Cambridge International AS & A Level

Cambridge Assessment International Education
Cambridge International Advanced Subsidiary and Advanced Level

PSYCHOLOGY **9990/23**

Paper 2 Research methods **May/June 2018**

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 May/June 2018 series for most Cambridge IGCSE™, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

IGCSE™ is a registered trademark.

© UCLES 2018

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.

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.

© UCLES 2018

Question	Answer	Mark
1	**Explain what is meant by the 'aim' of a study, using an example.** 1 mark for explaining the term. Plus 1 mark for link. • What the researcher plans to test/find/expects (1) • e.g. Bandura was looking for the effects of imitation / whether children copied aggressive models / if there would be sex differences in imitation (+1)	**2**

Question	Answer	Mark
2(a)	**Identify the sampling technique used in the study by Milgram (obedience).** 1 mark for naming or describing the sampling technique • volunteer/self-selected; • getting participants by asking for them;	**1**
2(b)	**Suggest <u>one</u> disadvantage of this sampling technique.** Both marks are for the disadvantage. No link is required. 1 mark for identifying a disadvantage (generic or linked) Plus 1 mark for detail of the disadvantage (generic or linked). • (it produces a) narrow sample; (1) • so is biased; (+1) • not generalisable / will not be representative; (1) • because it is limited to the kinds of people who see the request / who respond; (+1) • it is limited because only readers of the newspaper could possibly be participants; (1) • so it is not representative of people who did not read that newspaper (and who might differ in some way, e.g. educationally and therefore in their obedience level); (+1)	**2**

Question	Answer	Mark
3	**In the study by Dement and Kleitman (sleep and dreams), the experimenter sometimes entered the room after the participant had completed their dream report and asked them some questions.**	
3(a)	**State <u>one</u> type of interview could have been used in this part of the study. Justify your choice.** 1 mark for identifying an interview type (by name or description). Plus 1 mark for link. • Structured / it would have been important for all participants to be asked the same questions (generic) to elicit the same information about their dreams (linked) (2) • Semi-structured, so that they generated some comparable data for each participant (generic), but could also ask specific questions about their particular dream (linked) (2) • Unstructured / ask different questions to each participant (generic) so that they could be tailored to the dream (linked) (2)	**2**
3(b)	**Suggest <u>one</u> advantage of this type of interview.** Both marks are for the advantage. 1 mark for identifying an advantage (can be a term, but max 1 for terms) 1 mark for detail of the advantage. Award marks for generic and linked advantages. • *Structured:* they are reliable/objective; so any interviewer bias is limited/so the researchers would not have influenced what the participants said = 2 marks • Semi-structured: they collect qualitative and quantitative data improving validity; as qualitative gives detail and quantitative is objective = 2 marks • *unstructured:* they are flexible/the researcher can respond to what the participant says; this means there is a better chance of finding the information you want/ they could have asked specifically about things moving in the dream = 2 marks Note: any interview type could produce quantitative and/or qualitative data	**2**

Question	Answer	Mark
4	**In the study by Schachter and Singer (two factors in emotion), participants were told that the study was about vitamins and vision. This was not true, so the participants could not give informed consent.**	
4(a)	**Explain <u>one</u> other ethical guideline broken by telling the participants that the study was about vitamins and vision.** 1 mark for identifying an appropriate ethical guideline (most likely deception) Plus 1 mark for applying this to the context. • Deception; • because it was actually about emotions/adrenalin; • Protection from harm; • because even though there was information from the health centre, a participant might have had a reaction to adrenalin / might have been emotionally unstable so been at risk;	**2**
4(b)	**Explain <u>one</u> advantage of telling the participants that the study was about vitamins and vision.** 1 mark for identifying an advantage. Plus 1 mark for detail. • so that the participants would not know that they were having their arousal level / physiology manipulated; • which means they would not anticipate the physical reactions/ symptoms/effects (of the adrenalin); • to reduce demand characteristics / don't know real aim;	**2**

Question	Answer	Mark
5	**Yamamoto et al. (chimpanzee helping) used bar charts to display their results.** **Draw a bar chart to show <u>how</u> the results of this study were displayed.** Award 1 mark for each of: • 2-bar bar chart (separate bars) • x-axis labels 'stick' and 'straw'/ first object chosen; • x-axis heading 'tool which a recipient needed' OWTTE • y-axis values (0–100%) • y-axis heading '(amount of) help offered' OWTTE (e.g. 'chose correct object')	**3**

