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GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the October/November 2012 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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Section A (60 marks)

Answer all questions in this section.

1 From the study by Mann et al (lying) suggest two reasons why Mann et al thought that liars would not display nervous behaviours. [4]

Most likely:
simultaneous cognitive processes:
- increased cognitive load
- attempted behavioural control

(which negate nervous behaviour)

Also:
- "previous research into deception … repeatedly demonstrated that … most people decrease nonfunctional movements and become unnaturally still" (De Paulo, 1988; Ekman, 1989; Vrij, 1995)
- previous research has shown that liars do not decrease eye contact
- previous research has shown no relationship between eye contact and deception
- Vrij and Mann (2001) found that one murderer didn't
- Sadam Hussein didn't (when lying in CNN interview: Davis and Hadiks, 1995)

Accept: Because previous studies were all lab based (asked to lie/opt to lie or tell the truth/ negligible consequence/given rewards not punishments).

1 mark partial, 2 marks full × 2.

2 From the study by Loftus and Pickrell (false memories):

(a) Identify two elements always included in the false events story. [2]

There are only these 5 about the subject:
- lost for an extended period of time
- crying because scared/confused
- lost in a mall or large department store at about age 5
- found and aided by an elderly woman
- reunited with the family.

Any 2 for 1 mark each.

(b) State two pieces of information that Loftus and Pickrell obtained from the participants' relatives to write the false event. [2]

There are only these 4:
- where the family would have shopped when the subject was about 5 years old
- which members of the family usually went along on shopping trips
- what kinds of stores might have attracted the subject's interest
- verification that the subject had not been lost in a mall around the age of 5.

Any 2 for 1 mark each.

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3 From the study by Baron-Cohen et al (eyes test):

(a) Describe <u>one</u> problem they identified with the original eyes test. [2]

Any one of these 8:
- forced choice
- parents of children with AS also scored lower than the general population
- ceiling effect so loss of ability to detect individual differences
- inclusion of both basic mental states meant some items were too easy (e.g. happy/sad/angry/disgusted) and could be recognised without need to attribute belief
- gaze direction was sufficient to solve some items (e.g. noticing/ignoring)
- more female than male faces therefore biased
- target and foil were always opposites – too easy
- requirement to map word to picture (too demanding for those with linguistic delay).

1 mark partial, 2 marks full.

(b) Explain how the revised eyes test solves this problem. [2]

Any one of these 8:
- *forced choice*:
  - more items on the test (no. of photos increased from 25 to 36)
  - more response options (to identify individual differences), increased from 2 to 4

  so lower possibility of chance correct answers/less risk of normal scores approaching ceiling

- *parents of children with AS also scored lower than the general population*: As 1

- ceiling effect so loss of ability to detect individual differences: As 1

- *inclusion of both basic mental states meant some items were too easy (e.g. happy/sad/angry/disgusted) and could be recognised without need to attribute belief*: Only complex states included (requiring attribution of belief/intention, so greater range in normal adult population)

- *gaze direction was sufficient to solve some items (e.g. noticing/ignoring)*: excluded from revised version (so all had to be solved by attributing state)

- *more female than male faces therefore biased*: equal no. of male and female faces in revised version (so no risk of gender bias/also allowed testing of gender differences)

- *target and foil were always opposites – too easy*: (three) foils with same emotional valence as target (mainly) so more difficult/cannot distinguish purely by chalk-and-cheese (e.g. foils for 'serious' were ashamed/alarmed/bewildered)

- *requirement to map word to picture (too demanding for those with linguistic delay)*: included glossary, and encouraged participants to use it if they were unsure of a word.

1 mark partial (attempt at 'solution' – in italics), 2 marks full (more than just naming/identifying).

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4 Held and Hein (kitten carousel) designed their study to solve some problems in earlier research. Describe <u>two</u> ways in which the visual-spatial experience of animals in this earlier research was restricted. [4]

- restrained in holders (to prevent free movement) [Reisen and Aarons]
- diffusing hoods over eyes (to prevent form vision) [Reisen].

1 mark partial, 2 marks full x 2.

5 From the study by Milgram (obedience):

(a) Outline <u>one</u> ethical guideline that was broken. [2]

- *competence*: Milgram should have stopped the procedure before all 40 participants had completed the experiment
- *protection from psychological harm*: participants were distressed/felt guilty
- *protection from physical harm*: some participants harmed e.g. seizures/biting lips.

1 mark for guideline, 2nd mark for describing it.

NB 2nd mark is not for application to Milgram. Second mark may be contextualised but not to be awarded for simple description of Milgram which happens to be relevant.

