Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/12**

Paper 1 Approaches, Issues and Debates **October/November 2023**

MARK SCHEME

Maximum Mark: 60

Published

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.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

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GENERIC MARKING PRINCIPLE 5: Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).
GENERIC MARKING PRINCIPLE 6: Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Social Science-Specific Marking Principles
(for point-based marking)

1 Components using point-based marking:

- Point marking is often used to reward knowledge, understanding and application of skills. We give credit where the candidate's answer shows relevant knowledge, understanding and application of skills in answering the question. We do not give credit where the answer shows confusion.

From this it follows that we:

a DO credit answers which are worded differently from the mark scheme if they clearly convey the same meaning (unless the mark scheme requires a specific term)
b DO credit alternative answers/examples which are not written in the mark scheme if they are correct
c DO credit answers where candidates give more than one correct answer in one prompt/numbered/scaffolded space where extended writing is required rather than list-type answers. For example, questions that require *n* reasons (e.g. State two reasons …).
d DO NOT credit answers simply for using a 'key term' unless that is all that is required. (Check for evidence it is understood and not used wrongly.)
e DO NOT credit answers which are obviously self-contradicting or trying to cover all possibilities
f DO NOT give further credit for what is effectively repetition of a correct point already credited unless the language itself is being tested. This applies equally to 'mirror statements' (i.e. polluted/not polluted).
g DO NOT require spellings to be correct, unless this is part of the test. However spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. Corrasion/Corrosion)

2 Presentation of mark scheme:

- Slashes (/) or the word 'or' separate alternative ways of making the same point.
- Semi colons (;) bullet points (•) or figures in brackets (1) separate different points.
- Content in the answer column in brackets is for examiner information/context to clarify the marking but is not required to earn the mark (except Accounting syllabuses where they indicate negative numbers).

3 Annotation:

- For point marking, ticks can be used to indicate correct answers and crosses can be used to indicate wrong answers. There is no direct relationship between ticks and marks. Ticks have no defined meaning for levels of response marking.
- For levels of response marking, the level awarded should be annotated on the script.
- Other annotations will be used by examiners as agreed during standardisation, and the meaning will be understood by all examiners who marked that paper.

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Question	Answer	Marks	Guidance
1(a)	**The study by Baron-Cohen et al. used the eyes test as a measure of theory of mind.** **The eyes test results were negatively (inversely) correlated with the results of another measure.** **Name this measure.** 1 mark for correct answer. Take the first answer only. Autism [Spectrum] Quotient/AQ.	**1**	Reject IQ. Reject Autism Spectrum Test.
1(b)	**Outline the Group 4 sample from this study.** 1 mark per correct point. Random sample. **General** population. n=14. IQ matched with Group 1 / similar to Group 1/AS-HFA group. Same age distribution as Group 1. **Mean** IQ = 116. **Mean** age = 28 years Not diagnosed with AS/HFA.	**2**	List is definitive. No tolerance on n or IQ. Age tolerance 27–29 years. Ignore reference to ‘normal people’. Do not credit <u>do not suffer</u> from AS/HFA

Question	Answer	Marks	Guidance
2	**The study by Saavedra and Silverman investigated a boy with a phobia of buttons.** **The boy reported an experience that he thought was the cause of his button phobia.** **Describe the experience the boy reported.** 1 mark per correct point. The incident happened when he was five years old / happened four years before study. There was an art project / during art class (using buttons). He had run out of buttons (for his project). He was asked to go to the front of the class to get more (buttons). They were in a large bowl (on the teacher's desk). His hand slipped as he reached for the bowl / accidentally knocked over the bowl. All of the buttons fell down on him.	**4**	List is definitive.

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Question	Answer	Marks	Guidance
3	**Explain <u>one</u> problem that could arise if children were used as participants in the study by Canli et al. (brain scans and emotions).** 1 mark for identification of the problem. 1 mark for elaboration of the problem (can be linked to study or not) 1 mark for linking it to Canli et al. e.g. fMRI/MRI scans were used in the study to measure brain structure/activity (1 mark: elaboration). This requires participants to be still which might be difficult for children (1 mark: identification). This could mean that none of the scans would be useful / be completed successfully (1 mark: link) Children may lack understanding of emotions (1 mark: identification) and this study was dealing with complex emotions like tranquil (1 mark: elaboration) so it would not be a valid test of brain function and emotion (1 mark: link) e.g., identification of other creditworthy problems include: Children would need to keep still during the brain scans (1 mark). Children may be scared to enter the machine so refuse to go in (1 mark). The children may find images distressing / scared of pictures (1 mark).	**3**	Go with the intention of the candidate. If more than one problem presented, mark all and credit the best. Cannot be awarded 1 mark for simply stating it reduces / affects validity. Unethical/ethical issues can be the identification of the problem.

