



Cambridge International AS & A Level

PSYCHOLOGY

9990/21

Paper 2 Research Methods

May/June 2022

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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This document consists of **20** printed pages.

PUBLISHED**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
- marks are not deducted for errors
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- 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.

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PUBLISHED**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)
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- Slashes (/) or the word 'or' separate alternative ways of making the same point.
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Question	Answer	Marks
1(a)	From the study by Bandura et al. (aggression): Describe how the quantitative data was collected in this study. 1 mark for observation 1 mark for how quantitative data was collected (frequency/number) linked to study e.g., Observation of number of times a child copied the model = 2 e.g., ‘Observers scored the total number of aggressive and non-aggressive response categories’ = 2 Aggressive acts were counted = 1 mark (accept as frequency) Aggression scored prior to testing on (four) five-point rating scales = 1	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 children copying aggressive / non aggressive models = 1 (link) They could compare mean aggression of boys and girls = 1 (link) Number of times child hits bobo = 1 (link) It is objective = 1 advantage So objective + statement of more/less / compare in relation to Bandura’s data = 2	2

Question	Answer	Marks
2	A study has the experimental hypothesis ‘Older people will forget more often than younger people’. This is a ‘directional hypothesis’ rather than a ‘non-directional hypothesis’. Explain what makes this a ‘directional hypothesis’. 1st mark for definition of directional and/or non-directional hypotheses 2nd mark for explaining that it says which age group will forget more (explanation in context) Because it says which way the difference (but not direction) will go / that one group will forget more = 1 (definition) Because it says older people will forget more = 1 (explanation in context)(ORA) It would say one age group would forget more than the other if it were non-directional = 2 (explanation in context) Because it states the direction of the difference = 0 (repetition of stem ‘direction’)	2

Question	Answer	Marks
3(a)	A problem in experimental studies is the presence of uncontrolled variables. One uncontrolled variable in the study by Andrade (doodling) was how likely each participant was to daydream. Describe what is meant by an ‘uncontrolled variable’. 1 mark for meaning (problem) variables that have not been / cannot be successfully eliminated = 1 variables that (lower validity because they) affect one level of the IV (more than the other) = 1	1
3(b)	Explain why the uncontrolled variable of daydreaming was a problem in this study. 1 mark for why it was a problem (can be generic) 1 mark for link Daydreaming could affect the DV making it hard to see the effect of the IV / could lower validity = 1 (generic) Daydreaming affects concentration making it hard to see the effect of the IV = 2 (linked problem) The DV could be affected so the IV of doodling would be hidden = 2 (linked problem) Doodling may reduce daydreaming so increases attention rather than directly helping recall = 2 (problem + link)	2

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Question	Answer	Marks
4(a)(i)	A correlational study tested the idea that the amount of time spent using a phone is linked to quality of sleep. State the relationship between the variables measured in this study, if a positive correlation was found. 1 mark for linked statement of relationship When people spend more time using their phone they have better quality sleep = 1 (OWTTE) When people spend less time using their phone they have worse quality sleep = 1 (OWTTE) People who use their phone have poor/better sleep quality = 0 (describing a difference not a correlation)	1
4(a)(ii)	State the relationship between the variables measured in this study, if a negative correlation was found. 1 mark for linked statement of relationship People who more time using their phone they have poorer quality sleep = 1 (OWTTE) People who spend less time using their phone they have better quality sleep = 1 (OWTTE) As the number of hours spent on the phone goes up (down) the quality of sleep goes up (down) = 1 (OWTTE) People who use their phone have poor/better sleep quality = 0 (describing a difference not a correlation) There is no correlation between (more/less) phone use and (poor/good) sleep = 0 (null hypothesis)	1

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Question	Answer	Marks
4(b)	Suggest <u>one</u> reason why it was more appropriate to conduct a correlational study rather than an experiment to test this idea. 1 mark for reason (may be practical or ethical) 1 mark for linked detail Because it may be unethical to manipulate one/both variables; (generic suggestion) Telling people to use their phone more or less might annoy/upset them; (suggestion) This would break the guideline of ‘protection from harm’; (linked detail) It might worsen their sleep because they are annoyed at having been told (not phone use); (linked detail) It would be less distressing if level of phone use and sleep quality were measured (and correlated); (linked detail) Because it may be impractical to manipulate one/both variables; (generic suggestion) For the study to work the aim would have to be hidden from them; (suggestion) Otherwise they would expect to change their sleep, causing demand characteristics; (linked detail) Which would be hard to do because people are very attached to their phones; (linked detail) No need for deception / no difficulty if phone use and sleep quality were measured (and correlated); (linked detail) Because the study is looking for a relationship (between two variables) not a causation; (generic suggestion)	2

