



Cambridge International AS & A Level

PSYCHOLOGY

9990/21

Paper 2 Research methods

May/June 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.

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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).

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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
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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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**Social Science-Specific Marking Principles
(for point-based marking)****1 Components using point-based marking:**

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From this it follows that we:

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- 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.
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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.
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Question	Answer	Marks
1	Explain what is meant by the term ‘ecological validity’. You may use an example in your answer. 1 mark for explanation. 1 mark for detail (accept examples as detail). The extent to which the findings of a study set in one situation would generalise to other situations (explanation); E.g. whether findings from laboratory studies are relevant to life outside the laboratory (detail); Andrade’s study in a laboratory may not represent attention in the real world where there are distractions (example);	2

Question	Answer	Marks
2	In the study by Laney et al. (false memory), different types of items were used in the various questionnaires. Two of the items included: • rating items on a scale of 1-8 (from ‘definitely did happen’ to ‘definitely did not happen’) • multiple choice items where participants circled a price they would pay for different foods, e.g. \$1.90, \$2.50, or ‘would never buy’.	
2(a)	Explain whether these items are both open questions, both closed questions, or one of each. 1 mark for ‘both closed’. 1 mark for justification (i.e. why they are closed). They are both closed (questions); They have fixed answer choices (justification); They don’t allow the participants to elaborate their answer / give a description / answer in depth (justification); They cannot answer in words = 0. They cannot explain why = 0 (NAQ).	2
2(b)	Laney et al. used a ‘critical item’ in the profile and in a questionnaire given to the experimental group. Explain what is meant by a ‘critical item’, using the example from Laney et al. 1 mark for explanation. 1 mark for link/example. (A critical item is) the item/question that is related to the IV (explanation); The manipulation that enables data collection for the DV (explanation); The part of the procedure that directly related to the aim (explanation); (In Laney et al.) it is the inclusion of the asparagus comment in the love condition (link); ‘You loved to eat cooked asparagus’ (in the third position in the profile for ‘love’ condition participants) (link);	2

Question	Answer	Marks
3	In the study by Canli et al. (brain scans and emotions), a repeated measures design was used.	
3(a)	Explain what is meant by a ‘repeated measures design’. Include an example from Canli et al. in your answer. 1 mark for explanation of repeated measures. 1 mark for link. Every participant does all/both of the levels of the IV / conditions (emotive/negative and non-emotive/neutral) = 1 mark (explanation); Each participant saw stimuli at each level of (emotional) arousal (IV) (link);	2
3(b)	Explain <u>one</u> strength of using a repeated measures design. 1 mark for explanation of strength. 2nd mark for detail (can include an example). It overcomes problems with individual differences (explanation); So if people differ in important ways they will all be their own baseline, so it won't matter (detail); E.g. Yamamoto, if one chimp was more helpful than another (it would confound an independent measures design) (detail); E.g. if some participants in Canli et al. were just more emotional, it would even out (detail);	2

Question	Answer	Marks
4	Explain <u>two</u> ways in which the procedure was standardised in the study by Yamamoto et al. (chimpanzee helping). 1 mark for an aspect of standardisation } 1 mark for explanation/elaboration } ×2 The tools were always presented on a tray (standardisation); So that the items were no more likely to be easy to find in any trial / for any chimpanzee (explanation); All chimps had a familiarisation task (standardisation); So that they were equally prepared for the tools needed for different tasks (explanation); Only difference between booths for ‘can see’ and ‘cannot see’ was whether the panel was transparent or opaque (stand); So the situation was the same each time, such as the hole they put the objects through (elaboration);	4

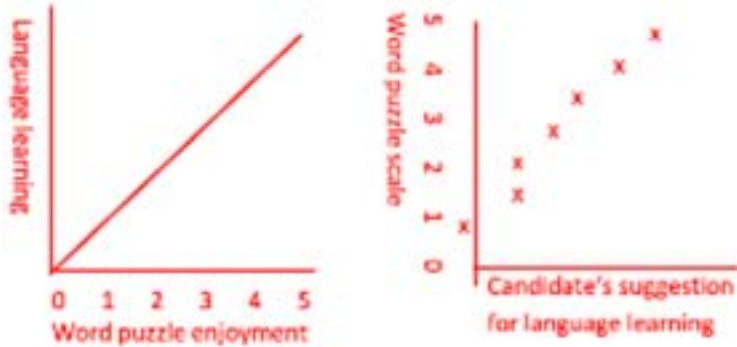
Question	Answer	Marks
5	Reliability refers to the consistency of tests, tasks or measures in research. Explain why reliability is important in experiments. 1 mark for explanation. 2nd mark for detail (can include an example). If tests are inconsistent, differences between conditions might be due to poor measurement, not the IV (explanation); If the DV is not being measured reliably then the data cannot test a causal effect (explanation); E.g. if Bandura's observers were not reliable, differences between conditions might be due the scoring by observers, not the model conditions (linked detail); E.g. if Pepperberg was not consistent in her interpretation of Alex's utterances, the data could have been biased (linked detail); Because low reliability also lowers validity (explanation); I.e. the researcher cannot be sure that the IV and only the IV is affecting the DV (detail);	2