Question	Answer	Marks	Guidance
4(a)	**In the study by Pepperberg (parrot learning), a principal trainer was used during the 'test procedures'.** **Describe the procedure that the principal trainer followed during the 'test procedures'.** 1 mark per correct point. She was sat in the room with her back to Alex / the parrot. She did not look at Alex / the parrot during the presentation of (test) objects. She did not know what object was being presented. She repeated out loud what Alex / the parrot said. It was then decided if the response was correct/incorrect /indistinct.	**4**	The list is definitive.
4(b)	**Outline <u>one</u> conclusion from this study.** 2 marks detailed conclusion. 1 mark partial/brief. No credit for any actual results. Must be generic. e.g. That an avian subject, an African Grey parrot, showed <u>symbolic comprehension</u> / cognitive ability of the concept *same/different*. (2 marks) It would therefore appear that <u>symbolic representation</u>, in this case of same/different, is not exclusive to primates (2 marks) The study showed that he could comprehend same/different (1 mark) Not only primates can understand same/different (1 mark) Alex's accuracy rate was 70% for novel objects (0 marks = result).	**2**	If the same/different does not mention symbolic but does explain a mechanism as to why, for example, SLT or Model/Rival, then award 2 marks.

Question	Answer	Marks	Guidance
5(a)	**The study by Piliavin et al. (subway Samaritans) used models and victims.** **Name <u>two</u> features of the models used in this study.** 1 mark per correct feature White. Males. Aged 24–29 years. Informally clothed / not the same attire / casual clothing. Students from Columbia University.	**2**	Accept any age answer in the range. List is definitive.
5(b)	**Outline <u>one</u> result in relation to the time taken to help the victims.** 2 marks for result with a meaningful comparison. 1 mark for partial result / no meaningful comparison. e.g., The average time it took people to help the ill victim was significantly faster than the average time taken to help the drunk victim (2 marks). People were consistently faster to help in groups of 7 compared to groups of 3 (2 marks). People helped the ill victim faster (on average) (1 mark). People were slower to help in groups of 3 (1 mark).	**2**	Ignore reference to any results about early versus late as the participants never knew this would happen.

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Question	Answer	Marks	Guidance
5(c)	**Outline <u>one</u> result in relation to participants leaving the critical area.** 2 marks for result with a meaningful comparison. 1 mark for partial result / no meaningful comparison. e.g., People were more likely to leave the critical area when the victim was black compared to when the victim was white (2 marks). People were more likely to leave the critical area when the victim was drunk compared to when the victim was ill (2 marks). People were more likely to leave the critical area when help had not been offered within 70s (of collapse) compared to when help had been given (2 marks). 34 people left the critical area (1 mark) on 21 (20%) of trials (1 mark). People left the critical area less when the victim was white (1 mark).	**2**	

Question	Answer	Marks	Guidance
6(a)	**From the study by Andrade (doodling):** **Describe the background to this study.** 1 mark per correct point made. e.g., Daydreaming had been linked to moments of boredom in people. In these situations, people may resort to doodling to help concentration. Dual task designs are used to pinpoint our cognitive resources. Arousal levels need to be maintained to be able to concentrate. Boredom plays a role in paying attention to information. Information processing can be difficult when asked to do 'two things at once'. It has been assumed that doing concurrent tasks (e.g., doodling) impairs concentration / distracts from primary task. The effects of boredom on processing have been overlooked.	**4**	No credit for providing <u>results</u> from the Andrade study, but 1 mark available for the aim of Andrade's study.

