OCR
Oxford Cambridge and RSA

The final first teach date for A Level Psychology (H567) is **September 2026**. The final assessment opportunity will be **Summer 2028**.

Candidates wishing to resit the A Level qualification in Summer 2029 should resit using A Level - Psychology - H569

Cambridge OCR Level 3 Advanced GCE in Psychology
H567/01 Research methods

Sample Question Paper

Date – Morning/Afternoon

Time allowed: 2 hours

You must have:

- A scientific or graphical calculator
- No additional materials are required for this Question Paper

First name									
Last name									
Centre number						**Candidate number**				

INSTRUCTIONS
- Use black ink.
- Answer **all** the questions.
- Write your answer to each question in the space provided.
- Do **not** write in the bar codes.

INFORMATION
- The total mark for this paper is **90**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- This document consists of **24** pages.

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SECTION A: Multiple choice

Answer **all** the questions.

1 Which is the name of a type of interview?

A closed

B likert

C quasi

D structured

Your answer ☐

[1]

2 Look at the following academic reference:

Piliavin, I.M., Rodin, J.A. & Piliavin, J. (1969) Good Samaritanism: An underground phenomenon? *Journal of Personality and Social Psychology* 13.

What is the error in this Harvard style reference?

A the date of the study should be at the end of the reference

B the page numbers are missing

C the surnames of the researchers should be listed in alphabetical order

D the title should give the aim of the investigation

Your answer ☐

[1]

3 Which two groups were compared in Chaney et al.'s (2004) study into operant conditioning?

A children being praised for using their inhaler and children being ignored when using their inhaler

B children using a standard inhaler and children using a modified inhaler

C children using an inhaler and children using no inhaler

D children with asthma and children without asthma

Your answer ☐

[1]

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4 Look at the following data set from a condition where participants were timed (in seconds) completing a task in a crisis situation.

{36 45 51 67 54 19 50 45 27 76 54 45}

What is the range of this data set?

A 45

B 47.5

C 58

D 76

Your answer ☐

[1]

5 Read the following hypothesis.

H_1: "Women who earn above average salaries will score significantly higher on a confidence test than women who earn below average salaries."

What is the independent variable in this hypothesis?

A earnings above or below average salaries

B high or low average salary

C high or low score on a confidence test

D women or men

Your answer ☐

[1]

6 Which group of people were included as participants for Maguire's (2000) study into the hippocampi of taxi-drivers?

A females

B left-handed people

C people above 32 years of age

D people with health problems

Your answer ☐

[1]

7 What is meant by the term 'socially desirable responses' in psychological research?

A responses which are personal even if they are subjective

B responses which are reliable even if they are invalid

C responses which reflect the participants' wishes even if they are unacceptable to others

D responses which the participants think they ought to give even if they are not true

Your answer ☐

[1]

8 Which is an example of qualitative data?

A the diary entries of six patients suffering from schizophrenia

B the length of time each participant spent reading a list of words

C the modal colour chosen by extroverts

D the percentage of respondents who agreed with capital punishment

Your answer ☐

[1]

9 What is the probability of a significant result occurring by chance where the significance level is $p \leq 0.025$?

A 2.5% or less

B 25% or less

C at least 97.5%

D less than 2.5%

Your answer ☐

[1]

10 Which inferential test should a researcher use to decide whether a correlation is significant?

A Binomial Sign test

B Mann–Whitney U test

C Spearman's Rho test

D Wilcoxon Signed Ranks test

Your answer ☐

[1]

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11 Which one of the following is a feature of **all** experiments?

A direct manipulation of the independent variable

B measurement of a dependent variable

C random allocation of participants to conditions

D use of controlled environment

Your answer ☐

[1]

12 How was one of the dependent variables measured in Grant et al.'s (1998) study into context-dependent memory?

A the amount of time taken to recall ten key details from a written passage

B the number of details recalled from a commentary played through headphones

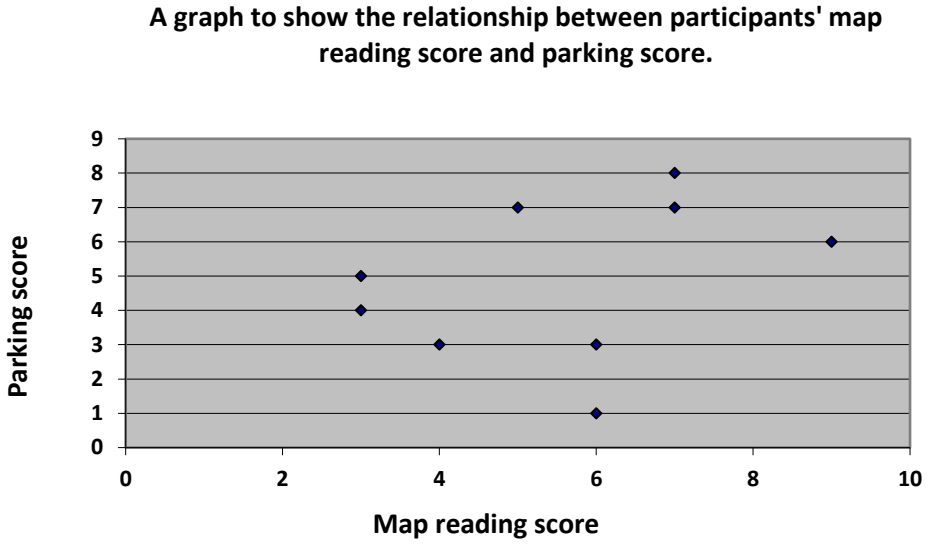
C the number of written words recognised from a commentary played through headphones