Question	Answer	Marks
6	Describe the sampling techniques of 'opportunity sampling' and 'volunteer sampling', using any examples. Definitions/detail: up to a maximum of 4 marks for each sampling technique. Examples: maximum of 2 marks for each sampling technique. Examples can include examples from any studies (core studies, other studies, candidate's own studies). Max 4 if no examples. Opportunity sampling: Using participants who are available at the time / finding participants by convenience; Passers-by/students in the researcher's class; Baron-Cohen et al. found participants in adult community education class (in Exeter) / (public) library (in Cambridge); Saavedra and Silverman child (and mother) in treatment (at Florida International University); Piliavin et al. subway passengers; Volunteer sampling: Using a request asking people to join in; By advert/email/post/online; Baron-Cohen et al. took volunteers from Autistic Society magazine / support group; Schachter and Singer used volunteers from the psychology course / University of Minnesota; Laney et al. used volunteers from a participant pool (at University of Washington);	6

Question	Answer	Marks
7	Steve is planning an experiment, using the technique of observation, to compare the level of frustration shown by shoppers in different types of shops. He has set up cameras to help measure the behaviour of shoppers in shops selling basic goods (things that are essential) and shops selling luxury goods (things that are not essential).	
7(a)	Steve is concerned that situational variables could be a problem in his study.	
7(a)(i)	Suggest <u>two</u> situational variables that could affect Steve's study. 1 mark for a relevant situational variable ×2 (No marks for participant variables). How busy the shop is / how many customers there are; How many staff there are; The music playing; If the shoppers are already frustrated = 0 (participant variable);	2
7(a)(ii)	Explain how <u>each</u> of the situational variables that you suggested in (a)(i) could be a problem in Steve's study. 1 mark for explanation of situational variable + 1 mark for detail ×2. How busy the shop is / how many customers there are: Being crowded may make the shoppers frustrated (explanation); This is important because if there is a difference it is due to crowds rather than the type of shop (detail); How many staff there are: If there are more staff they may get helped/served slower, making them frustrated; This is important because if there is a difference it is due to the number of staff not the type of shop (detail); The music playing: If the music playing in one type of shop is better/louder it may make them more or less frustrated; This is important because if there is a difference it is due to the music rather than the type of shop (detail);	4
7(b)	Steve is also concerned about the ethics of his study.	
7(b)(i)	Suggest why the ethical guideline of right to withdraw would be difficult for Steve to follow in his study. 1 mark for brief or unlinked answer. 1 mark for clear and linked answer (will include idea of 'being able to leave ' (guideline) and 'leaving the shop ' (Steve). Right to withdraw is the opportunity for participants to leave the study if they want to (unlinked) = 1; Steve's participants cannot leave the shop because they do not know they are in a study (linked) = 2.	2

Question	Answer	Marks
7(b)(ii)	Suggest why the ethical guideline of privacy would be difficult for Steve to follow in his study. 1 mark for brief or unlinked answer. 2 marks for clear and linked answer: will include ‘intrusion’ (guideline) and ‘being seen doing shopping/stealing’ (Steve). Privacy is participants who do not want to be seen or their behaviour observed (unlinked) = 1; Participants are unaware of the observation so may behave in ways they would not want to be seen e.g. stealing (linked) = 2; Participants have the right to private space/thoughts and may not want to be seen buying expensive goods (linked) = 2;	2

Question	Answer	Marks
8	Leila is conducting a correlational study. She predicts that there will be a correlation between: • ‘success at learning a language’ • ‘enjoyment of word puzzles’, e.g. crosswords.	
8(a)	Suggest an objective measure of ‘success at learning a language’ that Leila could use. Justify your answer. Do <u>not</u> use a self-report rating scale. 1 mark for measure of language learning. 1 mark for justification of objectivity. Vocabulary size (in new language) (measure); How many errors they make in verb conjugation (measure); This will be a numerical result so does not need interpretation (justification). How fluent they are assessed by their ability to complete a multiple choice test (measure); Each item on the test will only have one correct answer (justification);	2
8(b)	Leila is measuring ‘enjoyment of word puzzles’ by asking participants to rate how much they enjoy word puzzles on a scale of 0 (not at all) to 5 (very much). Explain how Leila would calculate the median for ‘enjoyment of word puzzles’. 1 mark for linked explanation. Put all the enjoyment scores into (numerical) order (by value) and find the middle one = 1; Put all the scores into (numerical) order (by value) and find the middle one = 0 marks (could be learning scores);	1

Question	Answer	Marks
8(c)	Leila conducts her study. Her results show a positive correlation. Sketch a graph, using the axes below, to show the pattern of Leila's results. You <u>must</u> label the axes. Award 1 mark for each of: • scatter graph (points or 'line of best fit') • positive slope (essential for 4 marks) • axis label: 'language learning (score)' OWTTE • axis label: 'enjoyment of word puzzles' OWTTE • axis scale for 'word puzzle' axis: 0-5 	4

Question	Answer	Marks
9	Inma is conducting an experiment about learning. She predicts that animals will learn to find food in a maze faster in the light than in the dark. If the animal does not find the food after 10 minutes, they are given the food by the experimenter.	
9(a)	Inma is using a directional (one-tailed) hypothesis. Explain why Inma is using a directional hypothesis in her experiment. 1 mark for a generic explanation. 2 marks for a linked explanation. Because she knows which way the results will go = 1 (generic); Because she believes that the animals will be faster (to learn the maze) in the light than the dark = +1 (linked);	2