Question	Answer	Marks
5(a)	In the study by Piliavin et al. (subway Samaritans), one way that data was collected was by listening to the comments made by subway passengers. Differences were reported in relation to the type of victim the comments referred to. Describe <u>one</u> of these differences. 1st mark for identifying the difference 2nd mark for correct direction of difference There was a difference in comments made in relation to black and white victims = 1 More comments were made when the victim was white than when they were black = 2 Accept: There was a difference in comments made in relation to ‘drunk’ and ‘cane’ victims = 1 Accept: More comments were made when the victim was ‘drunk’ than when they had a cane = 2 Accept: There was a difference in comments made in relation to white cane/drunk then black cane/drunk = 1 Accept: More comments were made when the victim was white cane/drunk then black cane/drunk = 2	2
5(b)	Suggest <u>one</u> problem the observers could have had when listening to the comments made by subway passengers. 1 mark for problem They might have been noticed (so stopped the people talking) = 1 Because they said nothing themselves they may have inhibited others / made others say more) = 1 By not recording the comments, they may have mis-remembered what was said = 1 By trying not to be noticed it might have been difficult to hear what was said properly = 1 Speaking in a different language = 1	1

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Question	Answer	Marks
6	Describe what is meant by a ‘semi-structured interview’ and an ‘unstructured interview’, using any examples. 1 mark for each point of detail 1 mark for each example that is linked to one type of interview (maximum of 2 marks in total). Examples can include examples from studies using such questionnaire/interviews, or of ways they could be used. Max 4 if only semi-structured or only unstructured interviews. Max 4 if no examples semi-structured: interviews follow some set questions the interviewer can add some questions in response to the participant’s responses; e.g. Schachter and Singer interviewed participants and asked ‘How are you feeling?’; unstructured: interviews are much more flexible; the interviewer can add questions in response to the participant’s responses; tend to use more open questions / ask for descriptions / detail / produce more qualitative data; e.g., Piliavin et al. the observers spoke to the person next to them on the train after the incident / the observers tried to elicit comments from passengers sitting next to them on the train; e.g., Dement and Kleitman sometimes went to the participants to ask them more questions about each dream;	6

Question	Answer	Marks
7(a)	Rhiain is investigating how much time babies spend in REM sleep. She thinks that bigger babies will spend more time in REM sleep than smaller babies. State the aim of Rhiain's study. 1 mark for aim To investigate how much time different size babies spend in dream sleep; To test whether big babies spend more time in REM sleep than small babies; (ORA) To investigate whether there is a correlation between baby weight/size and time in REM; To investigate how much time babies spend in REM sleep = 0 [incomplete – no comparison]	1
7(b)	One technique that Rhiain could use to measure REM sleep duration is an EEG (electroencephalograph).	
7(b)(i)	Suggest <u>one</u> disadvantage of using this technique in Rhiain's study. 1 mark for suggestion (may be named guideline or linked idea, practical or ethical) 1 mark for link Electrodes may not fit a baby's head well; (suggestion: practical) Babies' heads are smaller than adults so the wires/electrodes may come unstuck more easily; (link) Low ecological validity; (suggestion: practical) Because lab is not a baby's normal sleeping environment; (suggestion OR link) Potential for harm; (suggestion: ethical) the ponytail could be distressing; (suggestion OR link) Electrodes uncomfortable for the baby; (suggestion OR link) No right to withdraw; (suggestion: ethical) If the baby found the electrodes / the ponytail uncomfortable it could only cry; (link)	2

Question	Answer	Marks
7(b)(ii)	Suggest why using <u>one</u> other technique to measure REM sleep duration would be more appropriate in this study. 2 marks for suggestion (suggestion + detail) 1 mark for why it is better Or 1 mark for suggestion 2 marks for why it is better (reason why + detail) By observing the baby's eye movements (behind its eyelids) once it is asleep; (suggestion) This would not cause distress / much need to withdraw / problems with recording; (why better) So the data more valid reflecting real sleep patterns rather than disturbed/inaccurate ones; (why better) Use CCTV to record the baby's eye movements (behind its eyelids); (suggestion) This would not cause distress / much need to withdraw / problems with recording; (why better) So data more valid as reflecting real sleep patterns / could be rewatched to improve reliability; (why better) It would be better to use a technique that did not involve attaching something to the baby's head; (suggestion) Because putting something on a baby's head might affect sleep duration; (why better) Small babies might be more affected by things stuck on their heads than big babies; (why better)	3
7(c)	Rhiain also wants to know whether babies who are in REM sleep are having dreams but the babies cannot answer questions about the content of their dreams. Suggest how Rhiain could observe the babies during REM sleep to investigate the content of their dreams. 1 mark for suggestion 1 mark for detail By recording/observing the direction (not just the duration) of their eye movements; (suggestion) If their eyes move in different directions this would suggest they are tracking things in their dreams; (detail) By recording any noises they make; (suggestion) The noises may be linked to their dream content; (detail) By recording any facial expressions they make; (suggestion) The expressions, such as smiling, may be linked to their dream content; (detail)	2