D the score from multiple-choice questions based on a written passage

Your answer ☐

[1]

13 Look at the following scatter diagram:



Which is the best estimate of the correlation coefficient for the above data?

A 0.7

B 0.4

C 0.3

D 0.8

Your answer ☐

[1]

14 What is a weakness of using a mode as a measure of central tendency?

A it can generate a number not in the data set

B it is easily affected by outliers

C it is not suitable for nominal data

D it relies on a score occurring more than once

Your answer ☐

[1]

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15 Which is a requirement of a parametric test?

A data is at least ordinal level

B mean scores are significantly different

C sample is drawn from a skewed population

D standard deviations are not significantly different

Your answer ☐

[1]

16 In Bandura's (1961) Bobo doll study, the participants were pre-tested to assess their aggression levels.

What was the main purpose of his procedure?

A to allow for a matched pairs design

B to exclude children who were especially aggressive

C to help to decide on the sex of the role model for each participant

D to measure the change in aggression before and after the experiment

Your answer ☐

[1]

17 Which feature of science refers to the importance of being able to refute a psychologist's claim?

A deduction

B face validity

C falsification

D verification

Your answer ☐

[1]

18 Which is an example of interval level data?

A the mass, in grams, of the brain of an individual with schizophrenia

B the number of nightmares experienced by an individual with schizophrenia

C the number of times an individual with schizophrenia has been admitted to hospital

D the rating of the severity of the delusions experienced by an individual with schizophrenia

Your answer ☐

[1]

19 What was Milgram (1963) unable to control in his experiment into obedience?

A how Mr Wallace interacted with the participant

B the comments used as prods

C the confederate acting as the experimenter

D the increments in voltage

Your answer ☐

[1]

20 What is meant by induction in psychological research?

A where a theory is tested through observations

B where observations contradict a theory

C where observations generate a definitive theory

D where observations generate a likely theory

Your answer ☐

[1]

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SECTION B: Research design and response

Answer **all** the questions in Section B.

A psychologist used an observation to investigate the effect of environment on individuals' need for personal space. They decided to carry out a covert observation in three settings: a nightclub, a college library and the changing room in a leisure centre. Members of the public using the facilities made up the sample. The psychologist observed key behaviours, such as reduced eye contact, defensive body posture and movement away from people.

21 Outline **one** strength of using an observation compared to self-report.

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……..**[2]**

22 Identify **three** ethical issues that would need to be considered when carrying out this observation.

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……..**[3]**

23 The psychologist used an opportunity sample for their research.

(a) Explain **one** strength and **one** weakness of using an opportunity sample for this study. **[6]**

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(b) Name and outline **one** other sampling technique for selecting participants.

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……**[2]**

(c) Describe **one** strength and **one** weakness of the sampling technique you have chosen in question 23(b). **[4]**

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You have been asked to carry out a further observational study to investigate the differences in use of personal space between rural and urban environments. This will be part of a quasi experiment using one village and one city.

24 Write an alternative hypothesis for your investigation.

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……**[3]**

25* Explain how you would carry out an observation to investigate the differences in use of personal space between rural and urban environments. Justify your decisions as part of your explanation.

[15]

You must refer to:

- structured **or** unstructured observations
- participant **or** non-participant observations
- time **or** event sampling
- collection of data.