(b) Outline <u>one</u> ethical guideline that was <u>not</u> broken. [2]

- *competence*: being sufficiently experienced/qualified to take appropriate steps to ensure participants' health
- *confidentiality*: no participant was named
- *protection from psychological harm*: participants met learner so knew he was unharmed/followed up.

1 mark for guideline, 2nd mark for describing it.

NB 2nd mark is not for application to Milgram. Second mark may be contextualised but not to be awarded for simple description of Milgram which happens to be relevant.

6 From the prison study by Haney, Banks and Zimbardo:

(a) What was the dispositional hypothesis being tested? [2]

The dispositional (within people) hypothesis is 'the deplorable condition of our penal system' (and its dehumanising effects upon prisoners and guards) owing to the nature of the people who administrate it or the nature of the people who populate it, or both. Guards are sadistic, uneducated and insensitive. Nothing is wrong with the prison itself (situational attribution).

1 mark partial, 2 marks full.

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(b) To what extent did the results support the dispositional hypothesis? [2]

Most likely:
no, dispositional not supported. 'Normal' participants behaved as they did because of the situation they were in.

1 mark partial, 2 marks full.

7 There were several conclusions from the study by Piliavin et al (subway Samaritans).

(a) Describe <u>one</u> of the conclusions from this study. [2]

- an individual who appears to be ill is more likely to receive aid than one who appears to be drunk
- with a male victim, men are more likely than women to help
- with mixed racial groups, same-race helping is (slightly) more likely, especially if the victim appears drunk rather than ill
- the longer the emergency continues:
  the less impact the model has on the helping behaviour of observers
  the more likely it is that individuals will leave the area (i.e. active avoidance)
  the more likely it is that observers will discuss the incident and its implications for their behaviour
- diffusion of responsibility does not occur when people cannot leave.

1 mark partial, 2 marks full.

(b) Describe the evidence for this conclusion. [2]

- ill more likely to receive aid than drunk – cane: 62 / drunk: 19
- (male victim) men help – first helper: 90% male
- same-race helping – same: 52 / different: 29
- longer emergency continues:
  less impact of model – early model: 12 / late model: 4
  leave the area – early response: [5% white, 9% black] / late response: [42% white, 64% black]
  discuss implications – early response: [26% white, 18% black] / late response: [96% white, 64% black]
- diffusion of responsibility does not occur – no decrease in speed of response with group size: 1–3 males: 309 sec / 4–6 males: 149 sec / 7+ males: 97 sec.

1 mark partial, 2 marks full (e.g. numbers or comparison or two pieces of evidence).

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8 Describe <u>two</u> findings from the study by Bandura et al on the imitation of aggression. [4]

Most likely:
- more likely to imitate same-sex model
- females more likely to imitate verbal aggression than males
- males more likely to imitate physical aggression than females.

Also:
- children also imitated non-aggressive behaviour
- non-imitative aggression was higher for same-sex models.

Many other possible answers.

1 mark partial (statement of direction of difference), 2 marks full (numbers) × 2.

9 Freud is often criticised for the methods he used to collect evidence for his theories.

(a) Give <u>one</u> weakness of Freud's methods from his study of little Hans. [2]

Most likely:
- unscientific
- difficult to generalise
- cannot be replicated.

1 mark partial, 2 marks full (elaboration or an example).

NB: marks are for evaluation of *method* not findings (e.g. do not accept 'little Hans was an unusual child' – unless in the context of 'therefore needed more participants').

(b) Give <u>one</u> strength of Freud's methods from his study of little Hans. [2]

Most likely:
- very thorough/detailed/in depth.

1 mark partial, 2 marks full (elaboration or an example).

NB: marks are for evaluation of *method* not findings (e.g. do not accept 'helped little Hans to overcome phobia').

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10 From the study by Langlois et al (infant facial preference):

(a) Outline <u>two</u> features of the slides used in study 1 to test preferences for adult faces. [2]

Most likely:
- in colour
- high or low attractiveness
- hair length controlled
- hair colour controlled
- men clean-shaven
- masked clothing cues
- neutral facial expressions
- males and females
- all white.

Also:
- there were 16 slides
- previously rated by undergraduates.

Any 2 for 1 mark × 2.

NB: do not accept related aspects of the procedure e.g. how long the slides were seen for.

(b) Suggest why they used slides rather than real people. [2]

Most likely:
- could control variables, as in **(a)**
- static (so avoids extraneous variables from movement).

1 mark partial, 2 marks full (elaboration or an example).

