

**Cambridge OCR Level 3 Advanced Subsidiary  
GCE in Psychology  
H167/01 Research methods  
Sample Question Paper**

Version 1.2

**Date – Morning/Afternoon**

Time allowed: 1 hour 30 minutes



**You must have:**

- the OCR multiple-choice Answer Sheet (MS4)
- the OCR 12-page Answer Booklet (OCR12 sent with general stationery)
- a scientific or graphical calculator



<b>First name</b>											
<b>Last name</b>											
<b>Centre number</b>							<b>Candidate number</b>				

**INSTRUCTIONS**

- Use black ink.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Section A: Answer all questions on the Answer Sheet.
- Sections B and C: Write your answers to each question in the Answer Booklet. Write the number of each question answered in the margin.
- Do **not** write in the bar codes.

**INFORMATION**

- The total mark for this paper is **75**.
- The marks for each question are shown in brackets [ ].
- Quality of extended response will be assessed in questions marked with an asterisk (\*).
- This document consists of **12** pages.

**Section A: Multiple choice**

Answer **all** the questions in Section A using the separate answer sheet provided.

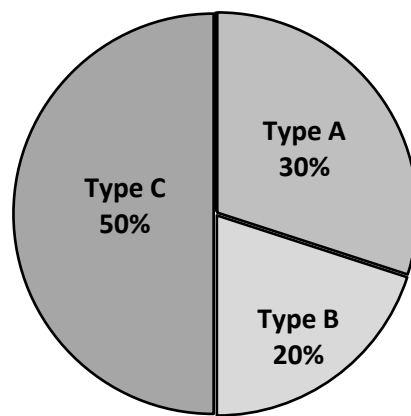
- 1 Which is a type of observation in psychological research?
- A participant
  - B population
  - C practical
  - D principal
- [1]**
- 2 What is always included in an academic reference?
- A date of publication
  - B location of research
  - C method used in research
  - D participants used in research
- [1]**
- 3 Which is a null hypothesis?
- A 'Extroverted people will not perform significantly better in front of an audience than introverted people.'
  - B 'There will be a significant difference between the performance of extroverted and introverted people when in front of an audience.'
  - C 'There will be a significant negative correlation between how introverted people are and how well they perform in front of an audience.'
  - D 'There will be no significant difference between extroverted and introverted people in terms of how well they perform in front of an audience.'
- [1]**
- 4 Which is an example of secondary data?
- A autobiography of a serial killer
  - B observation notes on the behaviours of a serial killer
  - C readings from the brain scan of a serial killer
  - D recording of an interview with a serial killer
- [1]**

- 5 What is a strength of using a questionnaire to carry out psychological research?
- A high response rates are guaranteed, giving representative data
  - B questions can be changed in order to follow new lines of enquiry
  - C respondents are unable to lie in their answers, giving reliable data
  - D responses can be compared to identify patterns in data

[1]

- 6 Look at the pie chart below.

**A pie chart to show the distribution of infant attachment types of divorced adults.**



What fraction of divorced adults had a Type B attachment?

- A  $1/5$
  - B  $3/10$
  - C  $2/5$
  - D  $1/2$
- 7 What is meant by event sampling in psychological observations?
- A participants are observed to identify certain categories of behaviour
  - B every occurrence of behaviour, as specified on a predetermined checklist, is observed and recorded within a specified period of time
  - C participants' behaviours are observed in set intervals of time
  - D occurrences of behaviour are observed and then rated against a set of categories within a specified period of time

[1]

[1]

8 What is a weakness of using an overt observation in psychological research?

- A high risk of observer effect
- B low levels of ecological validity
- C poor generalisability to population
- D reduced inter-rater reliability

[1]

9 Look at the following data from an investigation using the test-retest technique on four personality inventories. The same participants completed all inventories, with the same interval between both tests. All tests were scored out of 100.

Inventory	Mean from Test 1	Mean from Test 2
Alpha	94.0	90.2
Beta	27.5	24.6
Delta	25.3	30.3
Gamma	27.9	89.2

Using the data, which inventory has the highest level of external reliability?