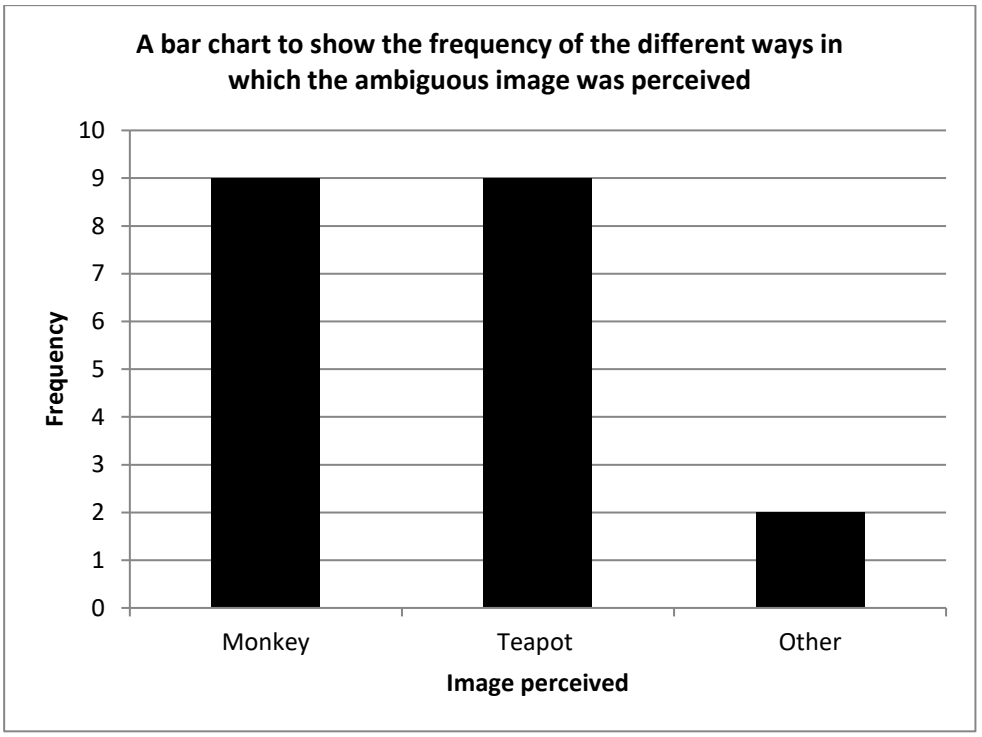
You should use your own experience of carrying out an observation to inform your response.

SECTION C: Data analysis and interpretation

Answer **all** of the questions in Section C.

A psychologist tested the effects of expectations on people's perceptions by carrying out the following experiment. The test item was an ambiguous image – an image that had been purposefully drawn to be perceived in one of two ways – either as a monkey or as a teapot. Participants had to say what they saw after they had viewed the image for one second.

Before carrying out the experiment, the psychologist had checked that the ambiguous image could be perceived in one of two ways. His findings, from this check, are presented in the bar chart below:



26 (a) Identify **two** findings from the bar chart.

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……**[2]**

(b) Explain why a bar chart is appropriate for presenting this data.

[2]

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(c) Calculate the percentage number of times that the image was identified as neither a monkey nor a teapot. Show your workings.

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……**[2]**

Fifty participants were recruited and then randomly allocated into two groups. In one condition, five drawings of other animals were presented, one after the other, before the ambiguous image. Participants had to name each one of these. In the second condition, the set up was the same but five images of kitchen items were used.

27 (a) Name and briefly describe the experimental design used in this study.

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(b) Explain how the psychologist would have randomly allocated participants to each group **[2]**

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(c) Discuss why this experimental design was appropriate for this study.

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……**[5]**

The findings from the study are presented below:

A table to show the number of participants who perceived the ambiguous image as a monkey or as a teapot from both conditions: image presented with animals and image presented with kitchen items

	Perceived as monkey	Perceived as teapot
Presented with animals	15	10
Presented with kitchen items	5	12

28 **(a)** Identify and simplify the ratio of the number of participants who perceived a monkey in the first condition and the number who perceived a monkey in the second condition. **[2]**

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(b) Identify and simplify the ratio of the number of participants who perceived a teapot in the first condition and the number who perceived a teapot in the second condition.

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…… **[2]**

29 The psychologist analysed the data using the Chi Squared test. Give **two** reasons for this choice of test with reference to the study.

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……**[4]**

30 Explain how the psychologist would determine the appropriate degrees of freedom (df) for this test.

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……**[2]**

The Chi Squared gave an observed (calculated) value of 3.80

Levels of significance for a one–tailed test

Significance Level	0.05	0.025	0.01
Critical Value	*2.71*	*3.84*	*5.41*

31 Using the above critical values, explain whether the psychologist has found a significant difference or not.

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……**[4]**

32 Outline what is meant by each of the following features of science and state how they apply to this experiment into perception.

(a) Cause and effect

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……**[3]**

(b) Objectivity

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……**[3]**

END OF QUESTION PAPER

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OCR
Oxford Cambridge and RSA

…day June 20XX – Morning/Afternoon

Cambridge OCR Level 3 Advanced GCE in Psychology
H567/01 Research methods

SAMPLE MARK SCHEME

Duration: 2 hours

MAXIMUM MARK 90

MARKING INSTRUCTIONS

PREPARATION FOR MARKING

SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris assessor Online Training*; *OCR Essential Guide to Marking*.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal http://www.rm.com/support/ca

3. Log-in to scoris and mark the **required number** of practice responses ("scripts") and the **required number** of standardisation responses.

   YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the scoris 50% and 100% (traditional 50% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone, email or via the scoris messaging system.

5. Work crossed out:

   a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks

   b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.

7. There is a NR (No Response) option. Award NR (No Response)

   - if there is nothing written at all in the answer space
   - OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
   - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question.

   Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

8. The scoris **comments box** is used by your Team Leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**

   If you have any questions or comments for your Team Leader, use the phone, the scoris messaging system, or e-mail.

9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

10. For answers marked by levels of response:

    a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer

    b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. **Annotations**

Annotation	Meaning

12. **Subject-specific Marking Instructions**

INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper and its rubrics
- the mark scheme.