11 From the study by Nelson on morals, describe <u>two</u> ways in which the responses of the 3-year-old and the 7-year-old children differed. [4]

Most likely:
- 3-year-olds made more errors in recalling motives (than 7-year-olds)
- 3-year-olds made more errors in recalling outcomes (than 7-year-olds).

Also:
- 3-year-olds made more errors in recalling valence of motives than of outcomes when this was conflicting (but it made no difference to 7-year-olds)
- for 3-year-olds in verbal-only presentation, motive mattered more than outcome, but this was not the case for 7-year-olds
- for 3-year-olds in verbal-only presentation, the first negative cue mattered most
- for 3-year-olds made more errors in recalling the story than 7-year-olds.

1 mark partial, 2 marks full (statement of both ages) x 2.

NB elaboration (e.g. with data) is *not* required for 2nd mark.

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12 From the study by Maguire et al (taxi drivers):

(a) Outline the technique used to measure brain activation. [2]

The technique used was PET.

1 mark for identifying PET, 2nd mark for description of method, however brief, e.g. detects breakdown of radioactive water $H_2{}^{15}O$. Also accept comparison of PET scan to speech (of repeated 2 four-digit numbers). NB MRI was used for localisation but NOT to measure brain activation, therefore incorrect.

(b) Identify <u>two</u> brain areas activated in the topographical tasks. [2]

Most likely:
- bilateral medial parietal regions
- posterior cingulate cortices
- fusiform gyri
- parahippocampal gyri.

Also:
- cerebellum (activated for all tasks)
- left temporal pole (activated for all tasks).

Any 2 for 1 mark x 2.

NB topographical tasks were routes and landmarks. The following are ***incorrect***:
- left frontal regions
- middle temporal gyrus
- left angular gyrus.

13 The study by Demattè et al (smells and facial attractiveness) used a repeated measures design. As a consequence of this design they had to use counterbalancing.

(a) What is meant by the term 'counterbalancing'? [2]

Groups of participants do conditions of IV in one order, so that equal numbers of participants do levels of IV in each possible order.

1 mark partial, 2 marks full (clear/elaborated e.g. with function – to control for order effects).

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(b) How were the conditions counterbalanced in this study? [2]

"In order to counterbalance the presentation of each face-odor combination, the entire set of 40 faces was divided into 4 subgroups of 10 faces (5 highly attractive faces and 5 faces judged to be less attractive) of comparable mean attractiveness. Each subgroup was then presented with 1 different possible combination of pleasant-unpleasant odors, counterbalanced across participants… each participant rated a group of 10 faces presented with clean air, the geranium odor, and the body odor during the experiment. A different group of 10 faces was presented with clean air, the male perfume, the rubber odor; another group of faces was presented with the clean air, geranium odor and the rubber odor; and the remaining group of faces was presented with clean air, the male perfume and the body odor."

1 mark partial, 2 marks full.
e.g. different participants had different odour combinations (1 mark)
the faces were divided into 4 subgroups each of which was then presented with a different possible combination of pleasant-unpleasant odours (2 marks).

14 From the study by Rosenhan (sane in insane places):

(a) How often did physicians appear on the wards? [2]

Most likely:
not very often (1 mark)
6–7 times a day (2 marks)
between 1 and 17 times a day (2 marks).

1 mark partial, 2 marks full.

(b) How did the physicians typically respond to questions from the pseudopatients? [2]

Most likely:
- briefly
- head averted
- they often didn't respond at all.

1 mark partial, 2 marks full (elaboration/example/more than one point).

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15 Thigpen and Cleckley studied the case of Eve, who they concluded was suffering from multiple personality disorder. Describe <u>two</u> pieces of evidence that led them to this conclusion. [4]

- difference in IQ
- difference in memory
- difference on Rorschach (e.g. B-healthier but hysterical, W-obsessive compulsive, rigid, unable to cope with hostility; defence mechanisms: W-regression of married life, B-regression of life before marriage)
- amnesia
- EEG (B-12.5 cps, W and J-11 cps)
- hypnosis
- any point from table.