- A Alpha
- B Beta
- C Delta
- D Gamma

[1]

10 What is the purpose of an Abstract in a practical report?

- A an overview of the main stages of an investigation
- B the rationale behind an investigation
- C the raw data from an investigation
- D the main conclusions of an investigation

[1]

11 Which would give a researcher a random sample of 20 participants?

- A choosing every 3rd person from a list of 60 names listed in order of age
- B sticking a pin 20 times into a piece of paper listing 50 names in alphabetical order
- C taking out 20 names from a container of 100 names
- D using the first 20 people that enter a building

[1]

- 12** What is meant by criterion validity?
- A** how well findings are matched by other research findings
  - B** how well findings generalise to real life situations
  - C** how well findings measure what they intend to measure
  - D** how well findings predict what happens beyond the research
- [1]**
- 13** Which will give the most representative sample of British teenagers in an investigation into the use of the internet?
- A** a sample drawn from five GCSE Computer Science classes in a secondary school
  - B** a sample drawn from ten sixth form colleges across the United Kingdom
  - C** a sample drawn from three secondary schools from different parts of the United Kingdom
  - D** a sample drawn from users of an online gaming website based in the United Kingdom
- [1]**
- 14** Which statement suggests that a researcher is being accused of observer bias?
- A** 'her observation sheet had not been standardised'
  - B** 'her perceptions were influenced by what she expected to see'
  - C** 'she only observed one culture and not any others'
  - D** 'she purposely manipulated her results to match her hypothesis'
- [1]**
- 15** Which is a way of addressing the issue of demand characteristics in an experiment?
- A** not giving instructions to the participants
  - B** not measuring participants' behaviour
  - C** not sharing the aim with participants until the end
  - D** not testing participants together
- [1]**

### Section B: Research design and response

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

A psychologist was interested in the relationship between individuals' language ability and their physical co-ordination. She used a correlational analysis to investigate this in a self-selected sample of 34 adult participants. Each participant completed a language ability test. This test involved both having to spell a list of 20 words and answering 20 closed questions on the meaning of words. The participants' physical co-ordination was then calculated by rating them on six different tasks including balancing on a beam, catching a ball and copying a dance routine.

- 16** The psychologist's hypothesis predicted a significant negative correlation.
- Using this information above, explain what she was expecting the results to show. **[2]**
- 17** Write a closed question which could have been used to test participants' understanding of the meaning of a word. **[1]**
- 18** Explain why the data collected in this study is an example of quantitative data. **[3]**
- 19 (a)** Name the graph that would be used to show a correlational analysis. **[1]**
- (b)** Name the section of a practical report where a graph would be presented. **[1]**
- 20 (a)** Describe **one** strength of using a self-selected sample in this study. **[3]**
- (b)** Describe **one** weakness of using a self-selected sample in this study. **[3]**
- 21** Outline how each of the following ethical considerations could have been dealt with in this study.
- (a)** Confidentiality **[2]**
- (b)** Informed consent **[2]**
- (c)** Protection of participant **[2]**
- 22** Explain why the data from the language ability test may be criticised for lacking construct validity. **[3]**

**23\*** You have been asked to carry out a follow-up study to investigate the difference in the language ability of people when they are carrying out a physical task and when they are not.

Explain how you would carry out an experiment to investigate if there is a difference or not. Justify your decisions as part of your explanation.

**[12]**

You must refer to:

- field **or** laboratory experiments
- the experimental design you would use
- at least one control you would use.

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

### Section C: Data analysis and interpretation

Answer all the questions in Section C.

A psychologist carried out a quasi-experimental study to investigate if there is a difference in job satisfaction levels depending on working environment. He looked specifically at whether there was a difference between office workers who had their own personal desk and those that had to 'hot desk,' i.e. had no particular desks and shared all desks with others.

He approached two separate insurance companies – one that used 'hot desking' and one where people had their own personal desk – who agreed to the psychologist interviewing a random sample of employees. A structured interview was used where each employee was rated on how much they enjoyed their job using a scale from 1 to 10, with 10 indicating high job satisfaction.

The results from the study are shown in the table below.