You should ensure that you have copies of these materials.

You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet **Instructions for Examiners**. If you are examining for the first time, please read carefully **Appendix 5 Introduction to Script Marking: Notes for New Examiners**.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

LEVELS OF RESPONSE – LEVEL DESCRIPTORS

	AO1	AO2	AO3
Good	Response demonstrates good relevant knowledge and understanding. Accurate and detailed description.	Response demonstrates good application of psychological knowledge and understanding. Application will be mainly explicit, accurate and relevant.	Response demonstrates good analysis, interpretation and/or evaluation that is mainly relevant to the demand of the question. Valid conclusions that effectively summarise issues and argument is highly skilled and shows good understanding.
Reasonable	Response demonstrates reasonable relevant knowledge and understanding. Generally accurate description lacking some detail.	Response demonstrates reasonable application of psychological knowledge and understanding. Application will be partially explicit, accurate and relevant.	Response demonstrates reasonable analysis, interpretation and/or evaluation that is partially relevant to the demand of the question. Valid conclusions that effectively summarise issues and argument are competent and understanding is reasonable.
Limited	Response demonstrates limited relevant knowledge and understanding. Limited description lacking in detail.	Response demonstrates limited application of psychological knowledge and understanding. Application may be related to the general topic area rather than the specific question.	Response demonstrates limited analysis, interpretation and/or evaluation that may be related to topic area. Some valid conclusions that summarise issues and arguments.
Basic	Response demonstrates basic knowledge and understanding that is only partially relevant. Basic description with no detail.	Response demonstrates basic application of psychological knowledge and understanding. Responses will be generalised lacking focus on the question.	Response demonstrates basic analysis, interpretation and/or evaluation that is not related to the question. Basic or no valid conclusions that attempt to summarise issues. No evidence of arguments.

USING THE MARK SCHEME

Please study this Mark Scheme carefully. The Mark Scheme is an integral part of the process that begins with the setting of the question paper and ends with the awarding of grades. Question papers and Mark Schemes are developed in association with each other so that issues of differentiation and positive achievement can be addressed from the very start.

This Mark Scheme is a working document; it is not exhaustive; it does not provide 'correct' answers. The Mark Scheme can only provide 'best guesses' about how the question will work out, and it is subject to revision after we have looked at a wide range of scripts.

In your marking, you will encounter valid responses which are not covered by the Mark Scheme: these responses must be credited. You will encounter answers which fall outside the 'target range' of Bands for the paper which you are marking. Please mark these answers according to the marking criteria.

Please read carefully all the scripts in your allocation and make every effort to look positively for achievement throughout the ability range. Always be prepared to use the full range of marks.
(r) = recall item only, (m) = mathematical content.

INSTRUCTIONS TO EXAMINERS: INDIVIDUAL ANSWERS

1 The indicative content indicates the expected parameters for candidates' answers, but be prepared to recognise and credit unexpected approaches where they show relevance.

2 Using 'best-fit', decide first which set of BAND DESCRIPTORS best describes the overall quality of the answer. Once the band is located, adjust the mark concentrating on features of the answer which make it stronger or weaker following the guidelines for refinement.

Highest mark: If clear evidence of all the qualities in the band descriptors is shown, the HIGHEST Mark should be awarded.

Lowest mark: If the answer shows the candidate to be borderline (i.e. they have achieved all the qualities of the bands below and show limited evidence of meeting the criteria of the band in question) the LOWEST mark should be awarded.

Middle mark: This mark should be used for candidates who are secure in the band. They are not 'borderline' but they have only achieved some of the qualities in the band descriptors.

3 Be prepared to use the full range of marks. Do not reserve (e.g.) high Band 6 marks 'in case' something turns up of a quality you have not yet seen. If an answer gives clear evidence of the qualities described in the band descriptors, reward appropriately.

4 Consideration should be given to the weightings of the assessment objectives within a question, these are clearly stated for each question and care should be taken not to place too much emphasis on a particular skill.

Question			Answer	Marks	Guidance
SECTION A: Multiple Choice					
1			**Which is the name of a type of interview?** 1 mark for D – structured.	**1** **AO1 1b (r)**	
2			**Look at the following academic reference.** **Piliavin, I.M., Rodin, J.A. & Piliavin, J. (1969) Good Samaritanism: An underground phenomenon? *Journal of Personality and Social Psychology* 13.** **What is the error in this Harvard style reference?** 1 mark for B – the page numbers are missing.	**1** **AO1 1b**	
3			**Which two groups were compared in Chaney et al.'s (2004) study into operant conditioning?** 1 mark for B – children using a standard inhaler and children using a modified inhaler.	**1** **AO1 1b (r)**	
4			**Look at the following data set from a condition where participants were timed (in seconds) completing a task in a crisis situation.** **{36 45 51 67 54 19 50 45 27 76 54 45}** **What is the range of this data set?** 1 mark for C – 58.	**1** **AO2b (m)**	
5			**Read the following hypothesis.** **H_1: "Women who earn above average salaries will score significantly higher on a confidence test than women who earn below average salaries."** **What is the independent variable in this hypothesis?** 1 mark for A – earnings above or below average salaries.	**1** **AO2d**	

