Cambridge International AS & A Level

Cambridge Assessment International Education
Cambridge International Advanced Subsidiary and Advanced Level

PSYCHOLOGY **9990/22**

Paper 2 Research Methods **March 2019**

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 2019 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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Question	Answer	Marks
1	**Ethical guidelines should be followed in all psychological research.**	
1(a)	**Explain why 'informed consent' is important in psychological research.** 1 mark for basic explanation, 2 marks for full explanation. so that participants know about the study = 1 and are able to agree to what they will do = 1 for example: So that participants are fully informed about the study = 0 So that participants are told enough about the study that they can decide if they want to do it = 2	**2**
1(b)	**Explain why it is sometimes necessary to break the guideline of informed consent in psychological research.** 1 mark for basic explanation, 2 marks for full explanation. to reduce demand characteristics; so that participants are less likely to work out the aim; so that the participants do not try to do what the researcher wants; so what is measured is more realistic; so that changes in behaviour are due to the intervention / the IV;	**2**

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Question	Answer	Marks
2	**There are different types of interview. Two types are structured interviews and semi-structured interviews.**	
2(a)	**Describe what is meant by a 'semi-structured interview'.** 1 mark per descriptive point. For full marks, at least 1 mark must be related to **semi-structured** interviews (Max 1 if generic to interviews) questions asked face-to-face / in real time / between people; **some** questions are fixed (by the interview schedule); **some** questions are flexible / the interviewer can decide what to ask / the questions can depend on the interviewee's responses;	**2**
2(b)	**Suggest why it could be better to conduct a structured interview than a semi-structured interview.** 1 mark for suggested advantage 1 mark for detail questions are fixed so it is more consistent between participants = 1 (advantage) so the results are more reliable = 1 (detail) every interviewer will ask exactly the same questions = 1 (advantage) so the inter-interviewer reliability should be high = 1 (detail) all participants produce comparable data = 1 (advantage) so it is easier to analyse the results = 1 (detail)	**2**

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Question	Answer	Marks
3	**Laney et al. (false memory) used control groups.**	
3(a)	**Identify how <u>one</u> control group in the study was different from an experimental group.** 1 mark for group who were not given the **critical item about loving asparagus** (definitive) 'You loved to eat cooked asparagus' (experiment 1) 'You loved asparagus the first time you ate it' (experiment 2)	**1**
3(b)	**Explain why control groups are important in psychological research.** 1 mark for basic explanation, 2 marks for full explanation. because it ensures that there is a comparison to the experimental group; to show that the IV has had an effect; therefore a causal relationship can be identified;	**2**

Question	Answer	Marks
4	**From the study by Pepperberg (parrot learning):** **Explain whether generalisations could be made from the results of the parrot in this study to other parrots.** Answers can earn full credit for arguing either way or both ways (No mark for just stating 'yes' or 'no'). 1 mark per relevant point. *yes*: most captive parrots learn to talk, so they must be quite intelligent animals; there is no reason to suppose that Alex was different from any other parrot; *no*: Alex was only one parrot, so may not have been typical of all parrots; Alex was a captive parrot so may not be representative of wild parrots;	**2**

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Question	Answer	Marks
5	**In the study by Schachter and Singer (two factors in emotion), the 'mean number of acts initiated' was calculated for the euphoria group.**	
5(a)	**Explain how a mean is calculated.** 1 mark for **'Add up all the scores and divide by the number of scores'** (definitive)	**1**
5(b)	**Explain <u>one</u> advantage of using the mean as a measure of central tendency in this study.** 1 mark for advantage 1 mark for link It takes account of all the scores = 1 (generic) It takes account of all the scores within the euphoria group = 1 (generic) + 1 (link) = 2 marks It is more representative of the whole group = 1 (generic) As each euphoric participants' score is included it is more representative of the whole group = 1 + 1 = 2 marks The median/mode only looks at one euphoric person's score whereas the mean includes all of them in the calculation = 2 marks	**2**

