression lower than non-imitative aggression = 1 mark
Physical imitation higher in boys but verbal imitation higher in girls = 2 marks, because not just an 'opposite'

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7 Of the 110 infant participants in the study by Langlois et al. (infant facial preference), 50 were eliminated for various reasons including 'fussing'.

(a) State <u>two</u> other reasons for which infants were eliminated. [2]

computer or equipment failure
experimenter error
the mother looked at the slides
infant premature

1 mark per reason × 2

Accept 'computer failure' and 'equipment failure' as separate reasons.

(b) Not using 'fussy' babies was helpful to the experimenters but could also have been a disadvantage in terms of interpreting the results. Explain why. [2]

Accept answers arguing about helpfulness, disadvantages, or both.

Fussy babies may have different facial preferences; so the results may be biased/may not be generalisable
Without fussy babies, the results would not represent the range of possible infant responses; because the fussy babies may find different faces preferable

1 mark partial (brief explanation), 2 marks full (some expansion, may or may not include term but term alone does not necessarily make a 2 mark answer)

e.g. Including them would make the sample bigger = 1 mark
e.g. Fussing made it hard to tell if they were looking, so it wouldn't be clear which they preferred/it would be more valid without them = 2 marks

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8 In the study by Nelson (children's morals) a story about a boy throwing a ball was chosen.

(a) Explain how and why this story was chosen. [2]

In a **pilot** study using children, they consistently regarded it as a **neutral** act.

1 mark partial (only answers 'how' pilot study/asked children or only 'why' children saw it as neutral, however well)
2 marks full (answers both 'how' and 'why', however briefly)

N.B. Do **not** accept general justifications, e.g. 'so it was easy to understand', 'so the outcome and motive were clear'

(b) Describe the difference between the good and bad motive stories. [2]

Good: Friend did not have anything to play with, wanted to throw ball to friend to play catch together.
Bad: boy was mad at friend/wanted to throw ball at friend to hit him on purpose.

1 mark partial (only answers 'good' or only 'bad', however well) 2 marks full (answers both 'good' and 'bad', however briefly)

9 In the study by Schachter and Singer (emotion), the experimenter deceived the participants.

(a) State <u>two</u> ways in which the participants were deceived. [2]

saline/placebo not 'Suproxin'
effects of Suproxin (in some groups)
test of emotion not vision
purpose of questionnaire
role of stooge
reason for delay
1 mark partial (one way, however detailed), 2 marks full (two ways, however brief)

(b) Suggest why it was necessary to deceive the participants in this study. [2]

to avoid them guessing the aim about emotion/arousal/cognition
to avoid them responding differently to the adrenalin/stooge

1 mark partial (explanation of why unrelated to study)
2 marks full (explanation of why related to study)

e.g. To reduce demand characteristics = 1 mark
To keep them naïve = 1 mark

N.B. Do *not* accept general justifications, e.g. 'to test… [the aim]', 'to be able to compare' (that's the nature of experiments, not a reason for deception)

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10 In the study by Dement and Kleitman (sleep and dreaming) an electroencephalograph (EEG) was used to detect eye movements and brain waves.

(a) Describe the EEG patterns associated with rapid eye movement (REM) sleep. [2]

(EEG for brainwaves)
low voltage (amplitude), fast (high frequency)

(EEG as EOG for eye movements)
REMS: 0.1–0.2; irregular; bursts 1–2 to 50–100+; vertical/horizontal eye movements; vertical always at a minimum unless dreaming about up and down things; little or much movement;

1 mark partial (e.g. either voltage or frequency), 2 marks full (e.g. both voltage and frequency)

e.g. 'alpha waves' = 1 mark

N.B. Beta and desynchronous waves do also occur in REM

(b) What advantage did being able to detect this association reliably give Dement and Kleitman? [2]

they could identify dreaming when there was little eye movement so they did not 'miss' dreams/underestimate the occurrence of dreaming

1 mark partial (brief explanation of advantage), 2 marks full (expanded explanation of advantage)

e.g. Could be sure that dreams occurred in REM = max 1 mark
so increasing validity = 2 marks (with part above)

N.B. 'improves validity' alone (i.e. without explanation) = 0 marks

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11 In the study by Maguire et al., taxi drivers were given positron emission tomography (PET) scans.