Eve White	Eve Black
Demure, retiring, in some respects almost saintly	Obviously a party girl. Shrewd, childishly vain, and egocentric
Face suggests a quiet sweetness; the expression in repose is predominantly one of contained sadness	Face is pixie-like; eyes dance with mischief as if Puck peered through the pupils.
Clothes: simple and conservative, neat and inconspicuously attractive	Expression rapidly shifts in a light cascade of fun-loving willfulness. The eyes are as inconstant as the wind. This face has not and will never know sadness. Often it reflects a misleading and only half-true naïveté
Posture: tendency to a barely discernible stoop or slump. Movements careful and dignified	Voice a little coarsened, "discultured," with echoes or implications of mirth and teasing. Speech richly vernacular and liberally seasoned with spontaneous gusts of rowdy wit
Reads poetry and likes to compose verse herself	A devotee of pranks. Her repeated irresponsibilities have cruel results on others. More heedless and unthinking, however, than deeply malicious. Enjoys taunting and mocking the Siamese alternate
Voice always softly modulated, always influenced by a specifically feminine restraint	All attitudes and passions whim-like and momentary. Quick and vivid flares of many light feelings, all ephemeral
Almost all who know her express admiration and affection for her. She does not provoke envy. Her strength of character is more passive than active. Steadfast on defense but lacking initiative and boldness to formulate strategy of attack	Consistently uncritical of others. Tries not to blame husband for marital troubles. Nothing suggests pretense or hypocrisy in this charitable attitude
An industrious and able worker; also a competent housekeeper and a skillful cook. Not colorful or glamorous. Limited in spontaneity	Though not stiffly prudish and never self-righteous, she is seldom lively or playful or inclined to tease or tell a joke. Seldom animated
	Her presence resonates unexpressed devotion to her child. Every act, every gesture, the demonstrated sacrifice of personal aims to work hard for her little girl, is consistent with this love
	Cornered by bitter circumstances, threatened with tragedy, her endeavors to sustain herself, to defend her child, are impressive
	This role in life essentially so meek and fragile embodies an unspoken pathos. One feels somehow she is doomed to be overcome in her present situation
	No allergy to nylon has been reported
	Immediately likable and attractive. A touch of sexiness seasons every word and gesture. Ready for any little, irresponsible adventure
	Dress is becoming and a little provocative. Posture and gait suggest light-heartedness, play, a challenge to some sort of frolic
	Never contemplative; to be serious is for her to be tedious or absurd. Is immediately amusing and likable. Meets the little details of experience with a relish that is catching. Strangely "secure from the contagion of the world's slow stain," and from inner aspect of grief and tragedy
	Reports that her skin often reacts to nylon with urticaria. Usually does not wear stockings when she is "out" for long periods

1 mark partial, 2 marks full × 2.

e.g. difference in IQ (1 mark)
White 110, Black 104 (2 marks).

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Section B (20 marks)

Answer both questions in this section.

16 Evaluate one of the studies listed below in terms of two strengths. [10]

Tajfel (intergroup categorisation)
Billington et al (empathising and systemising)
Veale and Riley (mirror gazing)

No marks for description of study.

If more than two strengths have been considered, mark them all and award for the best two.

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
Either points illustrating strengths lack depth and/or breadth *or* only 1 strength is considered. The answer is general rather than focused on study but shows some understanding.	4–5
Two strengths are considered and are focused on the study although they may be imbalanced in terms of quality and/or depth. The answer shows good evaluation with reasonable understanding.	6–7
Balance of detail between strengths and both are focused on the study. Evaluation is detailed with good understanding and clear expression.	8–10

Examples of possible evaluation points:

Tajfel
- Participants randomly allocated to groups so not possible for differences to be due to existing group preferences e.g. friendship groups so well controlled, increasing validity and reliability.
- Participants deceived about aim (told it was about visual judgments) so reduced risk of demand characteristics confounding results therefore more likely that effects on behaviour towards other individuals were due to the effect of artificial groups.

Billington et al
- Questionnaires improved compared to previous versions, e.g. SQ-R included sex-neutral items and EQ correlates well with Interpersonal Reactivity Index, therefore high concurrent validity. Since the questionnaires aim to test an individual's drive, it is appropriate that they are self-reports.
- Sample chosen on basis of unambiguous categorisation into physical science (maths etc. – paper has list) or humanities (e.g. languages) i.e. didn't include subjects in the overlap e.g. psychology or geography. Approximately equal gender split (203 males, 212 females).
- Has useful applications. To recruitment of students on science courses and employees into appropriate jobs, i.e. that ES rather than gender matters most and for teaching, e.g. help for girls (on average) with systematising tasks (like using tools).