Question	Answer	Marks
8(a)	Kylo is planning a case study to investigate the importance of a pet / domesticated animal in the life of an elderly person. When choosing his sample of one elderly person he has several decisions to make. Suggest who Kylo should look for as a participant, including: - the pet / domesticated animal they have and why the elderly person has this animal <u>one</u> other decision he must make when choosing his participant. Do <u>not</u> refer to sampling techniques in your answer. Animal and why it is there: Accept any animal species. 2 marks for explanation of why the animal is there: 1 mark for suggestion 1 mark for detail A cat because it is a pet; (suggestion) It is there to keep the old person company / the purring is relaxing; (detail) A cow because they want milk; (suggestion) This is a source of food; (detail) A dog because it is a pet / as a guard dog; (suggestion) to get them out of the house / to keep them fit / to protect them; (detail) Other decision about the participant (not pet related): 2 marks for explanation of a decision about the person / participant: 1 mark for suggestion 1 mark for detail Accept any reasonable suggestion. Most likely: How old they are / what counts as 'elderly'; (suggestion) Must be over 40 (years old); (detail) Whether they are male or female; (suggestion) The sexes may differ in their reasons for having a domestic animal; (detail) Whether they live alone; (suggestion) Like 'family'; (detail)	4

Question	Answer	Marks
8(b)(i)	Suggest <u>one</u> technique Kylo could use to collect data from his participant in his case study. 1 mark for suggestion 1 mark for link 1 mark for detail (of suggestion OR link) Observation; (suggestion) Use a structured observation of the participant and his pet with behavioural categories; (link) Such as whether he pats it / milks it / talks to it; (detail/link) (covert) Observation; (suggestion) where the observer is hidden; (detail) E.g. by watching the participant and their animal through a window; (link) Use a non-participant observation; (suggestion) of the participant and his pet so Kylo doesn't touch with the pet; (link) because this might disrupt the participant's interactions with the pet; (detail) Interview; (suggestion) Use an unstructured interview of the participant and his pet with varied questions; (detail) Such as 'Describe how important your animal is to you'; (link) Questionnaire; (suggestion) Type of question; (detail) About the animal and person; (link)	3

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Question	Answer	Marks
8(b)(ii)	Explain <u>one</u> advantage of the technique you suggested in (b)(i). 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) Covert observation: Being unseen means you get more natural behaviour; (advantage) For example, the participant might be embarrassed by their behaviour and stop if they can see you; (detail) Non-participant: Not being part of the pair means you won't distract the owner / the animal; (advantage) For example, you might disturb the animal you are near them; (detail) Questionnaire/Interview: You would be able to ask for the reasons behind their interactions with the animal; (advantage) Such as why they pat them; (detail)	2

Question	Answer	Marks
8(b)(iii)	Explain <u>one</u> disadvantage of the technique you suggested in (b)(i). 1 mark for suggested disadvantage 1 mark for detail (link) Observation: Can only access information about the relationship which can be seen; (disadvantage) So the underlying reasons for patting the animal / talking to it cannot be investigated; (detail) Covert / Non-participant observation: Being unseen / away from the participants may mean you cannot see/hear clearly; (disadvantage) So you may miss important features of the interaction with the animal such as eye contact; (detail) Questionnaire/Interview: The participant may give socially desirable answers about their interactions with the animal; (disadvantage) Such as lying because they are embarrassed about how often they talk to the animal; (detail)	2

Question	Answer	Marks
9(a)	Rory is investigating factors that affect feeding behaviour in animals. Rory has chosen to observe the feeding behaviour of some fish. Suggest <u>one</u> problem Rory could have when observing these fish. 1 mark for linked suggestion The fish might be stressed by human presence / Rory / Seeing movement / hearing noises = 1 The fish might change their behaviour because of human presence / Rory / movement / noises = 1 They might swim behind things / very quickly / around each other making it hard for Rory to see them = 1	1

Question	Answer	Marks
9(b)	Rory will keep these fish in a container filled with water. Suggest <u>one</u> other feature related to ‘housing’ that Rory should consider. Do <u>not</u> refer to feeding in your answer. 1 mark for suggestion 1 mark for detail Amount of space/water / tank big enough; (suggestion) to avoid causing them pain or distress; (detail) Somewhere to hide / rocks/plants; (suggestion) Because they could be distressed if there was nowhere to escape to; (detail) Water depth / freshness/temperature/salinity/depth/freshness/oxygenation; (suggestion) Because different fish species have different needs / as this avoids causing them pain or distress; (detail)	2
9(c)	Explain why using fish will limit the generalisability of Rory’s findings. 1 mark for explanation 1 mark for detail Because fish differ from other (animal) species / humans in intelligence/feelings/learning/habitat; (explanation) So the findings wouldn’t generalise to other species that are more intelligent / that don’t live in water; (detail)	2

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Question	Answer	Marks
10(a)	Gareth wants to investigate whether people are more friendly to one another after a positive public event, for example, a festival or a celebrity wedding. Design a natural experiment to test whether a positive public event makes people more friendly to one another. You may use any positive public event. Three majors for a natural experiment are: (a) IV: before and after big positive public event (must not be manipulated) (detail = e.g., how long before/after) (b) DV: friendliness e.g., by observation, questionnaire, interview (detail = ‘friendly’ measures: e.g., of Qs, behavioural categories) (c) Where: the event and its location, so where the data is collected (detail e.g., location of observers/interviewers) The minors are: controls who: participants attending positive event / not attending or before/after positive event Also: • sampling technique • sample size • description of how data will analysed, e.g. use of averages/bar chart • ethical issues Other appropriate responses should also be credited.	10