Question			Answer	Marks	Guidance
6			**Which group of people were included as participants for Maguire's (2000) study into the hippocampi of taxi-drivers?** 1 mark for C – people above 32 years of age.	**1** **AO1 1b (r)**	
7			**What is meant by the term 'socially desirable responses' in psychological research?** 1 mark for D – responses which the participants think they ought to give even if they are not true.	**1** **AO1 1a (r)**	
8			**Which is an example of qualitative data?** 1 mark for A – the diary entries of six patients suffering from schizophrenia.	**1** **AO2 e (m)**	
9			**What is the probability of a significant result occurring by chance where the significance level is $p \leq 0.025$?** 1 mark for A – 2.5% or less.	**1** **AO1 1b (m)**	
10			**Which inferential test should a researcher use to decide whether a correlation is significant?** 1 mark for C – Spearman's Rho test.	**1** **AO1 1b (m)**	
11			**Which one of the following is a feature of all experiments?** 1 mark for B – measurement of a dependent variable.	**1** **AO1 1b (r)**	
12			**How was one of the dependent variables measured in Grant et al.'s (1998) study into context-dependent memory?** 1 mark for D – the score from multiple-choice questions based on a written passage.	**1** **AO1 1b (r)**	

Question			Answer	Marks	Guidance
13			(From the scatter diagram) **Which is the best estimate of the correlation coefficient for the above data?** 1 mark for C – 0.3.	**1** **AO2 h (m)**	
14			**What is a weakness of using a mode as a measure of central tendency?** 1 mark for D – it relies on a score occurring more than once.	**1** **AO1 1b (m)**	
15			**Which is a requirement of a parametric test?** 1 mark for D – standard deviations are not significantly different.	**1** **AO1 1b (m)**	
16			**In Bandura's (1961) Bobo doll study, the participants were pre-tested to assess their aggression levels. What was the main purpose of his procedure?** 1 mark for A – to allow for a matched pairs design.	**1** **AO1 1b**	
17			**Which feature of science refers to the importance of being able to refute a psychologist's claim?** 1 mark for C – Falsification.	**1** **AO1 1b**	
18			**Which is an example of interval level data?** 1 mark for A – the mass, in grams, of the brain of an individual with schizophrenia.	**1** **AO2 f (m)**	
19			**What was Milgram (1963) unable to control in his experiment into obedience?** 1 mark for A – how Mr Wallace interacted with the participant.	**1** **AO1 1b**	
20			**What is meant by induction in psychological research?** 1 mark for D – where observations generate a likely theory.	**1** **AO1 1b (r)**	

Question			Answer	Marks	Guidance
SECTION B: Research design and response					
21			**Outline ONE strength of using an observation compared to self-report.** 1 mark for a strength of an observation e.g. 'a researcher can see for themselves what people do in a situation', 'it has higher validity' 1 further mark for an elaboration which makes explicit comparison with self-report. e.g. 'a researcher can see for themselves what people do in a situation (1) rather than relying on their honesty (1)', 'observation allow psychologists to see how individuals behave in their natural environment (1) whereas self-report relies too much on respondents' insight (1)'. Other appropriate responses should be credited.	**2** **AO3 2a**	Do only credit a strength which is implicitly or explicitly an advantage over self-report, e.g. do not credit higher ecological validity as this would imply a comparison with the experimental method.
22			**Identify THREE ethical issues that would need to be considered when carrying out this observation.** 1 mark for each feasible ethical issue (even if brief) e.g. deception, (lack of) right to withdraw, need for debriefing, confidentiality, (lack of) consent, etc. Candidates can outline the issue (in the context of the study) without explicitly naming it e.g. respect people's privacy when they are changing). Other appropriate responses should be credited.	**3** **AO2 c**	The issue does not have to be specific to covert observations but should apply to the method. This means most issues are creditworthy but guard against those that are not e.g. use of non–human animals. Be careful not to credit issues that overlap or make similar points e.g. causing distress and causing discomfort.

Question			Answer	Marks	Guidance
23	(a)		**Explain ONE strength and ONE weakness of using an opportunity sample for this study.** Up to 3 marks for one strength of opportunity sample and up to 3 marks for one weakness. For both the strength and weakness: • 1 AO3 mark for explaining the strength/weakness • 1 AO2 mark for applying the strength/weakness to an opportunity sample • 1 AO2 mark for applying the strength/weakness to the study (contextualisation). e.g. 'One strength is that the sample is quick and convenient (1) because the psychologist used people who were readily available at the nightclub, college library and leisure centre changing room being observed (1) therefore saving time and other resources which would have to be used for more complex samples (1).' e.g. 'One weakness is that samples tend to be biased (1) as similar people tend to gather in certain places (1) – for example, the college library is likely to contain mainly young people who may use personal space differently from more experienced, older people (1).' Other appropriate responses should be credited.	**6** **4 AO2 g** **2 AO3 2b**	If a candidate offers more than one strength/weakness then credit best one. If the candidate does not clearly identify which is the strength/weakness (and it is obvious which is which through appropriate use of language) then the full range of marks can be awarded. If it is not clear, then the first point should be taken as the strength and the second as the weakness.
	(b)		**Name and outline ONE other sampling technique for selecting participants.** 1 AO1 mark for naming another sampling technique, e.g. random, snowball, self-selecting.	**2** **2 AO1 1b**	If outline and named technique do not match then award 1 mark only. If a sampling technique is not named or is not a recognised technique then the outline may still gain credit if it is obvious what technique is being described.