Question	Answer	Marks
9(b)	Write a null hypothesis for Inma's experiment. 1 mark for a null hypothesis. There will be no difference between speed in the maze in the light and in the dark = 1. Any difference between maze learning success in the light and in the dark is due to chance = 1. There will be no difference between maze learning success/speed and light and dark = 0. Any difference between maze learning success and light or dark is due to chance = 0.	1
9(c)	Inma will use an independent measures design for her experiment. Explain <u>one</u> advantage of using an independent measures design compared to a repeated measures design. 1 mark for generic advantage. 2 marks for advantage compared explicitly to repeated measures. The animals cannot suffer practice/fatigue/order effects = 1 (generic). The animals cannot suffer practice/fatigue/order effects (as don't do both levels of IV unlike in repeated measures) = 2. They will only experience one level of the IV = 1 (generic). They cannot suffer a practice/fatigue/order effect as they will only do the maze in the light or dark unlike repeated.measures = 2. The animals will not get better between conditions/levels of the IV = 1 (generic). The animals will not get better between doing the maze in the light and then in the dark unlike repeated measures = 2. The animals will not be affected (so much) by demand characteristics =1. Animals will not be affected (so much) by demand characteristics as they only experience one level of the IV = 1 (not explicit). Animals will not be affected (so much) by demand characteristics as they will only do the maze in the light or dark unlike repeated measures = 2.	2

Question	Answer	Marks
9(d)	Explain how Inma followed <u>one</u> ethical guideline in relation to animals. 1 mark for identifying relevant guideline. 1 mark for explanation of how Inma is following it. Reward; Animals are being given a food reward for reaching the middle of the maze / are not punished if they don't (explanation). Housing (guideline); Animals are being fed (within at least 10 minutes) (explanation). Pain and distress (guideline); Animals are not suffering, only finding their way through a maze (and getting fed) (explanation). Deprivation (and aversive stimuli) (guideline); Animals are not deprived as they get food whether they reach the middle of the maze or not (explanation).	2

Question	Answer	Marks
10	Dr Clare is planning an observational study of student behaviour in a library at a university. She will be the only observer. She is interested in student behaviours such as: • how they study • how they find books • what they do in the library other than studying • how long they spend in the library.	
10(a)	Describe how Dr Clare could conduct an observational study to investigate the behaviour of students in a library at a university. Three majors for an observational study are: (a) [what] behaviours - that will be recorded, e.g. two named (detail e.g. definition / operationalisation of behavioural categories); (b) [how] identification of first observational technique (detail: <u>how</u> achieved): • structured/unstructured • participant/<i>non-participant</i> (not interacting with students; sitting at back of library/upstairs) • <i>naturalistic</i>/controlled (do not interfere, ask Qs, help finding books etc) • <i>covert</i>/<i>overt</i> (hidden/unaware; librarian/stooge student). (c) [how] further/additional observational techniques (detail: <u>how</u> achieved, in at least one further case): • <i>participant</i>/non-participant (participant – librarian/stooge student) • <i>naturalistic</i>/controlled (stooge ask for help to find books, stooge tries to engage them in in non-studying) • <i>covert</i>/<i>overt</i>. The minors are: where – location of participants when data is collected (<i>university library</i>) who – participants (<i>students</i>) when – data is collected. Other details for replication: • sampling technique • sample size • description of how data will analysed, e.g. use of measures of central tendency and spread, bar charts • ethical issues.	10

Question	Answer	Marks				
10(a)	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. • Response may have a minor omission. • 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). • 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>	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.	
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10(b)	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 - situational/participant variables factors. 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. <i>plus</i> 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>	Marks	Comment	3–4	Appropriate problem identified. Appropriate solution is clearly described.	2	Appropriate problem identified. <i>plus</i> EITHER Explanation of why it is a problem, OR Ineffectual but possible solution described.	1	Appropriate problem identified. Little or no justification.	0	No response worthy of credit.	4
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1	From the study by Yamamoto et al. (chimpanzee helping): Suggest why it was necessary for the chimpanzees to examine and manipulate the tools before the experiment. 1 mark for a suggestion. 1 mark for detail / second suggestion (must be clearly a different idea). So that they knew what properties the objects had (suggestion); Otherwise they wouldn't have been able to decide which tool was useful for which problem (detail); So that the tools were familiar (suggestion); To ensure differences in chimpanzees' responses were not because they know more about sticks (detail); So they were not afraid of the tools (suggestion); So the researchers could say changes in behaviour were due to the IV (ie could or could not see), not fear (detail); So they were not too interested in the tools to give them away (suggestion);	2

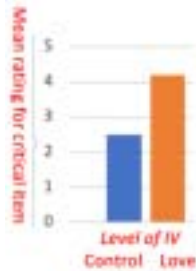
Question	Answer	Marks
2	Chloë is conducting a study to investigate classical conditioning and operant conditioning. Her aim is to test which type of conditioning produces the fastest learning.	
2(a)	Write a non-directional (two-tailed) hypothesis for Chloë's study. You do <u>not</u> need to operationalise the variables in your hypothesis. 1 mark for a non-directional hypothesis with some reference to study – at least one variable (must not be generic). there will be a difference in learning speed between tasks learned by operant and by classical conditioning; classically and operantly learned tasks will be acquired at different speeds; Directional / null hypothesis = 0 Correlational hypotheses = 0 [NAQ]	1