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10(a)	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>	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.	
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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. 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 - 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. <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	State what is meant by ‘reliability’. 1 mark for simple explanation Consistency of a procedure/task/measure/study/research = 1 Getting the same results when the procedure is the same = 1 To be reliable, measures must measure the phenomenon in the same way each time = 1 mark Consistency of results/findings = 0 Reliability is about consistency = 0 Replication = 0 [e.g. ‘Extent to which a study can be replicated’ = 0] BUT ‘Extent to which a study can be replicated and produces the same results’ = 1 Getting the same results in different situations = 0	1

Question	Answers	Marks
2	Explain the difference between ‘qualitative data’ and ‘quantitative data’. 2 marks for difference, most likely to be through two separate definitions Quantitative data is numerical / produces a count/totals in categories = 1 Qualitative data is descriptive/detailed / in depth = 1 Quantitative is objective / qualitative is subjective = 0	2

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Question	Answer	Marks
3(a)	Schachter and Singer (two factors in emotion) was a laboratory experiment. The participants in this study were all male. A new experiment could explore gender differences in the effect of epinephrine. However, the stooge may influence emotions differently in males and females. Suggest how a difference between the influence of the stooge on males and females could affect the results about gender differences in the effect of epinephrine. 1 mark for suggestion 1 mark for effect on results The angry stooge might make females more/less angry (than it made males); (suggestion) So females would appear to be more/less affected by epinephrine; (effect on results) The happy stooge might make females more/less happy (than it made males); (suggestion) So females would appear to be more/less affected by epinephrine; (effect on results) Note: If the response only talks about the gender of the <i>stooge</i> = 0 [NAQ] Note: If response restating aim = 0 e.g., 'males and females react to / interact with the (male) stooge differently = 0	2

Question	Answer	Marks
3(b)(i)	A second new experiment could include a stooge who claims to feel ill because of the injection. Suggest how <u>one</u> participant variable could affect the results of this second new experiment. 1 mark for suggestion of participant variable (e.g., personality, feeling ill already) 1 mark for effect on results (e.g., more or less ill, NOT whether they helped or not) Some participants might feel ill anyway; (suggestion) The stooge would have a bigger effect / the cognitive factor would look greater; (effect on results) Participants might feel ill and withdraw; (suggestion) This would make the results less valid (as the sample size would be smaller); (effect on results) Anxiety level; (suggestion) More anxious participants might be more affected by the stooge / would feel more ill; (effect on results) Note: A participant variable that could also have affected the original Schachter and Singer study is acceptable.	
3(b)(ii)	Explain <u>one</u> ethical problem with this second new experiment. 1 mark for ethical problem (can be generic) 1 mark for link Feeling ill is distressing; (link) So little protection from harm; (ethical problem) They will believe the ill stooge is sick; (link) So they were deceived; (ethical problem)	2

Question	Answers	Marks
4	In the study by Baron-Cohen et al. (eyes test), eight problems of validity were identified with the original version of the eyes test. Two of these problems were that: - the task involved a forced choice between only two response options (the two words presented) - the test included basic mental states.	

Question	Answer	Marks
4(a)	Explain why each of these problems affected the validity of this study. The task involved a forced choice between only two response options. The test included basic mental states. 1 mark for identifying validity problem} ×2 1 mark for explanation } Forced choice: can be correct by chance / can guess / narrow score range so poor discrimination / ceiling effect; (validity problem) only two choices of words, so likely to be correct on half of the trials; (explanation) basic mental states: questions very easy narrow score range / poor discrimination / ceiling effect / all participants get high scores; (validity problem) the basic mental states were too easy to answer; (explanation);	4
4(b)	Explain how solving <u>one</u> of these problems improved the validity of the eyes test. 1 mark for identifying improvement 1 mark for how it improves validity Both marks must be about the same problem (i.e., only forced choice or basic and complex mental states) Forced choice: Make more/4 choices; (improvement) So reason is they can't guess (so range reflects actual ability at detecting states); (how it improves validity) basic and complex mental states: Only use complex mental states; (improvement) Test detects greater range of abilities to detect mental states; (how it improves validity)	2

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Question	Answer	Marks
5	In the study by Milgram (obedience), the sample included a wide range of occupations. Name <u>two</u> of these occupations. 1 mark for identifying two groups from this DEFINITIVE list: students, postal clerks, high school teachers, salesmen, engineers, and laborers	1

Question	Answer	Marks
6	Describe the use of ‘open questions’ and ‘closed questions’ in research, using any examples. 1 mark for each definition, up to a maximum of 2, for each question type. 1 mark for each linked example, from any studies (core, other, candidate’s own). Max 2 for each question type. Max 4 if only open or only closed questions. Max 4 if no examples. Open questions: Allow participants to answer freely / give answers in their own words / provide detail / can elaborate; produce qualitative data; (more) subjective. Examples may include Describe..., Explain how, why..., X, why? ... To earn credit, examples of questions must not be closed questions with no options. Andrade: Half the participants were then asked to recall the names of party-goers and, when they had done that, of the places mentioned. Dement and Kleitman: (if they could recall a dream) they had been asked to relate their dream content; Dement and Kleitman: When the participant finished speaking some were asked about a particular point of the dream; Laney: experiences with asparagus as a child Closed questions: Participants answer from fixed options / only chose the answer / alternative answers are provided; produce quantitative data; (more) objective; Dement and Kleitman: Participants were first instructed to state whether or not they had been dreaming; Canli et al.: Subjects chose from four buttons to indicate emotional arousal on a scale from 0 (“not emotionally intense at all”) to 3 (“extremely emotionally intense”) Canli et al.: In the unexpected recognition test participants were asked whether they had seen each picture before; Laney: rating scales on RQ and FHI; Canli et al.: For scenes judged as previously seen, subjects reported whether they remembered with certainty (“remember”) or had a less certain feeling of familiarity (“know”). Baron-Cohen et al.: IQ test Baron-Cohen et al.: AQ Baron-Cohen et al.: Eyes test	6