Question			Answer	Marks	Guidance
	(b)		1 AO1 mark for an outline of the chosen technique, e.g. 'random sampling is when everyone in the chosen settings has an equal chance of being selected for observation'. Other appropriate responses should be credited.		If a candidate offers an example (e.g. pertaining to the study) then it can still gain credit in as far as it describes the technique. The candidate does not have to explicitly relate to the study for full marks – the sampling method just has to be feasible in relation to the study.
	(c)		**Describe ONE strength and ONE weakness of the sampling technique you have chosen in question 23(b).** Up to 2 marks for one strength of the technique chosen in (b) and up to 2 marks for one weakness of the technique chosen in (b). • 1 AO3 mark for describing each strength/weakness of the sampling technique identified in (b) • 1 AO2 mark for applying the strength/weakness to the sampling technique identified in (b) . e.g. 'random sampling tends to give a representative sample (1) because there is no opportunity for bias when left to chance (1)'. e.g. 'random sampling can generate skewed samples (1) which makes generalisation difficult (1)'. Other appropriate responses should be credited.	**4** **2 AO2 e** **2 AO3 2a**	If a candidate offers more than one strength/weakness and they cannot be linked then credit best one. If the candidate does not clearly identify which is the strength/weakness (and it is obvious which is which through appropriate use of language), then the full range of marks can be awarded. If it is not clear, then the first point should be taken as the strength and the second as the weakness.

Question			Answer	Marks	Guidance
24			**Write an alternative hypothesis for your investigation.** 1 mark for the stem which should predict a difference (whether directional or non-directional) Plus 1 mark for inclusion of the IV and DV Plus 1 further mark if the both IV and DV are fully operationalised, with both parts of the IV explicitly stated. 3 mark answers e.g. 'There is a significant difference (1) in the average distance observed between city dwellers (1) and that observed between rural dwellers (1).' e.g. 'People living in urban areas will use significantly more defensive signals (1) in the space of one hour (1) than people living in rural areas (1).' 2 mark answers e.g. 'There will be a significant difference (1) between the body language of urban dwellers and rural dwellers (1)' e.g. 'There will be a difference between city and countryside people (1) and the duration of eye contact used in 10 minutes (1)'. 1 mark answers e.g. 'There will be a significant difference (1) in the personal space of different people.' e.g. 'There will be no difference between use of personal space. (1)' Other appropriate responses should be credited.	3 AO2 d	The 'first' and 'second' mark can be awarded independently of each other. A hypothesis which has the right 'ingredients' but lacks clarity due to its construction should be limited to 2 marks. The use of the word 'significant' is not necessary for full marks. Hypotheses can be written using future or present tense.

Question			Answer	Marks	Guidance
25		*	**Explain how you would carry out an observation to investigate the differences in use of personal space between rural and urban environments. Justify your decisions as part of your explanation.** • **structured OR unstructured observations** • **participant OR non-participant observations** • **time OR event sampling** • **collection of data.** **AO1 (3 marks)** <u>Required features</u> • **Either** structured observation **or** unstructured observation • **Either** participant observation **or** non–participant observation • **Either** time sampling **or** event sampling • Understanding of ways of collecting data in observation e.g. use of more than one observer, use of behavioural categories, use of video recordings, location of researcher, etc. **AO2 (5 marks)** Application of the above techniques to the context of the study (observing personal space in rural/urban settings). e.g. using a checklist of behaviours for protecting personal space (structured), watching people while being part of the crowd in the city (participant), a structured observation would allow for reliable comparison between the rural and urban settings, etc.	**15** **3 AO1 1b** **5 AO2 g/h** **7 AO3 2b**	**Level 4: 12–15 marks** **Good** knowledge and understanding of observation and of appropriate sampling techniques. **Good** application of knowledge and understanding to the design of the investigation. **Good** evaluation and justification of design All of the required features are addressed (ie **either** structured observation **or** unstructured observation, **either** participant observation **or** non–participant observation, **either** time sampling **or** event sampling and collection of data) and the candidate demonstrates accurate knowledge of each. There is good evidence of application in the description of techniques showing high levels of understanding. There is appropriate justification of all or most techniques chosen and some of this is contextualised with reference to the investigation brief. There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. The response explicitly draws on the candidates own experience and there are clear links between the planned investigation and the practical activity carried out. **Level 3: 8 – 11 marks** **Good** knowledge and understanding of observation and of appropriate sampling techniques. **Reasonable** application of knowledge and understanding to the design of the investigation. **Reasonable** evaluation and justification of design.