Question	Answer	Marks
2(b)	Chloë's results in the two conditions were the same. Explain why Chloë <u>must</u> reject her non-directional hypothesis, referring to her variables in your answer. 1 mark for reason with some reference to study (must not be generic). Operant conditioning was no faster than classical ORA; There was no difference in speed for learning through operant or classical conditioning; Neither operant nor classical conditioning produce faster learning;	1

Question	Answer	Marks
3	The study by Schachter and Singer investigated two factors in emotion.	
3(a)	The participants in this study were deceived.	
3(a)(i)	Outline <u>one</u> way that the participants were deceived in this study. 1 mark for outline (can be generic) + 1 for detail (must be linked). The participants thought the stooge was another participant (outline); But he was there (as a confederate of the experimenter) to create conditions of euphoria/anger (detail); They were told the injection was Suproxin (outline); So they thought it was a vitamin (detail); But it was (saline or) adrenaline/epinephrine (detail); They were told the wrong effects of / were misinformed about adrenaline (outline); So expected numbness/itching / (slight) headache instead of (real) shaking / heart pounding / face feeling warm/flushed (detail);	2

Question	Answer	Marks
3(a)(ii)	Explain why the deception that you outlined in (a)(i) was necessary. 1 mark for explanation + 1 for detail (linked), i.e. to earn full marks, response must be linked. To avoid demand characteristics (explanation); If the participants had known the role of the stooge, he wouldn't have affected their mood (explanation/detail); So there wouldn't have been euphoria and anger conditions / levels of the IV / manipulation of the cognitive factor (detail); If all participants were given saline/adrenaline and told what it was, they would have expected the real effects (explanation); So there would have been no manipulation of the physiological factor (detail); If they had known about the injection Schachter and Singer wouldn't have manipulated informed/ignorant (explanation); So the participants wouldn't have a cognitive label for their arousal (detail);	2
3(b)	Schachter and Singer reported that in one condition, the observer could not hear the spoken reactions for one participant. State <u>one</u> practical reason why this was a problem. 1 mark for practical reason for problem. They had less data in that condition / incomplete data in that condition / would not have known if the participant agreed with the stooge; The results would be less valid/generalisable;	1

Question	Answer	Marks											
4	The data from Experiment 1 in the study by Laney et al. (false memory) is given in Table 4.1. Table 4.1 <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Condition</th><th colspan="2">Mean rating for the critical item 'loved asparagus the first time you tried it'</th></tr> <tr> <th>Week 1</th><th>Week 2</th></tr> </thead> <tbody> <tr> <td>Control</td><td>1.5</td><td>2.5</td></tr> <tr> <td>Love</td><td>1.7</td><td>4.2</td></tr> </tbody> </table>	Condition	Mean rating for the critical item 'loved asparagus the first time you tried it'		Week 1	Week 2	Control	1.5	2.5	Love	1.7	4.2	
Condition	Mean rating for the critical item 'loved asparagus the first time you tried it'												
	Week 1	Week 2											
Control	1.5	2.5											
Love	1.7	4.2											

Question	Answer	Marks
4(a)	Draw a bar chart of the ‘Week 2’ data only. You <u>must</u> label the axes.  1 mark; x-axis label (condition / level of the IV / item on FHI) 1 mark: x-axis categories (control / love) allocated to appropriate bars on chart 1 mark: y-axis label (mean rating for the critical item) 1 mark: y-axis scale (min 2.5–4.2, probably 0–5) 1 mark: correctly plotted (2.5 and 4.2) Must be a bar chart with gap between the bars for full 4 marks.	4
4(b)	State <u>one</u> conclusion about this study using the data in Table 4.1. 1 mark for conclusion. The critical item in the ‘love’ group changed the belief of participants; The critical item, that the participant ‘loved asparagus the first time you tried it’, indicated that the manipulation had changed the belief of participants in the ‘love’ group (who did not already like asparagus as a child anyway);	1

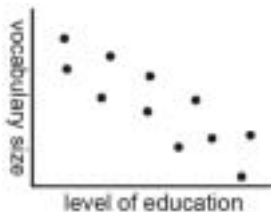
Question	Answer	Marks
5	Explain the importance of inter-observer reliability in the study by Bandura et al. (aggression). 1 mark for outlining inter-observer reliability (implicitly or explicitly). 1 mark for explanation. The consistency between two observers (outline); So that the teacher and the researcher rated the same / so that aggression was rated the same (explanation); Whether two observers will produce the same results when observing the same participants (explanation); The observers recording the children’s behaviour had good agreement so differences in aggression must have been due to the effects of the model not the observers = 2 (implicit outline + linked explanation). There was a high inter-rater reliability (of 0.8) so when they found the aggressive model children were more aggressive towards the Bobo doll (than the non-aggressive model children) [= 1, linked explanation] this wasn’t because of differences in the observers [= 1, implicit outline].	2