Question	Answer	Marks
7	Geoffrey is conducting structured interviews about people's use of social media. He is investigating how much time people spend on social media and how positive they feel about it.	
7(a)	Geoffrey finds that the time people spend on social media is normally distributed. Sketch the shape of this normal distribution using the axes below. You <u>must</u> label the axes. 1 mark for symmetrical normal distribution shape 1 mark for 'time spent on social media' on x-axis 1 mark for 'frequency' / 'The number of people (who spend different amounts of time on social media)';  'The number of people who feel positive people feel about social media' = 0 [irrl]	3
7(b)	Geoffrey finds that some participants give interesting responses, but he does not explore their use of social media further.	
7(b)(i)	Explain <u>one</u> practical reason why using a structured interview means that Geoffrey <u>cannot</u> explore these participants' use of social media further. 1 mark for explanation 1 mark for linked detail Cannot add extra questions / has to stick to standard questions; (explanation) Which may not cover the interesting issue raised; (link) Geoffrey couldn't ask more about social media than was in his original questions; (link)	2

Question	Answer	Marks
7(b)(ii)	Explain <u>one</u> ethical reason why Geoffrey may choose <u>not</u> to explore these participants' use of social media further. 1 mark for ethical explanation 1 mark for detail 1 mark for link Protection from harm; (explanation) might feel uncomfortable answering questions; (detail) privacy; (explanation) may not want to answer questions about personal lives; (detail) people might be using social media for reasons they don't want to explain; (link/detail) they may be embarrassed / they may be telling lies on social media/the posts may be illegal; (link/detail)	3

Question	Answers	Marks
8	Faolan is investigating teachers' attitudes and behaviours towards students doodling. She has conducted a semi-structured interview and has observed the teachers in the classroom.	
8(a)(i)	Faolan asks each teacher to rate how annoyed they feel when a student in their class doodles. Suggest a scale that Faolan could use to measure how annoyed the teachers are. 1 mark for any numerical or word scale. 1 = not at all annoyed, 10 = very annoyed;	1

Question	Answer	Marks
8(a)(ii)	Explain <u>one</u> problem with the scale that you have suggested in (a)(i), including how this would affect the results. 1 mark for explaining problem (identifying validity/reliability etc. is not enough, not ‘explaining’) 1 mark for link to results There is not exact mid-point to the scale (5 and 6 are in the middle); (problem) So if they wouldn’t feel cross or not cross, they wouldn’t be able to answer; (link to results) People may interpret the scale in different ways; (problem) For example, ‘6’ might be quite cross for one teacher and hardly cross at all for another; (link to results)	2
8(b)	Faolan is interested to know whether teachers show the same behaviours in the classroom when students doodle as they reported during the interview.	
8(b)(i)	Suggest <u>two</u> reasons why the teachers’ interview responses may differ from their behaviour in the classroom. Your answers should <u>not</u> relate to the scale you suggested in (a)(i). 1 mark for suggestion ×2 1 mark for detail The teachers may not be aware of how cross they get; (suggestion) So might under/over-estimate their feelings (in the interview compared to in the classroom); (detail) The teachers may not want to admit to Faolan how cross they get / may lie; (suggestion) So might under-estimate their feelings (in the interview); (detail) The teachers may be feeling very cross the day they are interviewed/observed; (suggestion) So might be much more/less cross than normal; (detail)	4

Question	Answer	Marks
8(b)(ii)	If Faolan finds that teachers do not show the same behaviours in the classroom as they report during the interview, this raises an ethical issue. Suggest why it could be difficult for Faolan to follow the ethical guideline of ‘protection from harm’ when she explains her results to the participants. 1 mark for suggestion The teachers will be upset/cross because they are harsher/kinder than they thought they were; The teachers may feel they have been tricked; The teachers may be worried as they appear to have lied;	1

Question	Answers	Marks
9	Tulip is conducting a study on social behaviour in animals. She is investigating whether animals are more sociable when they are in a large laboratory cage or a small laboratory cage.	
9(a)	Tulip has to decide which species to use. Explain how <u>one</u> ethical guideline relating to animals would affect her decision. 1 mark for identifying a relevant guideline 1 mark for explanation No mark for which species chosen (Some animals/chimps are more likely to experience) distress; (guideline) E.g., if they are more intelligent (than rats); (explanation) Species (and strain) (says she needs a suitable type of animal/rats / small animals); (guideline) Because they are less likely to suffer distress (in a small cage); (explanation) Housing (must be suitable for the animal chosen); (guideline) So the small cages mustn't be too small for them; (explanation)	2