Question			Answer	Marks	Guidance
25		*	**AO3 (7 marks)** A broad discussion of design decisions e.g. structured observations would be inappropriate for the qualitative nature of the observation, participant observation would be difficult in terms of accurately recording the behaviours because the researcher would be too involved/distracted, non–participant observation would allow for a level of objectivity, time sampling would give a more representative sample as it spans a period of time, etc. Other appropriate responses should be credited. There are no additional marks for contextualising the justification of the chosen observational techniques but a good answer should include this at points but not necessarily for all reasoning.		Most of the required features are addressed and the candidate demonstrates reasonably accurate knowledge of each. There is some evidence of application in the description of techniques showing a level of understanding. There is some appropriate justification of techniques chosen and, at points, this is contextualised with reference to the investigation brief. There is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence. The response draws on the candidates own experience and there are some links between the planned investigation and the practical activity carried out. **Level 2: 4 – 7 marks** **Reasonable** knowledge and understanding of field or laboratory experiments and of an appropriate experimental design. **Limited** application of knowledge and understanding to the design of the investigation. **Limited** evaluation and justification of design Some of the required features are addressed and the candidate demonstrates knowledge of each. There is limited evidence of application in the description of techniques showing basic understanding. There is likely to be an attempt to justify techniques chosen although this may not be contextualised. The information has some relevance and is presented with limited structure. The information is supported by limited evidence. The response makes reference to the

					candidates own experience and there are vague links between the planned investigation and the practical activity carried out. **Level 1: 1 – 3 marks** **Limited** knowledge and understanding of of field or laboratory experiments and of an appropriate experimental design. **Basic** application of knowledge and understanding to the design of the investigation. **Basic** evaluation and justification of design At least one of the required observational techniques is addressed and the candidate demonstrates knowledge here. There may be weak application of chosen technique(s). There may be an attempt to justify techniques chosen although it is unlikely to be contextualised. The information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. The response may make some reference to the candidates own experience and there are weak or tenuous links between the planned investigation and the practical activity carried out. **0 marks**: No creditworthy response.

Question			Answer	Marks	Guidance
Section C: Data analysis and interpretation					
26	**(a)**		**Identify TWO findings from the bar chart.** 1 mark for recognising that the image was mainly perceived as a monkey or teapot compared to anything else. 1 mark for recognising that the image was perceived as much as a monkey as a teapot. Other appropriate responses should be credited.	**2** **AO3 2a (m)**	
	(b)		**Explain why a bar chart is appropriate for presenting this data.** 1 mark for explaining that data is discrete/categorical/ nominal. 1 mark for explaining that the graph allows for comparison/looking for a difference. Other appropriate responses should be credited.	**2** **AO3 2b (m)**	
	(c)		**Calculate the percentage number of times that the image was identified as neither a monkey nor a teapot. Show your workings.** 1 AO1 mark for 10% (or 10) 1 AO2 mark for workings, i.e. 2/(9+9+2)=0.1 Other appropriate responses should be credited.	**2** **1 AO1 1b (m)** **1 AO2 h (m)**	
27	**(a)**		**Name and briefly describe the experimental design used in this study.** 1 mark for naming independent measures (groups) or unrelated design. 1 mark for knowing this means assigning different participants to each condition. Other appropriate responses should be credited.	**2** **AO2 f**	Do not credit description if it assumes that participants are matched. Each mark can be credited without the other, e.g. correctly named design but incorrect/inadequate description, or accurate description with no design named or design misnamed.

Question			Answer	Marks	Guidance
	(b)		**Explain how the psychologist would have randomly allocated participants to each group.** 1 mark for an appropriate method – all names in and then drawn out. 1 mark for suggesting a method of selection that relates to the source. e.g. 'the participants are each given a number, the numbers are then drawn from a hat. The first 25 numbers drawn are group one and the second 25 of numbers drawn are group 2.' Accept other practical descriptions that would produce a truly random sample. Other appropriate responses should be credited.	**2** **AO2 h (m)**	Participants do not have to be allocated numbers – for example, names could be used.
	(c)		**Discuss why this experimental design was appropriate for this study.** **AO3 (3 marks)** • reduced demand characteristics • eliminating practice effect • no need for time delay between conditions • other appropriate discussion should be credited.	**5** **2 AO2 f** **3 AO3 2a/2b**	**Level 3: 5 marks** **Good** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Good** discussion of why the experimental design was appropriate for this study. **Level 2: 3–4 marks** **Good** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Reasonable** discussion of why the experimental design was appropriate for this study.

