Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/22**

Paper 2 Research Methods **March 2020**

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 March 2020 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

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[Turn over

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.

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Question	Answer	Marks
1	**From the study by Piliavin et al. (subway Samaritans):**	
1(a)	**Describe how the quantitative data was collected in this study.** 1 mark for observation 1 mark for frequency of helping the victim / time to help in model condition Or 1 mark for detail e.g. data from study The frequency of helping the victim was counted = 1 mark (accept as frequency of helping) From the critical and adjacent areas = 1 mark (detail) And the number of people who helped = 1 mark (detail) And the number of helpers of each race = 1 mark (detail)	**2**
1(b)	**Suggest <u>one</u> advantage of using quantitative data in this study.** 1 mark advantage 1 mark link It can be analysed mathematically/statistically = 1 (advantage) So they could calculate the percentage of people helping cane/drunk victims = 1 (link) It is objective = 1 advantage So less prejudice in recording e.g. if they expected more people to help one type of victim = 1 link	**2**

Question	Answer	Marks
2	**From the study by Canli et al. (brain scans and emotions):** **Explain what is meant by 'generalisability', using <u>two</u> examples from this study.** 1 mark for definition 1 mark for an example ×2 Generalisability means the extent to which the findings of a study are representative (of the population) = 1 mark definition For example: all participants were female (may report emotion more / be more emotionally reactive) so will not generalise to men = 1 all participants were right handed (may have different brain activation / emotionality) so will not generalise to left handers = 1 each individual pattern of activation over the brain differed slightly (so they had to be averaged) = 1 Only 10/few participants who may have differed in emotions / brain activation (so not typical of whole population) = 1	**3**

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Question	Answer	Marks
3	**In an experiment with a repeated measures design, there may be a problem with order effects.** **Explain <u>one</u> type of order effect.** 1 mark per relevant detail ×2 Practice effects are where repeated exposure to the experimental situation/test/conditions/both levels of the IV… = 1 …leads to improvement through familiarity / increased skill = 1 so differences between conditions may be due to practice not due to the different levels of the independent variable = 1 Fatigue effects are where repeated exposure to the experimental situation/test/conditions/both levels of the IV… = 1 …leads to worse performance through boredom/tiredness / decreased skill = 1 so differences between conditions may be due to fatigue not due to the different levels of the independent variable = 1	**2**

Question	Answer	Marks
4	**In the study by Laney et al. (false memory), a comparison was made between a 'love asparagus' group and a control group.**	
4(a)(i)	**Name the experimental design used in this comparison.** Independent groups design = 1 Accept alternative terms independent measures design / between subjects design Do **not** accept 'independent' alone	**1**
4(a)(ii)	**Explain <u>one</u> disadvantage of this design.** 1 mark disadvantage 1 mark detail (does not have to be linked but can be) Individual differences (between participants in different experimental groups/conditions/levels of the IV) = 1 disadvantage So apparent differences between levels of the IV may be confounded/ exaggerated/hidden = 1 detail So the researcher cannot be sure of the effect of the manipulation on the DV = 1 detail	**2**

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Question	Answer	Marks
4(b)	**Describe <u>one</u> ethical problem in this study.** 1 mark identify problem 1 mark link Participants may become distressed (which contravenes the guideline of protection); (problem) Because they feel foolish because they have been 'taken in' by the false memory; (link) Participants may feel that their privacy has been invaded; (problem) Because their relatives were asked for stories about their childhood; (link) Participants were deceived (about the false information); (problem) Because they were told the study was about food preferences and personality; (link)	**2**

Question	Answer	Marks
5	**In the study by Bandura et al., the children's aggression levels were rated at the start of the study and used to allocate children to groups. Explain why this information was needed to allocate the children to groups.** 1 mark explanation 1 mark detail Ratings show individual differences (in aggression) between participants = 1 explanation (generic) to ensure that similarly aggressive children were matched; More / less aggressive children could be spread between each group / between different models; To put all children with similar aggression levels in the same group = 0 marks To put the more aggressive children with non-aggressive models = 0 marks	**2**