Question	Answer	Marks
9(b)	Tulip is finding a median. She puts her scores in order. State what a researcher should do to find the median if there are two middle numbers. 1 mark for explaining that when there are two middle scores they must be added together and divided by 2. Add them up and halve the total; Sum the two together and divide by 2;	1
9(c)	Explain how Tulip would find the range of the number of sociable behaviours of the animals in the small cage. 1 mark for explanation of how to find out the range 1 mark for link Find the largest number of sociable behaviours and the smallest number of sociable behaviours (from the small cage data) (and take one from the other) (and add one) = 2 (linked) Take the smallest number from the biggest number (and add one) = 1 (generic) Find the difference between the greatest and least number of social behaviours (per animal) = 2 (linked)	2
9(d)	Explain why it would be appropriate for Tulip to use counterbalancing if she chose a repeated measures experimental design. 1 mark for identification of 'order effects' (by name or description) 1 mark for the nature of that effect on the animals 1 mark for linked consequence for the study/results There must be a link to this study for full 3 marks Order effects; (identification) Animals might be more tired (with repeated measures); (generic nature of effect) more tired animals might show less sociable behaviours / be more aggressive; (linked consequence) Animals might be more/less sociable the second time; (linked nature of effect) so if they were less sociable the second time because they had been in the smaller cages first, they would look less sociable in the big cages but this would not be a valid result; (linked consequence) you wouldn't be able to tell whether this was the effect of the IV or not; (unlinked consequence)	3

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Question	Answer	Marks
10(a)	Enfys wants to investigate whether different types of shopper are more relaxed than others. For example, whether shoppers with trolleys/carts are more relaxed than shoppers with baskets. Describe how Enfys could conduct a natural experiment to investigate whether some types of shopper are more relaxed than other types of shoppers. You may choose to compare shoppers with trolleys/carts and baskets, or any other different types of shopper. Three majors for a natural experiment are: (a) IV: e.g., trolley/basket (How recorded e.g., by observing what the shopper chose or by asking which they used in a questionnaire) (b) DV: e.g., relaxed (happy/tense/aggressive) (detail: behavioural categories, event/time sampling, questions) (c) Where: shop / type of shop (location of observer, e.g., hidden at till, disguised as a shopper / questionnaire given as participant leaves the shop) The minors are: who: shoppers (e.g., only adults?) controls Other details for replication: sampling technique sample size ethical issues description of how data will analysed, e.g. use of averages/bar charts Other appropriate responses should also be credited.	

Question	Answer	Marks				
10a)	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>	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.	
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Level 0 (0 marks) No response worthy of credit.						

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. 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 • 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. <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	Appropriate problem identified. Little or no justification.											
0	No response worthy of credit											



Cambridge International AS & A Level

SUBJECT

9990/23

Paper 2 Research Methods

May/June 2022

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 2022 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

This document consists of **18** printed pages.

PUBLISHED**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.

PUBLISHED**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.

PUBLISHED**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	In the study by Andrade (doodling), parts of the procedure helped to reduce demand characteristics. Describe <u>two</u> parts of the procedure that helped to reduce demand characteristics in this study. 1 mark for part of procedure } ×2 1 mark for reduction of demand characteristics } Independent measures (to reduce exposure) / participants only saw one condition; (part of procedure) So participants only saw either doodling or non-doodling conditions; (reduction of demand characteristics) Deception (so unaware therefore reduction of demand characteristics); They were told to remember the names (but they had to recall the places too); (part of procedure) They were told it was a study about memory not doodling; (part of procedure) They were told it didn't matter how many shapes they shaded; (part of procedure)	4

Question	Answer	Marks
2(a)	State the difference between an 'aim' and a 'hypothesis'. 1 mark for difference A hypothesis is testable, an aim is not (necessarily)	1
2(b)	A non-directional hypothesis for a study states that 'Boys and girls differ in how aggressive they are' but the researcher has decided to use a directional hypothesis instead. Suggest a directional hypothesis for this study. 1 mark for directional hypothesis. Boys will be more aggressive than girls = 1 (ORA) Boys are more aggressive than girls = 1 (ORA)	1

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Question	Answer	Marks
3	The study by Milgram (obedience) was not an experiment because there was no independent variable. Milgram later compared the results of this study to the findings of the same procedure carried out in an old office block. This comparison was an experiment.	
3(a)	State the independent variable in this experiment. 1 mark for IV : Location / lab versus office;	1
3(b)	State the dependent variable in this experiment. 1 mark for DV: Shock level / voltage reached / level of obedience / whether they exceeded X volts;	1

Question	Answer	Marks
4(a)	Explain what is meant by the ethical guideline of ‘species and strain’ in relation to animals in psychological research. 1 mark for each relevant point of explanation Use a species/strain that will be least distressed; (note: ‘protection from harm’ = 0 (human guideline), unless means ‘pain’) Use a species that will feel less pain; Use a species that will serve the purpose of the experiment (so this is a compromise); Least number of species = 0 Housing/food/water = 0	2