Question			Answer	Marks	Guidance
	(c)		**AO2 (2 marks)** Candidates will receive credit for applying any reasons given to the study. e.g. 'the participants may perceive the image the same way again (1) because they have perceived it this way once already (practice effect) (1).' Other appropriate responses should be credited.		**Level 1: 1–2 marks** **Reasonable** application of knowledge and understanding to discuss why the experimental design was appropriate for this study. **Limited** discussion of why the experimental design was appropriate for this study. **0 marks –** No creditworthy response. Credit can be given in (c) even if no credit given in (a).
28	**(a)**		**Identify and simplify the ratio of the number of participants who perceived a monkey in the first condition and the number who perceived a monkey in the second condition.** 1 AO1 mark for identifying the ratio 15:5 1 AO2 mark for simplifying the ratio to 3:1	**2** **1 AO1 lb (m)** **1 AO2 h (m)**	The ratio can be identified through description i.e. the ratio is 15 participants to 5 participants but the simplified ratio must be in standard format.
	(b)		**Identify and simplify the ratio of the number of participants who perceived a teapot in the first condition and the number who perceived a monkey in the second condition.** 1 AO1 mark for identifying the ratio 10:12 1 AO2 mark for simplifying the ratio to 5:6	**2** **1 AO1 lb (m)** **1 AO2 h (m)**	The ratio can be identified through description i.e. the ratio is 10 participants to 12 participants but the simplified ratio must be in standard format.

Question			Answer	Marks	Guidance
29			**The psychologist analysed the data using the Chi Squared test. Give TWO reasons for this choice of test with reference to the study.** Up to 2 marks for any of the following reasons; • experiment investigated a difference or association • design was unrelated • data was nominal. A further 2 marks for relating the chosen criteria to features of the study (1 mark for each criteria) e.g. 'the experiment investigated a difference (1) between perception of an image depending on how it had been primed (1)'. e.g. 'the design was unrelated (1) as each condition contained a different set of participants (1).' e.g. 'the data was nominal (1) as responses were categorised as either 'monkey' or 'teapot' (1).' Other appropriate responses should be credited.	**4** **2 AO1 1b (m)** **2 AO2 b (m)**	Do not credit parametric assumptions as data is only nominal in the first place.
30			**Explain how the psychologist would determine the appropriate degrees of freedom (df) for this test.** 1 AO1 mark for stating that degrees of freedom can be calculated as (rows-1)(column-1). 1 AO2 mark for stating that in this study, there is 1 degree of freedom.	**2** **1 AO1 1b (m)** **1 AO2 h (m)**	
31			**Using the above critical values, explain whether the psychologist has found a significant difference or not.** 1 mark for explaining the results are significant at p=0.05	**4** **AO3 1b (m)**	

Question			Answer	Marks	Guidance
31			1 mark for explaining why, i.e. observed value is greater than critical value. 1 mark for explaining that 0.05 is the accepted level of significance for analysis. 1 mark for explaining that the results were not significant at the other more stringent levels of significance.		

Question			Answer	Marks	Guidance
32	(a)		**Outline what is meant by each of the following features of science and state how they apply to this experiment into perception.** **Cause and effect** 1 AO1 mark for understanding the causal nature of one thing affecting another. 1 AO1 additional mark for use of relevant terms, e.g. manipulation of IV, measurement of DV, control of other variables. 1 AO2 mark for application to the study, e.g. identifying direction of causation (first set of images affect perception of ambiguous image), identification of IV (where primed with animal pictures or pictures of kitchen items). Other appropriate responses should be credited.	**3** **2 AO1 1b** **1 AO2 b**	
	(b)		**Objectivity** 1 AO1 mark for understanding that objectivity relates to fact/shared knowledge/unbiased viewpoint. 1 AO1 additional mark for elaboration of the point, e.g. comparing objectivity with subjectivity, the value of objectivity. 1 AO2 mark for application to the study, e.g. there could be no disagreement on what participant stated, use of imagery allows for publically observable material. Other appropriate responses should be credited.	**3** **2 AO1 1b** **1 AO2 b**	

Assessment Objectives (AO) Grid

(*includes quality of extended response)

Question	AO1	AO2	AO3	Mathematical content
1	1			
2	1			
3	1			
4		1		Measuring dispersion (1)
5		1		
6	1			
7	1			
8		1		Qualitative and quantitative data (1)
9	1			Probability (1)
10	1			Choosing a test (1)
11	1			
12	1			
13		1		Use of scatter diagram (1)
14	1			Mean/median/mode (1)
15	1			Choosing a test (1)
16	1			
17	1			
18		1		Levels of measurement (1)
19	1			
20	1			
Section A	15	5		
21			2	
22		3		
23a		4	2	
23b	2			
23c		2	2	
24		3		
25*	3	5	7	
Section B	5	17	13	

QUESTION	AO1	AO2	AO3	Maths
26a			2	Interpreting bar charts (2)
26b			2	Interpreting bar charts (2)
26c	1	1		Use of percentages (2)
27a		2		
27b		2		Principles of sampling (2)
27c		2	3	
28a	1	1		Use of ratios (2)
28b	1	1		Use of ratios (2)
29	2	2		Choosing a test (4)
30	1	1		Solve simple algebraic equations (2)
31			4	Use of stats tables (4)
32a	2	1		
32b	2	1		
Section C	10	14	11	
TOTAL	30	36	24	

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