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Question	Answer	Marks
6	**Describe <u>two</u> different ways that dependent variables can be measured, using any examples.** 1 mark for basic definition Up to 6 marks for detail/examples. Max 4 per way DV is variable that is measured in an experiment; (definition) Measured as time; e.g. seconds; as in Piliavin et al. timing latency to help (by Samaritans); measured using a questionnaire; e.g. answers from (closed) questions; as in Andrade listing names of people / places; measured as brain activity; e.g. using EEG; as in Dement & Kleitman to see REM sleep; measured by observation; covert/overt; e.g. categories of behaviour; as in Piliavin et al. helping (by black or white / male or female etc.) Accept alternative 'ways' e.g. different types of data – follow the intention of the candidate	**6**

Question	Answer	Marks
7	**Jenny is studying Sven, a man who has problems with his memory. He is unable to remember new people or facts, even if they are repeated many times. Jenny is collecting data using techniques including interviews, questionnaires and observations.**	
7(a)(i)	**Name the research method Jenny is using.** Case study = 1	**1**
7(a)(ii)	**Explain <u>one</u> advantage of this research method in this study.** 1 mark advantage 1 mark link The individual can be studied in detail = 1 (advantage) e.g. so reasons why he can't remember / exactly what he can't remember can be investigated = 1 (link) Many different methods can be used (to triangulate the data) = 1 (advantage) This improves validity (different methods check each other) so Jenny is sure about her conclusions about his memory = 1 (link)	**2**

Question	Answer	Marks
7(b)(i)	**Suggest <u>one</u> open question that Jenny could ask Sven to investigate his memory problems.** 1 mark for open question relevant to memory E.g. 'Describe to me whether you think you can recognise people.'	**1**
7(b)(ii)	**Suggest <u>one</u> closed question that Jenny could ask Sven to investigate his memory problems.** 1 mark example The question must be linked to memory The question must have answer choices How often are you aware of forgetting things: frequently, sometimes or never? Do you know when you have forgotten something? (yes / no)	**1**
7(b)(iii)	**Suggest <u>one</u> advantage of asking closed questions.** 1 mark advantage (generic or linked) Easy to compare / analyse / can use statistics; (generic advantage) This provides information about frequency / gives numbers; (generic advantage) This provides information about how often forgetting happens; (linked advantage)	**1**
7(c)	**One problem for Jenny is that whenever she talks to Sven, he does not recognise her.** **Suggest <u>one</u> reason why this is a problem for Jenny's study.** 1 mark for identifying problem (can be practical or ethical) 1 mark for detail If he doesn't know her he can't give consent = 1 problem (ethical) This is an ethical problem because he needs to be aware of what he has agreed to = 1 (detail) She will have to explain who she is / what the study is every time = 1 problem (ethical) This means the participant might get cross and withdraw / be distressed = 1 (detail) Sven may not trust Jenny (as he does not recognise her) = 1 (practical) So he may not answer her questions = 1 (detail)	**2**

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Question	Answer	Marks
8	**Janet is investigating attitudes to healthy eating. She is considering using a questionnaire or an interview.**	
8(a)	**Explain what is meant by a 'questionnaire'.** 1 mark for explanation A written/online set of questions completed by the participant = 1	**1**
8(b)	**Explain what is meant by an 'interview'.** 1 mark for explanation A spoken/face-to-face/real-time questioning of a participant = 1	**1**
8(c)	**Explain <u>one</u> advantage of using questionnaires to investigate healthy eating.** 1 mark advantage 1 mark link The participants all answer the same questions = 1 (advantage) So the attitudes to health eating are easy to compare = 1 (link) Quantitative data is collected = 1 (advantage) So differences in eating habits can be analysed statistically = 1 (link) Not face-to-face so less likely to be affected by social desirability = 1 (advantage) So less likely to lie if they eat badly = 1 (link)	**2**
8(d)	**Explain <u>one</u> disadvantage of using questionnaires to investigate healthy eating.** 1 mark disadvantage 1 mark link The questions are fixed so the researcher can't follow the participant's lead = 1 (disadvantage) So if a participant eats badly such as liking fatty foods / has a good diet such as eating vegetables this can't be explored specifically = 1 (link) They collect mainly quantitative data which doesn't allow participants much choice of answers = 1 (disadvantage) So the choices may misrepresent their actual eating habits such as allowing them to say they eat more fruit than they do = 1 (link)	**2**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>9</td><td>Silas conducted an observational study about discrimination and counted examples of different kinds of discrimination. His data is shown in Table 1.
Table 1
<table>
<tr><td rowspan="2"></td><td colspan="4">Type of discrimination observed</td></tr>
<tr><td>Being ignored</td><td>Being stared at</td><td>Verbal aggression</td><td>Physical aggression</td></tr>
<tr><td>Number of instances</td><td>16</td><td>12</td><td>6</td><td>8</td></tr>
</table></td><td></td></tr>
<tr><td>9(a)</td><td>Draw a bar chart of Silas’s results.