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Question	Answer	Marks
4(b)	Describe how the ethical guideline of ‘housing’ affects what psychologists should and should not do when studying animals 3 marks for what psychologist should/should not do (this will encompass any definition of the guideline) Should house to provide essential needs for species/age/sex/ reproductive stage / activity level; E.g. warmth/cover; sufficient space for exercise/‘roaming’; sufficient space to avoid overcrowding / individual housing for solitary species; small enough nest sites to feel safe; to provide (suitable) food/water; clean infrequently (change of smell could be upsetting); locate animals away from where they could become distressed (e.g. near natural predators); create a safe and healthy environment rather than trying to recreate the wild environment beyond what is necessary;	3

Question	Answer	Marks
5	In the study by Schachter and Singer (two factors in emotion), the placebo condition was a control condition.	
5(a)	Outline what is meant by a ‘control condition’. Meaning = 1 mark [must not be only an e.g. from Schachter and Singer e.g. saline / no epi, but ignore link if otherwise correct] Participants in a group in an experiment where the independent variable is missing / a placebo group = 1 Participants that provide a baseline for comparison to an experimental group = 1	1

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Question	Answer	Marks
5(b)	Explain the purpose of this control condition in this study. Identification of control condition = 1 mark } must have a link for 2 marks Purpose of control condition = 1 mark } No adrenalin/epinephrine / (only) saline = 1 (identification) Baseline/comparison = 1 (purpose) Shows how the participants would behave towards the stooge without adrenalin = 1 (purpose) E.g. “Shows how participants would behave towards the stooge without adrenalin compared to with = 2 (identification + purpose)	2

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Question	Answer	Marks
6	Describe ‘random sampling’ and ‘volunteer sampling’, using any examples. 1 mark for each definition, up to a maximum of 2, for each technique. 1 mark for each linked example, from any studies (core, other, candidate’s own). Max 2 for each sampling technique. Max 4 if no examples. Max 4 if only random or only volunteer sampling. For example: Random sampling: Each individual in the population has an equal chance of being selected; getting a numbered list of people and putting the numbers in a hat / using a random number generator to select the sample by choosing out of a hat/the ones generated; a study might use the list of all students in a school and select 30 from them; 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); Milgram volunteers responding to advert; Canli 10 Right handed women were volunteers;	6

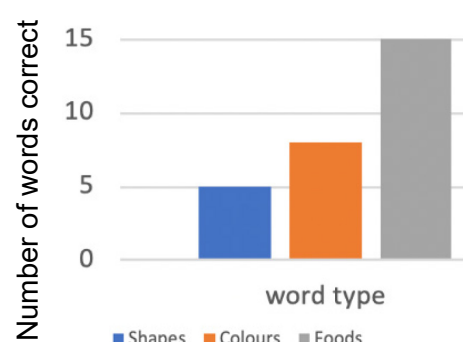
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Question	Answer	Marks
7	Mrs Colling is a headteacher/principal of a school and is planning an experiment to investigate whether rewards or punishments are best for improving students' learning. The independent variable is whether students receive rewards or punishments.	
7(a)(i)	Suggest <u>two</u> ways that Mrs Colling could ask teachers to reward students in their classes. 1 mark per suggested way to reward ×2 Give food; Give gift vouchers; Giving merit marks; Giving praise; Writing positive comments on their work; Telling the class to clap; These are only suggestions, there will be many possible answers	2
7(a)(ii)	Explain which of the ways you suggested in (a)(i) would be a more valid manipulation of the independent variable in this experiment. 1 mark for why chosen way is more valid [note: no mark for just stating the better way] 1 mark for detail OR 2 marks for two brief ways Giving merit marks: is better than praise as praise is variable (can be subtle or fulsome); (why better) but the effect of each merit mark would be equivalent; (detail) Writing positive comments on their work: is better than telling the class to clap, because this might be embarrassing; (why better) so it would act as punishment (instead of a reward); (detail)	2

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Question	Answer	Marks
7(b)	Mrs Colling is talking to teachers about what punishment to use. Two suggested punishments are: • missing breaktime every day for a week while standing outside the staffroom • making the student write a public letter of apology to the school. Both suggested punishments are rejected by the teachers for ethical and practical reasons.	
7(b)(i)	Suggest <u>one</u> ethical problem with <u>one</u> of these punishments. 1 mark for identification of an ethical problem 1 mark for detail Missing breaktime could do psychological harm; (identification) For example, the student could get lonely; (detail) The students wouldn't have the right to withdraw from the study; (identification) Because they would have to miss their breaktimes; (detail) The public apology letter would break confidentiality; (identification) Because everyone would know which student had been punished; (detail) The public apology letter would break privacy; (identification) Because the student's misdemeanour might have been embarrassing; (detail) A public apology letter could do psychological harm; (identification) For example, the student could get upset; (detail) A public apology letter could do physical harm; (identification) For example, the student could lose sleep with worry; (detail)	2
7(b)(ii)	Suggest <u>one</u> practical problem with <u>one</u> of these punishments. 1 mark for identification of a practical problem 1 mark for detail Missing breaktime make them late for lessons; (identification) Then they would get more punishments; (detail) A public apology letter could be written by someone else (not the student); (identification) So they would have avoided receiving any punishment; (detail)	2