(a) Why were magnetic resonance imaging (MRI) scans also used in the study? [2]

for comparison
because it's structural (rather than functional)
to superimpose the PET scans onto
i.e. to see (exactly) where/what region the activity was in
to give an averaged/smoothed image
to optimise the signal to noise ratio
to adjust for intersubject differences in (gyral) anatomy
to remove global variation between conditions

1 mark per function × 2

e.g. 'to show the (exact) parts of the brain active in PET scanning' = 1 mark

(b) Evidence from the PET scans showed that a network of brain regions which includes the right hippocampus serves two different spatial functions. Outline these <u>two</u> functions. [2]

learning of new complex/large scale spatial layouts
retrieval of recently acquired topographical memories

1 mark per function × 2

'for routes'/for semantic (sequencing)-topographical information' = 1 mark
'to help learn new locations and remember (recently) learned locations' = 2 marks

N.B. 'For routes and landmarks' = 0 marks
'For **recalling/learning** landmarks and routes' = 1 mark

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12 From the study by Demattè et al. (smells and facial attractiveness):

(a) Explain how the odours were chosen. [2]

in a pilot study/'some people judged…' idea
two judged to be pleasant
reliably so
two as unpleasant

1 mark partial (brief description), 2 marks full (expanded description)

N.B. Just 'judged' is not enough.
Specifying females is incorrect – not known
'The participants judged…' is incorrect – it was a pilot sample

(b) State <u>one</u> pleasant and <u>one</u> unpleasant odour used. [2]

pleasant: geranium/male perfume = male fragrance = Gravity
unpleasant: body odour/rubber

1 mark partial (either pleasant or unpleasant named/unclear which is example of pleasant and which of unpleasant),2 marks full (both pleasant and unpleasant named – and it is clear which is which)

13 In the study by Rosenhan (sane in insane places) the pseudo-patients interacted with the staff and with the real patients.

(a) <u>How</u> did these interactions differ? [2]

Staff saw normal behaviour as abnormal (e.g. note-taking, queuing etc.), patients (recognised them as normal so) treated them as normal

1 mark partial (brief explanation), 2 marks full (expanded explanation, requires comparison)
N.B. accept descriptions which illustrate this difference
accept staff hardly talked, (some) patients did = 2 marks if comparison

(b) <u>Why</u> did these interactions differ? [2]

Because the staff had preconceptions about the (pseudo-)patients, which biased their interactions, the patients didn't have preconceptions (based on the setting)

1 mark partial (brief explanation), 2 marks full (expanded explanation – may be comparison, but does not have to be)

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14 Billington et al. (empathising and systemising) propose that on average, females have a stronger drive to empathise and males have a stronger drive to systemise.

(a) Give <u>one</u> piece of evidence that supports the average pattern. [2]

more males than females were extreme S (1 mark)
66% males type S or extreme S, only 28.8% females (2 marks)
more females than males were extreme E (1 mark)
36.8% females type E or extreme E, only 10.3% of males (2 marks)

1 mark partial (data for only one gender or comparative statement on extreme types), 2 marks full (data for males and females)

N.B. males S>E or females E>S **0 marks** – it's in the stem
N.B. Means: Don't show much. *Average* differences just in direction expected

(b) Billington et al. say that although this is statistically so, it is also important to state that these are only averages. Why is it important to say this? [2]

Because they are only averages, there will be exceptions.
Because psychology has a responsibility to present data in socially responsible ways

1 mark partial (brief explanation), 2 marks full (expanded explanation)

There will be individual differences even though there were 415 participants, this is still only a sample = 2 marks

N.B. 'only averages' **alone** = 0 marks (as in question)

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15 From the study by Veale and Riley (mirror gazing):

(a) Name the experimental design used and explain how this was used in this study. [2]

Independent groups. The BDDs were one group, the controls were non-diagnosed people matched as a group for age and sex.

[Accept matched pairs: each BDD had a control of the same age and sex]

1 mark partial (named but unrelated to study), 2 marks full (named and related to study)

(b) Suggest <u>one</u> disadvantage of this experimental design. [2]

The participants in each group may differ in important ways other than the IV, which may confound the results (so it is not possible to tell whether differences are due to the IV or extraneous variables)

1 mark partial (brief disadvantage), 2 marks full (expanded disadvantage, does not have to be related to study but may be for expansion)

e.g. In matched pairs differences may arise in ways other than the matched variables, introducing extraneous variables = 2 marks

N.B. 'time consuming'/'uses more participants' max 1 mark

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Section B

16 Evaluate the use of longitudinal studies using <u>one</u> of the studies listed below.

Freud (little Hans)
Thigpen and Cleckley (multiple personality disorder)
Rosenhan (sane in insane places) **[10]**

No marks for description of study.
Max 5 if only consider either strengths/weaknesses.

Comment	Mark
No answer or incorrect answer.	0
Anecdotal discussion, brief detail, minimal focus. Very limited range. Discussion may be inaccurate, incomplete or muddled.	1–3
Either points are limited to illustrating strengths or weaknesses of longitudinal studies without reference to the study OR lack of depth and/or breadth. The answer shows some understanding.	4–5
Strengths and weaknesses of longitudinal studies are considered and are focused on the study although they may be imbalanced in terms of quality or quantity. The answer shows good discussion with reasonable understanding.	6–7
Balance of detail between strengths and weaknesses of longitudinal studies and both are focused on the study. Discussion is detailed with good understanding and clear expression.	8–10

Examples of possible discussion points:

Freud

- *strengths* of longitudinal studies illustrated by being able to collect data in detail, as time to explore lots of options e.g. Freud could ask many questions [and researcher can get to know individual (generally) so develop trust although not the case here]
- also able to track actual changes rather than looking at different participants at different stages so less likely to be affected by cultural factors and more likely to detect causes of change e.g. here Freud could explore influence of younger sister
- so results don't usually rely on participants' memories of the past e.g. parents in this case able to report events as they happened
- *weaknesses* of longitudinal studies e.g. problems of getting to know researcher well over time [but not the case here as Freud rarely met Hans although he did know his dad well, so could have influenced him over time]
- often the number of participants reduces over time but in this case the participant was unaware he was participating so couldn't drop out.