Question	Answer	Marks	Guidance
6(b)	**Explain why this study is from the cognitive approach.** 2 marks = clearly linked to cognitive approach (either through example or assumption) 1 mark = partially linked to cognitive approach e.g., One assumption of the cognitive approach is that behaviour can be explained using cognitive systems like attention (1 mark) and this study examined the role of split attention in recall (1 mark). Differences between people can be attributed to individual patterns of cognition (1 mark) and in this study not all people recalled the same amount of correct information (1 mark).	**2**	

Question	Answer	Marks	Guidance
7	**Suggest <u>two</u> real-world applications based on the study by Yamamoto et al. (chimpanzee helping).** Your suggestions **must** be ethical. 1 mark for what the application is (clearly based on Yamamoto et al.). 1 mark for how it will be achieved. e.g. The procedure could be used in schools to teach about helping behaviour (1 mark: what); teachers could set up a similar scenario so that children have to interact / understand the needs of others to be able to complete the task of helping someone else (1 mark: how) Parents can use these ideas to promote helping behaviour in their children (1 mark: what). Parents can reward their children when specific helping behaviours are seen (to increase the likelihood they continue) (1 mark: how) A teacher can use rewards in the classroom to motivate children (1 mark: what).	**4**	Annotate with a tick for what the application is and a + for how it will be achieved. Do not credit the same 'what' twice (e.g., teachers in classroom), but do credit different 'hows'. Suggestions based on the use of rewards are creditworthy here.

Question	Answer	Marks	Guidance
8	**Two friends, Zayn and Danna, are discussing the nature versus nurture debate in relation to the study by Bandura et al. (aggression). Zayn thinks the study supports the nature side of the debate but Danna thinks the study supports the nurture side of the debate.** **Explain <u>one</u> reason why Zayn is correct and <u>one</u> reason why Danna is correct using evidence from this study.** 1 mark per correct point. 3 marks for Zayn. 1 mark for defining nature. 3 marks for Danna. 1 mark for defining nurture. e.g., Zayn Nature is about behaviours being genetically encoded and with us from birth (1 mark: definition). Boys were more physically aggressive than girls across a range of the conditions irrespective of the sex of the model (1 mark). This could be due to them having higher levels of testosterone which is biological (1 mark). e.g., Danna Nurture is about the learning of behaviours through experiences / after birth (1 mark: definition). Participants in all conditions had already been matching on (pre-existing) aggression levels yet, for instance, male participants we much more likely to imitate a physically aggressive male role model (1 mark). Therefore, this imitated behaviour must have been learned (1 mark).	**6**	For Zayn, do **not** credit 'naturally' for a definition. For Danna, do **not** credit 'nurtured' for a definition. For Danna, definition of nurture + they observed/imitated = 2 marks. For Danna, accept arguments about being exposed to aggression at home etc. for 1 mark max. If there is no explicit evidence presented from Bandura then max 2. An explicit explanation **must** be present for max 3.

Question	Answer	Marks	Guidance
8	Participants had been matched on levels of aggression (1 mark) and there were differences in levels of imitated behaviour depending if a model was aggressive or not so learned (1 mark). They learned to be aggressive by observing/imitating a model (1 mark).		

Question	Answer	Marks	Guidance
9(a)	**From the study by Schachter and Singer (two factors in emotion):** **Describe the sample.** 1 mark per correct point. (predominantly) volunteers/90% volunteers. n=184/185. 1 refused to participate. Males. (College) students / undergraduates. Taking introductory psychology class / studying psychology. University of Minnesota. All cleared with Student Health Service. Two extra points on final examination (for every hour).	**4**	List is definitive. Sample size tolerance 180–190. Do not credit ‘given course credit’. Accept alternative spellings of Minnesota.

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>9(b)</td><td>
Explain whether each ethical guideline below was broken in the study by Schachter and Singer (two factors in emotion).

• Confidentiality
• Lack of Deception
• Privacy
• Protection from physical harm

For each guideline, use the following banded mark scheme:

<table>
<tr><th>Level</th><th>Descriptor</th><th>Marks</th></tr>
<tr><td>2</td><td>The answer explicitly describes the ethical guideline, and the example is contextualised from the named study.</td><td>2</td></tr>
<tr><td>1</td><td>The answer explicitly describes the ethical guideline without correct contextualisation / no contextualisation,
OR The ethical guideline is identified from the use of a brief example contextualised from the named study,
OR The ethical guideline is incorrectly described but the contextualised example from the named study is correct.</td><td>1</td></tr>
<tr><td>0</td><td>The description of the ethical guideline is incorrect and/or the contextualised example is incorrect,
OR no answer given</td><td>0</td></tr>
</table>
</td><td>8</td><td>Annotate with L2, L1 or SEEN.