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Question	Answer	Marks
6	**Describe why psychologists operationally define the independent variable and the dependent variable in experiments, using any examples.** 1 mark per descriptive point about operationalisation in general or in relation to the IV and DV 1 mark per example (from a study or made up) that is linked to operationalisation, up to a maximum of 4. For maximum marks, there must be at least one descriptive point about the IV and one descriptive point about the DV and at least two examples (of either/both). operationalisation helps to make replication possible = 1 (description) e.g. Baron-Cohen et al. identified AS/HFAs and normals by whether or not they had a diagnosis (IV) = 1 (example) operationalisation of the IV is about making the way the experimental (and control) conditions have been manipulated/set up clear = 1 (description) e.g. Bandura defined the IV of gender as 'boys' and 'girls' = 1 (example) operationalisation of the DV is about making clear the way the effect of the IV is measured = 1 (description) e.g. Andrade counted the number of names / places remembered = 1 (example) and improves reliability / allows all researchers to measure the DV in a consistent way = 1 (description) e.g. Bandura had a checklist of behaviours for observers to record = 1 (example)	**6**

Question	Answer	Marks
7	**Robin is conducting a questionnaire study about children's use of social media, which will collect qualitative and quantitative data.**	
7(a)	**Suggest <u>one</u> question that Robin could use to collect qualitative data.** 1 mark for any open question suitable for children about use of social media (can be a statement that generates qualitative data) Describe how you feel when you cannot access social media = 1 If you do not use social media, why not? = 1	**1**

Question	Answer	Marks
7(b)	**When the children answer the questions, they might tell lies.**	
7(b)(i)	**Explain why the children lying would affect the validity of the results.** 2 marks for explanation (1 detailed explanation or 2 brief explanations) because if they lie the answers may not reflect their real social media use; because lying could result in answers that exaggerated / reduced their real social media use; social desirability may make them lie to conform to their beliefs about what social media use should be;	**2**
7(b)(ii)	**Suggest <u>one</u> way that Robin could change his study to reduce the problem of children telling lies.** 1 mark for suggestion 1 mark for detail tell the children it is anonymous = 1 (suggestion) so they feel less pressure to conform = 1 (detail) let each child fill the questionnaire in in private = 1 (suggestion) so they feel less need to lie = 1 (detail)	**2**
7(c)	**Robin wants to use a wide range of different children in his sample.**	
7(c)(i)	**Suggest how he could obtain a wide range of children in his sample.** 1 mark for suggestion (e.g. sampling technique or source) 1 mark for detail (e.g. how) use random sampling = 1 (suggestion) e.g. taking children by candidate number from a school list using a random number generator = 1 (detail) use volunteers from lots of different places = 1 (suggestion) for example by putting adverts in different schools = 1 (detail)	**2**

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Question	Answer	Marks
7(c)(ii)	**Explain why it is important to use a wide range of children in this study.** 1 mark for explanation (can be generic) 1 mark for link to improve generalisations / representativeness = 1 (identification of reason) so that the findings about these children's social media use apply to others = 1 (link) if these children were all one age/from one place they might use social media more than others = 1 (link)	**2**

Question	Answer	Marks
8	**Hua is conducting a correlational study about birds feeding in her garden. Hua finds that when it is sunnier, the birds feed more. She also finds that fewer birds feed when it is more windy.**	
8(a)	**Describe what is meant by a 'positive correlation', using an example from Hua's study.** 1 mark for definition **a link / relationship between two variables such that as one variable increases the other also increases** (definitive) 1 mark for identification '**when it is sunnier, the birds feed more'** Accept: 'More birds feed when the weather is more calm'	**2**

Question	Answer	Marks
8(b)	**Suggest how Hua could measure feeding behaviour in her study.** 1 mark for suggestion 1 mark for detail (e.g. operationalisation) how much food they eat = 1 (suggestion) weigh the food before and after the birds have been there = 1 (detail) how heavy the bird is before and after feeding = 1 (suggestion) weigh each bird as it stands on an electronic scale = 1 (detail) count how many birds feed = 1 (suggestion) by using an observation = 1 (detail)	**2**

Question	Answer	Marks
9	**Bella is conducting a laboratory experiment to find out about people's fear of animals. She asks each participant if they have any phobias. If the participant says yes they are asked to leave. The remaining participants are shown photographs while their pulse rate is measured. The independent variable (IV) is whether the photographs are of animals with eight legs or animals with four legs.**	
9(a)	**Explain why it was necessary to ask some of the participants to leave.** 1 mark for identification/description of ethical guideline 'protection from harm' 1 mark for detail otherwise they could have been distressed by the pictures = 1 (detail) to avoid participants who would have been very scared doing the study = 1 (detail)	**2**