Question	Answer	Mark
6	**Describe differences between subjectivity and objectivity, using any examples.** 1 mark max for each definition. 1 mark for each example that is linked to one type of question, up to a maximum of 2. Examples can include examples from any studies, or of ways they *could* affect studies. • Subjective: personal perspective; (1) • Objective: independent / non-personal viewpoint; (1) • qualitative/descriptive data tends to be more subjective/less objective; (1) • e.g. answers to 'Describe …'/open questions are interpreted by researchers i.e. are subjective; (1) • objectivity (often) leads to greater reliability / subjectivity (often) leads to lower reliability; (1) • e.g. Milgram's voltage measure was objective and would be the same for every participant, i.e. reliable; (1) • quantitative/numerical data tends to be more objective / less subjective; (1) • e.g. Baron-Cohen could only interpret choices on the eyes test in one way, so it was objective; (1)	**6**

Question	Answer	Mark
7	**Xanthe is looking for a relationship between how funny a person finds a joke and how much activity there is in a particular brain region. She plans to measure brain activity using a brain scan.**	
7(a)	**Suggest <u>one</u> way that Xanthe could measure how funny a participant thinks each joke is.** 1 mark for identifying a way to measure funniness. Plus 1 mark for detail. • by measuring laughter; (1) • e.g. by timing how long they laugh for; (+1) • by asking them to say how funny they thought it was / judge feelings towards jokes; (1) • e.g. by rating on a scale (of 1–5, where 5 is the funniest); (+1) • by observing how much they smile; (1) • e.g. estimating how wide their mouth is; (+1)	**2**

Question	Answer	Mark
7(b)	**Xanthe expects to find that the funnier a person finds a joke, the more brain activity there will be.** **Explain the type of relationship she is expecting in this study.** 1 mark for each point below. • positive; • correlation; • between funniness and brain activity;	**3**
7(c)	**State which measure of central tendency Xanthe should use with the data from the brain scans. Justify your choice.** 1 mark for naming mean 1 mark for justification mean; because the data is points on a scale / equal value / a scientific measurement / interval data / ratio data / because it takes all the points into account; (2 marks)	**2**

Question	Answer	Mark
8	**Albert is investigating autism. He plans to obtain a sample of people with autism and a control group. He will compare how well these participants judge the feelings of dolls which are either dancing, crying, waving or smiling.**	
8(a)	**Identify the independent variable in this experiment.** 1 mark for stating both type of participants. • autistic and control/normal/mentally healthy;	**1**
8(b)	**Suggest how the dependent variable in this experiment could be measured.** 1 mark for identifying the DV 1 mark for any appropriate operationalisation • by choosing a descriptive word for the doll's feelings from a list (2) • by asking them to describe how the doll is feeling (2) • ask them to choose between happy and sad (1)	**2**

© UCLES 2018

Question	Answer	Mark
8(c)	**Explain <u>one</u> advantage of using dolls rather than people in this procedure.** 1 mark for generic advantage 1 mark for link to experiment (e.g. dolls) • they are more easily controlled than people; • dolls will always do the same thing / people might display emotions differently for some participants than others; • because people are more complex / varied than dolls;	**2**
8(d)	**Explain <u>one</u> disadvantage of using dolls rather than people in this procedure.** 1 mark for generic disadvantage 1 mark for link to experiment • they are different from real life / unlike people / lack ecological validity / low mundane realism; • people have facial expressions/movements/gestures that make deducing emotions easier; • dolls may make people feel uncomfortable/embarrassed/afraid;	**2**
8(e)	**Describe the experimental design used in this experiment.** 1 mark for identifying independent measures Plus 1 mark for linking answer (autistic and normal participants are separate groups)	**2**

Question	Answer	Mark
9	**Laken is planning a case study of a child with a phobia of chairs. She is worried about how she will collect data from the child as he will not sit on a chair, so she is planning to sit on the floor with him.**	
9(a)	**Explain the ethical guideline Laken is following by choosing to sit on the floor.** 1 mark for identification of protection from (psychological) harm. Plus 1 mark for detail linked to the study. • Not scaring him / to protect him from (psychological harm/distress) (1) • he might be frightened by having to sit on a chair; (+1)	**2**