Do not credit tautological answers:

e.g., they kept their names confidential etc.

Accept arguments about a deceptive aim here.</td></tr>
</table>

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Question	Answer	Marks	Guidance
9(b)	**Confidentiality** e.g., Any data should not be identifiable as a single participants' responses / participants' data must not be named as theirs. All we know is that there were male students from the University of Minnesota / only the doctors had access to their medical records. **Lack of Deception** e.g., A participant should not be deceived without a strong justification / only if revealing the deception would not cause discomfort. This guideline was broken as they were told the wrong information whilst getting the injection. **Privacy** e.g., Researchers should always attempt to refrain from making participants reveal personal details (that they would not reveal in everyday life). The questionnaire in the anger condition made participants rate various traits about family members which were sensitive matters. **Protection from physical harm** e.g., Participants should leave the study in the same physical state as they entered. The guideline was broken as the participants did receive an injection which may have caused physical pain. The guideline was not broken as the injection was given by a professional doctor to ensure minimal pain.		

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr>
<td>10</td>
<td>Evaluate the study by Milgram (obedience) in terms of <u>two</u> strengths and <u>two</u> weaknesses. At least one of your evaluation points <u>must</u> be about validity.

Suitable strengths include: reliability, use of controls (linked to elements of internal validity), quantitative data
Suitable weaknesses include: ethics, external validity, quantitative data

<table>
<tr><th></th><th>Additional guidance</th></tr>
<tr><td>Level 4 (8–10 marks)
• Evaluation is comprehensive.
• Answer demonstrates evidence of careful planning, organisation and selection of material.
• Analysis (valid conclusions that effectively summarise issues and arguments) is evident throughout.
• Answer demonstrates an excellent understanding of the material.</td><td>10 marks is reserved for:
The candidate has given four evaluation points (two strengths and two weakness) that are in depth, in the context of the study, and include the named evaluation point.

Max 8 if: The candidate has given three evaluation points (at least one strength and one weakness) and they are in the context of the Milgram study and it includes the named evaluation point, in depth.</td></tr>
</table>
</td>
<td>10</td>
<td>Use tick-d for detailed (so the candidate clearly explains why it is a strength or a weakness).

Use tick-b for brief (tends to not explain why).

Rules (points in context)
If all tick-b then Level 2 max
If mixture of tick-b and tick-d then likely Level 3
If three tick-d and one tick-b then Level 4 8 marks max
All have to be tick-d and in context to gain Level 4

If no points are in context then Level 1 max, unless well explained then Level 2</td>
</tr>
</table>

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>10</td><td>
<table>
<tr><td>Level 3 (6–7 marks)
• Evaluation is good.
• Answer demonstrates some planning and is well organised.
• Analysis is often evident but may not be consistently applied.
• Answer demonstrates a good understanding of the material.</td><td>Max 6: if the answer does not include the named evaluation point.

Max 6: if The candidate has given one strength and one weakness and they are in the context of the Milgram study and in-depth.</td></tr>
<tr><td>Level 2 (4–5 marks)
• Evaluation is mostly appropriate but limited.
• Answer demonstrates limited organisation or lacks clarity.
• Analysis is limited.
• Answer lacks consistent levels of detail and demonstrates a limited understanding of the material.</td><td>Max 5: The candidate has given either two strengths or two weaknesses (contextualised).

Max 4: if The candidate has given one strength or weakness that is in the context of the Milgram study which is in-depth</td></tr>
</table>
</td><td></td><td></td></tr>
</table>

Question	Answer	Marks	Guidance
10	**Level 1 (1–3 marks)** • Evaluation is basic. • Answer demonstrates little organisation. • There is little or no evidence of analysis. • Answer does not demonstrate understanding of the material. Max 3: The candidate has given two evaluation points that are generic/brief. Max 2: The candidate has given one evaluation point that is generic/brief. **Level 0 (0 marks)** No response worthy of credit. If the answer is a description of the study		