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Veale and Riley

- Control group (55 participants, mean 33.4 years) matched to BDD (52 participants, mean 30.1 years) on age and sex. Conducted a pilot study to establish that controls (like BDD participants) engaged in both long and short mirror gazing.
- The questionnaire included open questions as well as forced choice ones, so qualitative as well as quantitative data was obtained so the reasons for answers could be found. Likert scale items were not reversed, so it was easy to ensure that the questions were understood [but risk of response bias].
- A wide definition of 'mirror' was used so it was more likely that participants' genuine self-gazing behaviour would be recorded and this was important as both groups used 'other' mirror surfaces and there were differences between the groups (BDD participants used more 'others' in terms of % use, variety and selective avoidance).
- Better understanding of BDD leads to new strategies for therapy. Steps include: (a) monitoring longest session and (b) frequency of short sessions with the aim of reducing time spent mirror gazing; (c) learn to use mirrors healthily rather than avoiding them [see points 1–9 below]; change beliefs from 'what you see is what you get' to 'what you see is what you construct' i.e. change selective attention/develop more realistic internal representation of body image (using behavioural experiments); cost-benefit analysis to consider valuation of appearance (e.g. perfectionism, social acceptance via role-play); response-cost (participant pays money to most *hated* organisation for each mirror gaze).

make-up). Patients (whether they are gazing or avoiding) are encouraged to develop the following goals:

1. To use mirrors at a slight distance or ones that are large enough to incorporate most of their body;
2. To deliberately focus attention on their reflection in the mirror rather than an internal impression of how they feel;
3. To only use a mirror for an agreed function (e.g. shaving, putting on make-up) for a limited period of time;
4. To use a variety of different mirrors and lights rather sticking to one which they "trust";
5. To focus attention on the whole of their face or body rather than a specific area;
6. To suspend judgement about one's appearance and distance oneself from automatic thoughts about being ugly or defective;
7. Not to use mirrors that magnify their reflection,
8. Not to use ambiguous reflections (for example windows, the backs of CDs or cutlery or mirrors that are dusty or cracked);
9. Not to use a mirror when they feel have the urge but to try and delay the response and do other activities until the urge has diminished.

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17 Use <u>one</u> of the studies listed below to discuss the physiological approach. [10]

Schachter and Singer (emotion)
Dement and Kleitman (sleep and dreaming)
Maguire et al (taxi drivers)

No marks for description of study. Description of techniques in the context of making the approach scientific is, however, appropriate.

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
Points illustrating the approach lack depth and/or breadth. The answer is general rather than focused on study but shows some understanding.	4–5
The approach is considered in more than one way (e.g. strengths, weaknesses, usefulness) and discussion is focused on the study although the discussion may be imbalanced in terms of quality and/or depth. The answer shows reasonable understanding.	6–7
Balance of detail between aspects of the approach and discussion is focused on the study. Discussion is detailed with good understanding and clear expression.	8–10

Examples of possible discussion points:

Schachter and Singer

- Physiological investigation, e.g. hormones, endocrine system, adrenaline, its effects (palpitations, tremor, face flushing etc.), adrenal glands (other examples may be relevant), role of adrenaline in triggering sympathetic nervous system activity (autonomic nervous system).
- Biology isn't everything – effect of stooge (label: anger/euphoria) and information (explanation).
- Typifies physiological approach to research as uses lab experiment, collects quantitative data [although also some qualitative, which is unusual], strong controls (e.g. standardised instructions), scientific equipment and procedures (e.g. injections) [although use of social setting/a stooge is unusual for physiological approach].

Dement and Kleitman

- Physiological investigation, e.g. sleep, stages of sleep (REM, nREM), brain activity (low voltage, fast EEG when dreaming, high voltage, slow EEG, or EEG with frequent spindles with low-voltage background when not dreaming). Little dreaming early in night, more later, even if woken and resumed sleep suggesting CNS activity has a normal course which is followed regardless of momentary wakings. Relationship between eye movements and dream content (i.e. brain activity).
- Typifies physiological approach to research as uses lab experiment, collects quantitative data [although also some qualitative, e.g. descriptions of dreams, which is unusual], strong controls (e.g. no caffeine, alcohol, reduction of demand characteristics by not informing of sleep stage), scientific equipment (e.g. EEGs for brain waves and eye movements) [although so few participants is unusual for physiological approach].

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Maguire et al

- Physiological investigation, e.g. brain activity, brain areas, attempts to assess localisation (e.g. topographical memory {routes, landmarks, large-scale layouts} to right hippocampus, nontopographical semantic memory {films} to left inferior frontal gyrus).
- Typifies physiological approach to research as uses lab experiment, collects quantitative data [although also some qualitative, e.g. descriptions during navigation scans, which is unusual], strong controls (e.g. age 45+/-7 years, 3+ years as driver), comparison to baseline, scientific equipment (e.g. PET, MRI).

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