**A table to show the frequency of job satisfaction ratings and median ratings for employees working in a hot desking office and employees working in an office with personal desks.**

Job Satisfaction Rating	Frequency (tally) from Hot Desking office	Frequency (tally) from Personal Desk office
1	2	0
2	3	2
3	3	2
4	3	4
5	10	8
6	6	8
7	4	8
8	4	0
9	1	0
10	0	0
<b>Median Rating</b>	<b>5</b>	<b>5.5</b>
<b>Range</b>	<b>9</b>	<b>6</b>

**24** Outline how a median is calculated.

[2]

**25** Outline a conclusion that can be drawn from the above table. Refer to the median ratings as part of your answer.

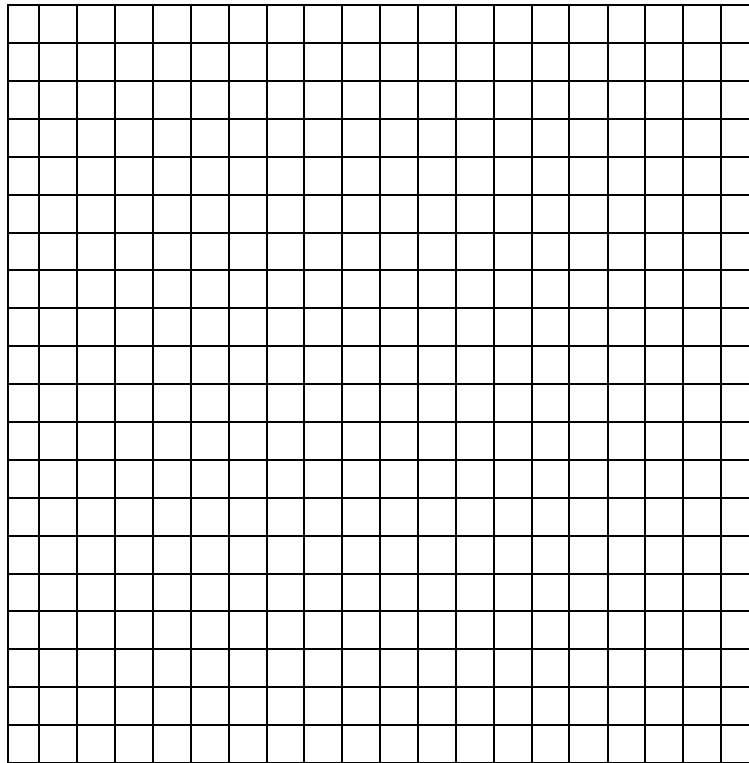
[2]

**26** State which office had a greater dispersion of scores. Justify your answer.

[2]

27 Draw a line graph to show the distribution of the frequency of ratings for the hot desking office.

[4]



28 (a) Outline what is meant by a quasi experiment.

[2]

(b) Explain why the investigation into job satisfaction levels is an example of a quasi experiment.

[2]

29 The psychologist used a structured interview to collect the data.

Describe how a structured interview is different from an unstructured interview.

[3]

30 (a) Outline the purpose of peer review in psychological research.

[3]

(b) Following a peer review, the following statement was made about the study above:

‘There is a potential issue with social desirability when considering these findings.’

Explain what this statement means in relation to this study.

[5]

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Oxford Cambridge and RSA

**...day June 20XX – Morning/Afternoon**

**Cambridge OCR Level 3 Advanced Subsidiary GCE in Psychology  
H167/01 Research methods**

**SAMPLE MARK SCHEME**

**Duration:** 1 hour 30 minutes

**MAXIMUM MARK    75**

**This document consists of 24 pages**

**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 PRACTICE AND 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 centers. 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:
- where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
  - 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:
- To determine the level** – start at the highest level and work down until you reach the level that matches the answer
  - 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

	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
<b>Good</b>	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.
<b>Reasonable</b>	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.
<b>Limited</b>	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.
<b>Basic</b>	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 only item, (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
<b>Section A: Multiple choice</b>			
1	<p><b>Which is a type of observation in psychological research?</b></p> <p>1 mark for A – participant.</p>	<p><b>1</b> AO1 1b (r)</p>	
2	<p><b>What is always included in an academic reference?</b></p> <p>1 mark for A – date of publication</p>	<p><b>1</b> AO1 1b (r)</p>	
3	<p><b>Which is a null hypothesis?</b></p> <p>1 mark for D – ‘There will be no significant difference between extroverted and introverted people in terms of how well they perform in front of an audience.’</p>	<p><b>1</b> AO2 f</p>	
4	<p><b>Which is an example of secondary data?</b></p> <p>1 mark for A – autobiography of a serial killer.</p>	<p><b>1</b> AO2 c</p>	
5	<p><b>What is a strength of using a questionnaire to carry out psychological research?</b></p> <p>1 mark for D – responses can be compared to identify patterns in data.</p>	<p><b>1</b> AO3 2a</p>	
6	<p><b>What fraction of divorced adults had a Type B attachment?</b></p> <p>1 mark for A – 1/5.</p>	<p><b>1</b> AO2 d (m)</p>	
7	<p><b>What is meant by event sampling in psychological observations?</b></p> <p>1 mark for B – every occurrence of behaviour, as specified on a predetermined checklist, is observed and recorded within a specified period of time.</p>	<p><b>1</b> AO1 1b</p>	
8	<p><b>What is a weakness of using an overt observation in psychological research?</b></p> <p>1 mark for A – high risk of observer effect.</p>	<p><b>1</b> AO3 2a</p>	