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Question	Answer	Marks
9(b)	**The photographs of different animals were shown in a random order.** **State why this was important.** 1 mark for reason (explanation or term) To avoid order / practice / fatigue effects; Otherwise participants might have been so scared by the 8-legged things they even found 4-legs scary;	**1**
9(c)	**The experiment used a repeated measures design.** **Explain <u>one</u> advantage of this design in this study.** 1 mark for identifying advantage (can be generic) 1 mark for link reduces individual differences = 1 (generic) in an independent measures design all the people who don't like 8-legs might be in one group = 1 (link) the same group is tested on both species, so if some people dislike all animals it doesn't matter = 1 (link)	**2**
9(d)	**Explain <u>two</u> extraneous variables that Bella should control.** 1 mark for identification of extraneous variable × 2 1 mark for detail × 2 The individual's previous experience with animals = 1(identification) Whether the participants own an 8/4 legged pet = 1 (identification) If a person owns a 8/4 legged pet they would be more positive towards them = 1 (detail) Whether participants have even been bitten by a 8/4 legged animal = 1 (identification) If a person has been bitten by a cat/spider they would be more negative towards them = 1 (detail) Whether participants live in an area with feral mammals/ dangerous 8-legged animals = 1 (identification) If there is a problem with local 8/4-legged animals they would be more negative towards them = 1 (detail)	**4**

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Question	Answer	Marks
9(e)	**Explain <u>one</u> disadvantage of using pulse rate to measure fear.** 1 mark for identifying disadvantage (can be generic) 1 mark for detail It only produces numerical / quantitative data = 1 (identification) So Cara and Bella cannot know how the participant really feels = 1 (detail) It only produces data about their physiological response = 1 (identification) whereas the emotional response might be different = 1 (detail)	**2**

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Question	Answer	Marks
10	**Jim is planning an observational study about the way people respond to facial expressions. He intends to go to a train station and either smile or frown at people. He wants to see how people respond to him.**	
10(a)	**Describe how Jim could conduct an observational study at a train station to find out how people respond to smiling and frowning.** Three **major** omissions for an **observational study** are: **What**: – behaviours that will be recorded e.g. named 1 (detail e.g. definition/operationalisation) **How**: any **two** of: – structured / unstructured – overt / covert – participant / non-participant – (detail is how they are achieved) The minor omissions are: **where** – location of participants when data is collected (*train station*) **who** – participants *(must be people at train station)* Indicative content for an **observational study:** • **what**: identification and of behavioural categories • operationalisation of each behavioural category • how: whether the observation is (at least two of): • structured / unstructured • overt / covert • 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	**10**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(a)</td><td>Other appropriate responses should also be credited.

Mark according to the levels of response criteria below:

<table>
<tr><td>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.</td></tr>
<tr><td>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.</td></tr>
<tr><td>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.</td></tr>
<tr><td>Level 0 (0 marks)
No response worthy of credit.</td></tr>
</table>
</td><td></td></tr>
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Question	Answer	Marks
10(b)	**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. If the problem was an obvious omission in **(a)**, fewer marks will have been awarded in **(a)**, so they can be awarded here. Problems may, for example, be matters of: **Validity** • operationalisation (of smiling, frowning, responses) **Reliability** • standardisation • intra-rater consistency (of Jim's 'smiling'/'frowning' recording responses) **Ethics** • issues with lack of informed consent (as participants do not know they are in a study) • issues with lack of right to withdraw	**4**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(b)</td><td>This list is not exhaustive and other appropriate responses should also be credited.
<table>
<tr><th>Level</th><th>marks</th><th>comment</th><th>Additional guidance</th></tr>
<tr><td>3</td><td>3–4</td><td>Appropriate problem identified.
Appropriate solution is clearly described.</td><td>4 marks: specific problem and specific solution

3 marks: generic problem specific solution or specific problem generic solution</td></tr>
<tr><td>2</td><td>2</td><td>Appropriate problem identified.
plus
EITHER
Explanation of why it is a problem
OR
Ineffectual but possible solution described.</td><td>Appropriate problem (directly related to a specific aspect of suggested procedure) identified, no solution.

OR

Generic problem with weak/generic solution.</td></tr>
<tr><td>1</td><td>1</td><td>Appropriate problem identified.
Little or no justification.</td><td>Specific or generic problem identified (e.g. even when they suggest a ‘problem’ that is nothing to do with the study they have designed)</td></tr>
<tr><td>0</td><td>0</td><td>No response worthy of credit</td><td></td></tr>
</table></td><td></td></tr>
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