Question	Answer	Marks
6	Describe the use of controls in laboratory experiments and field experiments, using any examples. Definitions/detail – general: credit each point that applies to both, but then apply mark limits below. Definitions/detail – specific to methods: up to a maximum of 4 marks for controls in each experimental method. Examples: maximum of 2 marks for controls in each experimental method. Examples can include ones from any studies (core studies, other studies, candidate's own studies). Max 4 marks if no examples. Max 4 marks if all general (with no explicit – or even implicit – reference to lab/field). Max 4 marks if all about one type of experiment. <i>Controls (general):</i> Are ways to limit (the effect of) / eliminated variables that are a problem in experiments; (They improve validity because) they ensure each condition / level of the IV differs only in terms of the IV; <i>Controls in lab experiments:</i> Are easier to implement than in field experiments; (credit only once, i.e. not reverse argument as well); As the environment is artificial / set up by the researchers / can be altered (credit only once); E.g. Bandura exposed every child to the same staged start of the model potato printing; E.g. Andrade gave both the experimental and the control groups pieces of paper and pencils; <i>Controls in field experiments:</i> Are harder to implement than in lab experiments (credit only once, i.e. not reverse argument as well); As the environment already exists / is not set up by the researchers / cannot be altered very much (credit only once); E.g. Piliavin et al. could not control how many passengers there were in a carriage; E.g. Schachter and Singer could control the mood of the participants but Piliavin et al. could not;	6

Question	Answer	Marks
7	Deryn is planning an experimental study to compare how, and how often, men and women look at themselves in a shop window. She plans to collect quantitative data using observations and will calculate a median.	
7(a)(i)	Identify the independent variable in Deryn's study. 1 mark for IV. gender; males and females;	1
7(a)(ii)	Identify <u>one</u> dependent variable in Deryn's study. 1 mark for DV. How often men and women look at themselves (in a shop window); Behaviours in front of the windows / What males and females do in front of shop windows; Time spent in front of the windows / Time spent looking at themselves;	1
7(a)(iii)	Identify the experimental design used in Deryn's study. 1 mark for experimental design. Independent measures/groups; Independent (design) = 0 marks.	1
7(b)(i)	Suggest how Deryn could use a structured observation in her study. 3 marks for how to use a structured observation. For max 3 mark, the response must link to looking in a shop window. Structured observations list specific behaviours to record / have behavioural categories before the study (generic); The observer checklists the frequency of (only) those behaviours (generic); E.g. Deryn would need follow each participant (shopper) through the shopping centre and tally (on the checklist) each time they looked in a shop window; such as whether they paused to look at their reflection; And record whether they were male or female; Straightening clothes; Tidying hair; Putting lipstick on; Smiling at their reflection;	3

Question	Answer	Marks
7(b)(ii)	Suggest <u>one</u> disadvantage of using a structured observation compared to an unstructured observation in Deryn's study. 1 mark for disadvantage. 1 mark for link. It may be hard to count individual behaviours / to separate the behavioural stream into individual actions to record; E.g. was it one long look or two short glances (link); There is a list so new behaviours / ones not on the list cannot be recorded; E.g. if people use the window to adjust their clothing and that wasn't on the list / it couldn't be added (link);	2
7(c)	A 'measure of central tendency' is a method of data analysis.	
7(c)(i)	Explain why the median is a measure of central tendency. 1 mark for explanation. The median is a measure of central tendency because it finds a typical score in a data set; It's a measure of central tendency because it finds the middle of the scores; <i>Central</i> tendency because it finds the <i>centre</i> of the data = 0 [REP].	1
7(c)(ii)	Suggest <u>one</u> strength of using <u>one</u> method of data analysis, other than the median, with Deryn's results. 1 mark for identifying an appropriate method of data analysis. 1 mark for a linked strength, include additional uses to that provided by the median as a strength i.e. can be descriptive of a use. The mean; This will take into account the frequency of looking in shop windows for each participant (the values); The range; This will provide (different) information about the spread of frequencies for looking in windows (for men and women); The mode; Shows us the most common behaviour when looking in windows (which the median does not do); Strength that it can be used on categorical/discrete/nominal data such as tidy hair and adjust clothing for men and women; Because it is easy to calculate = 0 [all are easy].	2

Question	Answer	Marks
8	Phyllis is planning a correlational study to investigate the relationship between vocabulary size and level of education.	
8(a)(i)	Suggest <u>two</u> ways that Phyllis could measure ‘vocabulary size’. 1 mark for suggestion + 1 mark for detail × 2. The suggestion must produce quantitative data on a scale (to correlate). Set them a vocabulary test of words to remember (suggestion); Count how many they get right (detail); Give them a passage (which is not familiar) to translate (suggestion); and see how many of the unusual words they know (detail); Listen to them speak (suggestion); Estimate the range of words they are using on a scale of 1–10 (detail);	4
8(a)(ii)	For <u>one</u> of the ways you have suggested in (a)(i): Suggest <u>one</u> strength of measuring vocabulary size in this way. 1 mark for suggestion of strength (can be an advantage compared to one of the other suggestions). A test is more objective than an estimate of range of words used; e.g can’t pretend to know a word they don’t know; Good reliability because no doubt if a word was understood or not; Ethically good as participants can self-report word knowledge which is not invasive / do not have to test them; A test is less subjective than whether words they use are unusual; Standardised because they all get the same list;	1
8(b)	Suggest <u>one</u> way that Phyllis could measure ‘level of education’. 1 mark for suggestion. The suggestion must produce quantitative data on a continuous scale of more than two points (to correlate). Number of years in education / Grade in school; whether they have no qualifications / A Levels / a degree;	1