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Question	Answer	Marks								
8	Ruby has conducted an experiment about language learning in animals using an animal called Delphine. Delphine has learned to make noises with different meanings. Ruby has tested Delphine’s understanding of word types, including: • shapes • colours • food types Table 8.1. <table><tr><th>Word type</th><th>shapes</th><th>colours</th><th>foods</th></tr><tr><td>Number of words understood</td><td>5</td><td>8</td><td>15</td></tr></table>	Word type	shapes	colours	foods	Number of words understood	5	8	15	
Word type	shapes	colours	foods							
Number of words understood	5	8	15							
8(a)	Ruby’s results for the three word types are given in Table 8.1.									
8(a)(i)	Draw a bar chart of these results. You <u>must</u> label the axes. Max 3 marks if not a bar chart (with separate bars)  Number of words correct word type Shapes Colours Foods 1 mark: axis label ‘number of correct words’ on y-axis 1 mark: units (for frequency) on y-axis 1 mark: axis label ‘word type’ on x-axis 1 mark: shapes, colours, foods as categories on x-axis 1 mark: correct plotting of numbers as above	4								

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Question	Answer	Marks
8(a)(ii)	State which measure of central tendency would be <u>most</u> appropriate for Ruby to use with this data. 1 mark for mode (definitive)	1
8(b)	Ruby plans to include two more word categories. Explain why this would improve Ruby's results. 1 mark for explanation Because it would show that the learning applies to a range of categories (so more valid/generalisable); With more categories correct responses are less likely to arise by chance (making it more valid); If this meant there were more results overall, it would make the findings more reliable;	1
8(c)	Ruby is concerned that sometimes she will not hear Delphine's noises so wants to use a second observer to help her.	
8(c)(i)	Outline <u>two</u> disadvantages of having a second observer. 1 mark for outline of a disadvantage ×2 They will be new so less skilled at understanding the meaning of the noises; The second observer may make different observations from Ruby / the results may lack inter-observer reliability; The second observer would be unfamiliar and may disturb Delphine;	2

Question	Answer	Marks
9	Dr Felix is conducting a natural experiment to test whether seeing television advertisements for a charity for older people makes participants behave more positively towards them. He measures this by giving a questionnaire about behaviour towards older people to a group of students. He gives the students the questionnaire one week before the advertisements appear on television and again the week after.	

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Question	Answer	Marks
9(a)	Explain what is meant by a ‘natural experiment’, using this study as an example. 1 mark for explanation , 1 mark for link the IV cannot be manipulated = 1 (explanation) this was before or after exposure to the adverts = 1 (link) Dr Felix could not control exposure to the adverts = 1 (link) so the two conditions of the experiment could not be controlled, they / the time had to be chosen = 1 (explanation)	2
9(b)	Suggest <u>one</u> problem with natural experiments, using this study as an example. 1 mark for problem, 1 mark for link Fewer controls are possible than in a laboratory experiment / cannot be sure (that only the) IV is affecting DV; (problem) May be more positive as had nice old lecturer (not ads) / unhelpful as didn’t see adverts / not sure if adverts are cause; (link)	2
9(c)	Dr Felix thinks it could be better to use covert observations rather than questionnaires to measure positive behaviour towards older people. He could have several older people as stooges, pretending to struggle with their shopping, and he could observe how the students behave.	
9(c)(i)	Suggest <u>one</u> advantage of using covert observation rather than questionnaires in this study. 1 mark for advantage, 1 mark for link The observer is hidden so they do not cause social desirability; (advantage) So the students won’t say they would behave positively to old people just to be acceptable; (link) A covert observer wouldn’t cause demand characteristics; (advantage) So the students won’t say positive things about old people just because they knew the aim; (link)	2

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Question	Answer	Marks
9(c)(ii)	Suggest <u>one</u> disadvantage of using covert observation rather than questionnaires in this study. 1 mark for disadvantage, 1 mark for link It would be harder to gain consent; (disadvantage) Because you wouldn't ask to observe people but can ask to fill in a questionnaire; (link) It would be impossible for participants to withdraw; (disadvantage) Because they wouldn't know about an observation but could refuse a questionnaire; (link)	2

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Question	Answer	Marks
10	Jimmy wants to investigate individual differences in dreams. He is interested in many differences between participants, such as whether each individual: • has consistent dream content • has meaningful dreams • dreams in colour.	
10(a)	Describe how Jimmy could conduct a study using an interview to investigate at least <u>two</u> individual differences in dreams. Three majors for an interview are: (a) content of questions asked (detail: topics, examples about at least two individual differences) (b) interview structure detail (detail: evidence of structured/semi/unstructured, also face-to-face/online/telephone) (c) style of questions asked e.g. open and closed (detail: accurate examples of open and closed) The minors are: where – location of participants when being interviewed who – participants (people who recall their dreams) Other details for replication: • lie questions • filler questions • sampling technique • sample size • description of how data will analysed, e.g. use of averages/bar charts • ethical issues Other appropriate responses should also be credited.	10

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Question	Answer	Marks
10(a)	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.	

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. 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 • 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. <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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