© UCLES 2018

Question	Answer	Mark
9(b)	**Suggest <u>one</u> way that Laken could collect data from the child's parents, other than by interview.** 1 mark for identifying an appropriate alternative method e.g. questionnaire Plus 1 mark for detail Plus 1 mark for detail applied to the situation • questionnaire; (1) • they could be sent questions through the post / by email / online; (+1) • they could be open/closed questions; (+1) • e.g. asking when the phobia started; (+1) • what the symptoms of the phobia are; (+1) • which types of chairs he is most frightened of; (+1)	**3**
9(c)	**Suggest why Laken chose to use the case study method in this research.** 1 mark for reason (does not have to be linked but can be) Plus 1 mark for detail linked to the study • to obtain detailed/descriptive/in-depth data; (1) • for example to find out the causes/symptoms of his phobia; (+1) • because she only had one/participant/phobic/child to study; (1) • so could explore the causes/symptoms / treat his phobia; (+1) • because she could use a range of different methods (interviews/ questionnaires/observations); (1) • for example observing how he reacted to a chair and sending a questionnaire to the parents; (+1) • because it meant a long time could be spent on one person; (1) • and a long time is needed to study the phobia/find a therapy; (+1) • because it offers an opportunity for therapy; (1) • so they could go slowly enough to not frighten the child more; (+1)	

Question	Answer	Mark
10	**Taavi works in an office and has been asked to conduct an observation of employees' doodling. He is aiming to observe their doodling and what else they are doing while they doodle.**	
10(a)	**Describe how Taavi could conduct an observation of employees' doodling.** Indicative content for an observational study: • what: identification of behavioural categories • operationalisation of each behavioural category • how: whether the observation is (at least two of): – naturalistic/controlled, structured/unstructured, covert/overt, participant/non-participant • sampling technique • sample size • description of how tallying will be done • description of how data will analysed, e.g. use of averages/bar charts • ethical issues Other appropriate responses should also be credited. Three major omissions for an observational study are: What: – behaviours that will be recorded e.g. doodling and 'other work' identified, at least one named (detail e.g. definition/operationalisation) How: any two of: – naturalistic/controlled, structured/unstructured, covert/overt, participant/non-participant (detail is how they are achieved OR more than two) The minor omissions are: where – location of participants when data is collected (e.g. office) who – participants (must be office workers) Mark according to the levels of response criteria below: **Level 3 (8–10 marks)** • Response is described in sufficient detail to be **replicable**. • Response may have a minor omission. • Use of psychological terminology is accurate and comprehensive. **Level 2 (5–7 marks)** • Response is in some detail. • Response has minor omission(s). • Use of psychological terminology is accurate. **Level 1 (1–4 marks)** • Response is basic in detail. • Response has major omission(s). • If response is impossible to conduct max. 2. • Use of psychological terminology is mainly accurate. **Level 0 (0 marks)** No response worthy of credit.	**10**

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th></tr>
<tr><td>10(b)</td><td>
Identify <u>one</u> weakness/limitation with the procedure you have described in your answer to part (a) and suggest how your study might be done differently to overcome the problem.

Answer will depend on problem identified.

Problems may, for example, be matters of:

Validity
• operationalisation (of doodling / other behaviours)
• difficulty with demand characteristics / researcher effects

Reliability
• standardisation
• intra-rater consistency (e.g. of recording doodles).

Ethics
• privacy (at work)
• harm/distress (employees might be worried about consequences)

This list is not exhaustive and other appropriate responses should also be credited.

If the problem was an obvious omission in (a), marks can be awarded here if the candidate refers to the omission.

<table>
<tr><th>Marks</th><th>Comment</th></tr>
<tr><td>3–4</td><td>Appropriate problem identified.
Appropriate solution is clearly described.</td></tr>
<tr><td>2</td><td>Appropriate problem identified.
plus
EITHER
Explanation of why it is a problem
OR
Ineffectual but possible solution described.</td></tr>
<tr><td>1</td><td>Appropriate problem identified.
Little or no justification.</td></tr>
<tr><td>0</td><td>No response worthy of credit</td></tr>
</table>
</td><td>4</td></tr>
</table>