Question	Answer	Marks
8(c)	Phyllis expects to find a positive correlation.	
8(c)(i)	Outline what Phyllis would conclude if she found the results in Fig. 8.1. 1 mark for outline (naming or describing).  (That there was a) negative (inverse) correlation / relationship / link; That as vocabulary size increases, level of education falls; ORA	1
8(c)(ii)	Outline what Phyllis would conclude if she found the results in Fig. 8.2. 1 mark for outline (naming or describing).  (That there was) no correlation / relationship / link; That there is no link between vocabulary and level of education;	1

Question	Answer	Marks
9	James is planning a study and has chosen to use opportunity sampling to find participants. A friend says he should use random sampling instead. Another friend says sample size is just as important as sampling technique.	
9(a)	Explain <u>one</u> strength of using opportunity sampling. 1 mark for strength. 1 mark for detail (can be linked but does not have to be). It is easy / takes little time (strength); Because he can select participants who are readily available / nearby (detail); So the sample can be bigger (detail);	2

Question	Answer	Marks
9(b)	Explain <u>one</u> advantage of using random sampling instead of opportunity sampling. 1 mark for explanation of advantage. 1 mark for detail (can be linked but does not have to be). It will be more representative / the findings will be more generalisable (explanation); Because the participants are more likely to have a range of characteristics / are more likely to contain (more of) the features that exist in the population (detail);	2
9(c)	Explain why a large sample may be better than a smaller sample. 1 mark for explanation (can be linked but does not have to be). A larger sample is likely to have a greater variety of people / more (individual) differences (between people); Be more representative / generalisable; A small sample is likely to have a smaller variety of people; Be less representative / generalisable;	1
10	Perrin is going to interview participants about their dreams. He wants to collect information about the duration and content of dreams in children and adults.	
10(a)	Describe how Perrin could conduct a study using an interview to investigate the duration and content of dreams in children and adults. Three majors for an interview are: (a) content of questions asked (topics, examples) (b) interview structure detail (i.e. named structured/semi/unstructured plus how – i.e. definition, even if not linked) (c) style of questions asked (open/closed). The minors are: where – location of participants when being interviewed who – participants (adults and children who recall their dreams). Other details for replication: - lie questions - filler questions - sampling technique - sample size - description of how data will be analysed, e.g. use of averages / bar charts - ethical issues. Other appropriate responses should also be credited. Mark according to the levels of response criteria below:	10

Question	Answer	Marks
10(a)	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.	

Question	Answer	Marks										
10(b)	Identify one 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 - situational/participant variables factors. 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 <i>plus</i> 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>	Marks	Comment	3–4	Appropriate problem identified. Appropriate solution is clearly described.	2	Appropriate problem identified <i>plus</i> EITHER Explanation of why it is a problem, OR Ineffectual but possible solution described.	1	Appropriate problem identified. Little or no justification.	0	No response worthy of credit.	4
Marks	Comment											
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Cambridge International AS & A Level

PSYCHOLOGY

9990/23

Paper 2 Research methods

May/June 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 May/June 2023 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

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.

**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.

Question	Answer	Marks
1(a)	Describe what is meant by the term ‘random sampling’. 1 mark for description. 1 mark for detail. Random sampling ensures each individual in the population has an equal chance of becoming a participant (description); Every member of the population has a number, pull numbers from hat (until enough participants in sample) (description/detail); Give numbers to individuals and select using a computerised/tabulated random number source (description/detail); Choosing people without bias = 0 By collecting random people (from the street) = 0 By choosing people at random = 0	2
1(b)	Explain <u>one</u> weakness of random sampling. 1 mark for weakness. May not be representative if access to parts of the population is limited; not all the people who are randomly selected may be willing to participate (potentially biasing the data);	1

Question	Answer	Marks
2	The study by Yamamoto et al. (chimpanzee helping) followed ethical guidelines relating to the use of animals. Describe how <u>two</u> ethical guidelines relating to the use of animals in research were followed in this study. 1 mark for name/description of animal guideline. 1 mark for link to Yamamoto et al. x2. Chimpanzees were housed appropriately (name/description of guideline); They are social animals and were kept together (link); They were appropriately fed, using monkey food and extra fruit and vegetables (link); The chimpanzees did not suffer pain/distress (name/description of guideline); They only had to pick up tools and pass them through a hole (which is not painful or distressing); (link); The chimpanzees were rewarded not punished (name/description of guideline); They were given juice rewards when they responded (link); Numbers were kept small/low/minimised (name/description of guideline); Only 5 chimps were used / 5 pairs were used (link);	4

Question	Answer	Marks
3	In the study by Laney et al. (false memory), standard deviations were calculated.	
3(a)	State what is meant by a ‘measure of spread’. 1 mark for stating meaning. A way to indicate/express/show the dispersion / differences in / variety of values in a data set; how much scores vary = 1; The range (of scores) = 0 [NAQ] How <i>spread</i> out the scores are = 0 [REP] The <i>deviation</i> in the scores = 0 [REP]	1
3(b)	State <u>one</u> advantage of using the standard deviation compared to <u>one</u> other measure of spread. 1 mark for identification of alternative measure of spread. 1 mark for advantage of standard deviation [award this mark if advantage – i.e. strength – is correct but no alternative is given]. Range (identification); [Do not award for incidental use of word] Average spread / difference from the mean (rather than just smallest and largest) (advantage); [Do not accept ‘deviation’] It considers how spread out all the points are (rather than just the extreme two) (advantage);	2