Award 1 mark for each of:
• accurate 4-bar bar chart (separate bars) (essential for 4 marks)
• x-axis labels as per table (being ignored etc)
• x-axis heading ‘type of discrimination experienced’ OWTTE
• y-axis values (e.g. 0–20)
• y-axis heading ‘number of instances (of discrimination)’ OWTTE</td><td>4</td></tr>
<tr><td>9(b)</td><td>Silas was observing in a large playground in a school with the permission of the school principal and the parents of the children.</td><td></td></tr>
<tr><td>9(b)(i)</td><td>Explain whether there could be an issue with privacy in this study.

1 mark for justification of issue or not (no mark for just ‘yes’ or ‘no’)
1 mark for link

No because they were being observed where they would expect to be seen = 1 justification of not an issue
As children know their behaviour is watched in playgrounds by teachers / supervisors = 1 link

Yes because children often play ‘secret’ games or ‘hiding’ games;
So the children would not expect to be being watched and may feel afraid / annoyed = 1 link</td><td>2</td></tr>
<tr><td>9(b)(ii)</td><td>Explain whether there could be an issue with informed consent in this study.

1 mark for justification of issue or not (no mark for just ‘yes’ or ‘no’)
1 mark for link

No because they if they were under 16 it isn’t necessary = 1 justification of not an issue
As children’s parents/principal/school have to give consent instead = 1 link

Yes because children can be asked for their permission = 1 justification of is an issue
E.g. the researchers could have asked the children if they minded if s/he watched their games = 1 link</td><td>2</td></tr>
</table>

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Question	Answer	Marks
9(c)	**Explain the feature of Silas's observation that means it is a structured observation.** 1 mark for identifying feature of a structured observation 1 mark for link Structured observations collect data in specified categories/behavioural checklist = 1 feature of structured observations (gen) So Silas would need to decide before he started which of the children's behaviours he was going to record = 1 link i.e. 'being ignored', 'being stared at' etc = 1 link	**2**

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Question	Answer	Marks
10	**Clarice is studying repetitive behaviours in lessons, such as playing with a pen or doodling. These behaviours could be beneficial to concentration or be a distraction. Clarice wants to know whether there is a correlation between repetitive behaviours and the understanding of a lesson.**	
10(a)	**Describe how Clarice could conduct a correlational study to test whether there is a relationship between repetitive behaviours and the understanding of a lesson.** Three majors are: What: – variable 1 (correct operationalisation and quantification of first correlational variable e.g. a repetitive behaviour) – variable 2 (correct operationalisation and quantification of second correlational variable e.g. understanding of lesson) How: – technique for producing/collecting data i.e. procedure (e.g. tests, observations, questionnaires). The minors are: where: location of participants when completing the questionnaire / how it is distributed who: participants, sampling technique Also: • a statement about whether a positive or negative correlation is expected • sampling technique • sample size • description of how data will analysed, e.g. use of scattergram • ethical issues Other appropriate responses should also be credited. Mark according to the levels of response criteria below: **Level 3 (8–10 marks)** • Response is described in sufficient detail to be replicable (i.e. what and how). • Response may have a minor omission (i.e. who or where). • Use of psychological terminology is accurate and comprehensive. **Level 2 (5–7 marks)** • Response is in some detail. • Response has minor omission(s) (i.e. who and/or where). • 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>Marks</th></tr>
<tr><td>10(b)</td><td>
Identify <u>one</u> practical 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.

Do <u>not</u> refer to ethics or sampling in your answer.

Answer will depend on problem identified.

Problems may, for example, be matters of:

Validity
• operationalisation
• difficulty with lying / social desirability
• difficulty with response biases

Reliability
• inter-rater consistency
• intra-rater consistency.

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

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