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Thigpen and Cleckley

- *strengths* of longitudinal studies illustrated by being able to collect data in detail, as time to explore lots of options e.g. Eve studied in many ways and researcher can get to know individual so develop trust
- also able to track actual changes e.g. appearance of Eve Black then Jane and changes in symptoms
- so results don't usually rely on participants' memories of the past [although to an extent, Eve's data were retrospective]
- *weaknesses* of longitudinal studies e.g. problems of getting to know researcher well over time leading to bias e.g. risk of 'encouraging' Eve to produce more personalities
- often the number of participants reduces over time but in this case there was only one participant.

Rosenhan

- *strengths* of longitudinal studies illustrated by being able to collect data in detail, as time to explore lots of options e.g. pseudo-patients able to explore many aspects of staff behaviour in hospital
- also able to track actual changes e.g. extent to which staff behaviour (didn't) change over time even though pseudo-patients were demonstrably sane
- so results don't rely on participants' memories of the past, the pseudo-patients were able to record their experiences with staff as they happened
- *weaknesses* of longitudinal studies e.g. problems of getting to know researcher well over time [but not the case here as the 'observers', i.e. pseudo-patients, were not known to the actual participants]
- often the number of participants reduces over time but in this case the participants (the staff) were unaware they were participating so couldn't drop out.

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17 Discuss the strengths and weaknesses of the social approach to psychology using one of the studies listed below.

Haney, Banks and Zimbardo (prison simulation)
Piliavin et al. (subway Samaritans)
Tajfel (intergroup categorisation) **[10]**

No marks for description of study.
Max 5 if only consider either strengths/weaknesses.

Comment	Mark
No answer or incorrect answer.	0
Anecdotal evaluation, brief detail, minimal focus. Very limited range. Evaluation may be inaccurate, incomplete or muddled.	1–3
Points illustrating the contribution of social psychology lack depth and/or breadth. The answer may be general rather than focused on study. Shows some understanding.	4–5
Strengths and weaknesses of social psychology are considered and argument is focused on the study although the evaluation may be imbalanced in terms of quality and/or depth. The answer shows reasonable understanding.	6–7
Balance of detail between strengths and weaknesses of social psychology and these are focused on the study. Evaluation is detailed with good understanding and clear expression.	8–10

Examples of possible evaluation points:

Haney, Banks and Zimbardo

- *strengths* of the social approach e.g. generalising from life-like experiments to real world illustrated by extent to which guards and prisoners took on roles
- also, because the participants are often unaware of the aim/the whole aim they are less likely to respond to demand characteristics so findings are valid e.g. the participants were only told it was a study about 'prison life'.
- *weaknesses* of the social approach illustrated by the extent to which the study was unethical because psychological harm was caused to the 'prisoners', which is often the case when participants lack informed consent
- by only considering social factors, other influences, such as biological ones, are ignored, for example there may have been underlying differences between participants who were allocated to guards and prisoners [although this is unlikely as they were all stable etc.].

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Piliavin et al.

- *strengths* of the social approach e.g. generalising from field experiments to wider world illustrated by behaviour of people in actual situation in subway
- also, because the participants are often unaware of the aim/the whole aim they are less likely to respond to demand characteristics so findings are valid e.g. the participants were just travellers behaving as they would normally on a subway train
- *weaknesses* of the social approach illustrated by the extent to which the study was unethical because psychological harm could have been caused to the travellers if they believed the 'victim' was really ill, which is often the case when participants lack informed consent
- by only considering social factors, other influences, such as biological ones, are ignored, for example there may have been underlying differences between participants in 'helpfulness'.

Tajfel

- *strengths* of the social approach e.g. generalising from lifelike experiments to real world illustrated by minimal groups paradigm because although task wasn't realistic, since the boys had very little in common it does demonstrate that the basis of prejudice may not be 'real' conflict but identity
- also, because the participants are often unaware of the aim/the whole aim they are less likely to respond to demand characteristics so findings are valid e.g. the participants believed they were doing a study on vision
- *weaknesses* of the social approach illustrated by the extent to which the study was unethical because psychological harm could have been caused to the boys if they became competitive or prejudiced towards fellow school boys after the study
- by only considering social factors, other influences, such as biological ones, are ignored, for example competitiveness affects prejudice and this may be innate.

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