Question	Answer	Marks
4	In the study by Pepperberg (parrot learning), Alex the parrot was tested using the categories of: • shape • material • colour.	
4(a)	Suggest why Pepperberg chose to test the parrot using the categories of 'shape' and 'material'. 1 mark for suggestion [novel suggestion for <i>choice</i>, not reiterating aim]. 2nd mark for detail or a second suggestion (e.g. one suggestion for shape and one for material can be 2 marks, or two for both). Alex was able to say both words (just about) (suggestion); So it would be possible to test his comprehension (in a valid way) (detail); Both were simple/visual features so that it could be possible that Alex could learn them; If more complex concepts / concepts in a medium less familiar to parrots, it would have been too hard (so lacked validity / caused a floor effect);	2
4(b)	Suggest <u>one</u> other category that Pepperberg could have used to test the parrot's understanding of categories. 1 mark for suggestion. Ascending and descending / different tones; Different bird songs; Different sounds/smells;	1

Question	Answer	Marks
5	The study by Dement and Kleitman (sleep and dreams) investigated two kinds of sleep: REM sleep and non-REM sleep. State <u>three</u> differences between REM sleep and non-REM sleep. 1 mark per explicit difference stated. Less dream recall from non-REM (than REM) ORA; Brain waves different / lighter sleep in REM (than in non-REM) ORA; Four stages of non-REM but all REM is the same; When dreams are recalled from non-REM they are like thoughts but vivid dream recall from REM stage; More non-REM at start of night/more REM at end of night ORA; Rapid eye movements in REM sleep (related to dreams) (but none in nREM);	3

Question	Answer	Marks
6	Describe the ethical guidelines of ‘informed consent’ and ‘protection from harm’, using any examples. Definitions/detail: up to a maximum of 4 marks for each guideline. Examples: maximum of 2 marks for each guideline. Examples can include ones from any studies (core studies, other studies, candidate’s own studies). Max 4 if no examples. Informed consent: Consent is giving participants enough information to make a choice about participating; by briefing participants; then getting them to (sign to) say they understand and want to do the study / to say yes or no; Presumptive consent is where you ask a similar group of people to the real participants and they agree; E.g., in Canli’s study the participants will have consented to the risks of a PET scan; E.g. in Milgram’s study they did not give informed consent as they thought it was a study about learning/punishment; Protection from harm: Protection means ensuring that participants are not harmed physically or psychologically; They should leave the study in at least as good a condition as they entered it; Psychological harm could be from the nature of the study / embarrassment at their performance; E.g. Milgram’s participants were stressed by having to give the learner shocks; E.g. Milgram’s participants were distressed by participation because they felt they could kill somebody; E.g. Piliavin’s participants could have been frightened by a stooge falling; E.g. Piliavin’s participants could have felt regret from failing to help the stooge (and weren’t debriefed); Physical harm could arise from procedures/harm participants inflict on themselves due to participation; E.g. in a study testing motivation to keep your hand in ice cold water could damage your skin; E.g. one of Milgram’s participants had a seizure; E.g. Milgram’s participants did things to harm themselves like biting lips; this can be partly overcome by debriefing; E.g. Milgram reassured his participants that the stooge was unharmed; or by following up participants;	6

Question	Answer	Marks
7	Nigel has conducted a laboratory experiment to compare children's choice of sweets (candy) in different packets. The children were shown sweets in: • brightly coloured packets with simple patterns • black and white packets with complex patterns. His results showed that more children chose the sweets from the 'brightly coloured packets with simple patterns' condition.	
7(a)(i)	Suggest <u>one</u> other condition that Nigel could have included in his study. 1 mark for additional condition (can be a control or additional experimental condition). Black and white simple patterned packets (instead of complex ones); Complex patterned bright colours (instead of simple ones); Boxes instead of packets; (A control condition of) packets with no colours or patterns; Accept other suggestions that are linked to packets/colours/patterns.	1
7(a)(ii)	Explain why the condition you suggested in (a)(i) would have been useful. 1 mark for explanation. 1 mark for detail. Black and white simple patterns: To control for (the variable of) colour (explanation); To see if it is because they like bright colours or dislike simple patterns (detail); Brightly coloured complex patterns: To control for (the variable of) pattern (explanation); To see if it is because they like simple patterns or dislike black and white (plain) 'colours' (detail);	2
7(b)	Nigel used a repeated measures design. Explain what is meant by a 'repeated measures design', using an example from this study. 1 mark for explanation of repeated measures. 1 mark for link. In a repeated measures design all participants perform in all levels of the IV (explanation); So it means that each of Nigel's participants saw both types of sweet packet (link);	2

Question	Answer	Marks
7(c)	Name <u>one</u> experimental design Nigel could have used, other than a repeated measures design. 1 mark for independent measures / matched pairs. Independent (design) / matched (design) = 0.	1

Question	Answer	Marks
8	Mila is planning a case study to investigate how a 21-year-old person feels about being the only young person in a community of 20 older people on a small island.	
8(a)	Suggest <u>two</u> techniques Mila could use to collect data from her participant in this study. 1 mark for suggestion + 1 mark for linked detail x2. Observation (suggestion); E.g. use structured observation of interactions with others using behavioural categories e.g. talking/following (linked detail); Such as whether she speaks directly to adults / to old people/no one (linked detail); E.g. use an overt observation of her telephone/internet use to find out how she copes with being alone (linked detail); E.g. to see how she attempts to communicate with other young people (linked detail); Interview (suggestion); E.g. ask the girl questions about how she feels that are planned at first, then questions based on her answers (linked detail); Such as asking who she talks to instead if she says she doesn't talk to the old people (linked detail); A questionnaire; asking about feelings towards other people in the community; = 2 [just]	4

Question	Answer	Marks
8b	For <u>one</u> of the techniques you suggested in (a):	
8bi	Explain <u>one</u> advantage of this technique. 1 mark for suggested advantage. 1 mark for detail (likely to be linked, but not required). Observation: Access information about the relationship the participant might not know / be able to express (advantage); Such as changes in expression on the participant's face (detail); Interview: You would be able to ask for the reasons behind their interactions / lack of interactions with the old people (advantage); Such as who they talk to instead if they say they don't (detail); Questionnaire: Uses mainly easy to analyse closed questions; e.g. are your feelings to the community mainly positive/negative; = 2	2
8(b)(ii)	Explain <u>one</u> disadvantage of this technique. 1 mark for suggested disadvantage. 1 mark for detail (likely to be linked, but not required). Observation: Can only access information about the relationship which can be seen (disadvantage); So the underlying reasons for their interactions / lack of interactions with the old people cannot be investigated (detail); Interview: The participant may give socially desirable answers about their interactions with the old people (disadvantage); Such as lying because they are embarrassed about how little they talk to the old people (detail);	2
8(c)	Mila wants to generalise her findings to all adults who live away from other people of their own age. Explain why Mila should <u>not</u> make this generalisation from the findings of her case study. 1 mark for reason (linked or generic). One person is unrepresentative / would be unique / everyone is different; The participant lives in a small community / on a small island (so is unusual); one gender; one age;	1

Question	Answer	Marks
9	Alan and Jocelyn are writing a questionnaire to ask about the level of euphoria created by listening to music at a concert, compared with listening to music at home.	
9(a)(i)	Suggest <u>one</u> closed question that they could use on the questionnaire to ask about euphoria. 1 mark for a closed question + 1 mark for scoring. Do you feel euphoric when listening to music at home/at a concert? = 1; yes/no = 1; yes/sometimes/no = 1; Rate how euphoric you feel at a concert = 1; 0 not at all (euphoric) to 5 very (euphoric) = 1;	2
9(a)(ii)	Suggest <u>one</u> open question that they could use on the questionnaire to ask about euphoria. 1 mark for an open question. Describe/explain / tell me how you feel when you are listening to music at home / at a concert = 1;	1
9(b)	For the questions you suggested in (a)(i) and (a)(ii):	
9(b)(i)	Explain <u>one</u> reason why the data from the open question could be more valid than data from the closed question. 1 mark for explanation. 1 mark for link. Participants might have wanted to say 'sometimes' to the closed question but could only say yes or no (link); So the open question would have been more valid as they could have responded as they wanted (explanation); An open question is more valid because the participant can explain their behaviour / why (explanation); I.e. why they felt more euphoric (link);	2
9(b)(ii)	Explain <u>one</u> reason why the data from the open question could be less valid than data the closed question. 1 mark for explanation. 1 mark for link. Closed questions produce objective data / don't need to be interpreted / can't be affected by researcher bias (explanation); Alan and Jocelyn might interpret statement (on open questions) about euphoria differently (link);	2

Question	Answer	Marks
9(c)	Explain how Alan and Jocelyn could check their inter-rater reliability when they analyse their data. 1 mark for explanation. 1 mark for detail. Alan and Jocelyn should take the (open question) responses from the same participants and analyse them (explanation); Correlate their scores for the same questions / see if their scores are the same (if so, inter-coder reliability is high) (detail);	2

Question	Answer	Marks
10	Dr Caesar is interested in animal phobias in his patients. He wants to investigate whether there is a correlation between the size of the animal causing the phobia and the severity of each patient's animal phobia.	
10(a)	Describe how Dr Caesar could conduct a correlational study to investigate the relationship between animal size and the severity of the patients' phobias. Three majors for this correlation are: (a) variable: animal size (operationalisation and quantification of how big the animal is, must be continuous data) (b) variable: phobia severity (operationalisation and quantification of severity of the phobia, must be continuous data) (c) technique for producing/collecting data i.e. procedure (e.g. tests, observations, questionnaires). The minors are: where: location of participants when completing the study who: participants (with phobias of varying severity, to various animals), 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. • 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

Question	Answer	Marks										
10(b)	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 - situational/participant variables factors. 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 <i>plus</i> 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>	Marks	Comment	3–4	Appropriate problem identified. Appropriate solution is clearly described.	2	Appropriate problem identified <i>plus</i> EITHER Explanation of why it is a problem, OR Ineffectual but possible solution described.	1	Appropriate problem identified. Little or no justification.	0	No response worthy of credit.	4
Marks	Comment											
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