Question		Answer	Marks	Guidance
Question		Answer	Marks	Guidance
9		<p><b>Using the data, which inventory has the highest level of external reliability?</b></p> <p>1 mark for B – Beta.</p>	<p><b>1</b> AO3 2b (m)</p>	
10		<p><b>What is the purpose of an Abstract in a practical report?</b></p> <p>1 mark for A – to give an overview of the main stages of an investigation.</p>	<p><b>1</b> AO1 1a</p>	
11		<p><b>Which would give a researcher a random sample of 20 participants?</b></p> <p>1 mark for C – taking out 20 names from a container of 100 names.</p>	<p><b>1</b> AO2 f (m)</p>	
12		<p><b>What is meant by criterion validity?</b></p> <p>1 mark for D – how well findings predict what happens beyond the research.</p>	<p><b>1</b> AO1 1a</p>	
13		<p><b>Which will give the most representative sample of British teenagers in an investigation into the use of the internet?</b></p> <p>1 mark for C – a sample drawn from three secondary schools from different parts of the United Kingdom.</p>	<p><b>1</b> AO3 2b</p>	
14		<p><b>Which statement suggests that a researcher is being accused of observer bias?</b></p> <p>1 mark for B – ‘her perceptions were influenced by what she expected to see’.</p>	<p><b>1</b> AO2 c</p>	
15		<p><b>Which is a way of addressing the issue of demand characteristics in an experiment?</b></p> <p>1 mark for C – not sharing the aim with participants until the end.</p>	<p><b>1</b> AO3 2b</p>	

Question	Answer	Marks	Guidance
<b>Section B: Research design and response</b>			
16	<p><b>The psychologist's hypothesis predicted a significant negative correlation. Using this information above, explain what she was expecting the results to show.</b></p> <p><b><u>AO1 – 1 mark</u></b> Candidates will achieve 1 mark for knowledge and understanding of the idea of a negative correlation. For example a mark will be gained for understanding that one variable will increase as the other decreases.</p> <p><b><u>AO2 – 1 mark</u></b> Responses will achieve a mark for applying their knowledge and understanding to the variables in this investigation.</p> <p>Therefore 2 marks will be achieved for an answer similar to this – 'the psychologist expected individuals with a high score (1) on the language test to score low (1) on the physical coordination test'.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> 1 AO1 1a  1 AO2 b (m)</p>	<p>If answer is applied to the study but is muddled then limit to 1 mark.</p>
17	<p><b>Write a closed question which could have been used to test participants' understanding of the meaning of a word.</b></p> <p>1 mark for any feasible example of a closed question – this is likely to be a multiple choice question given the context but examiners should be open to other forms of closed questions as long as they relate to understanding of the meaning of a word.</p> <p>e.g. Which word means the same as scared? a. frightened b. precious c. delighted.</p> <p>Other appropriate responses should be credited.</p>	<p><b>1</b> AO2 g</p>	<p>Do not judge the question on the quality of wording or on accuracy of meaning/definitions – examiners are assessing candidates on whether they can construct a closed question i.e. the mark is for structure rather than content.</p>

Question		Answer	Marks	Guidance
18		<p><b>Explain why the data collected in this study is an example of quantitative data.</b></p> <p><b><u>AO1 – 1 mark</u></b> 1 mark for demonstrating knowledge and understanding of quantitative data, e.g. because the data is numerical.</p> <p><b><u>AO2 – 2 marks</u></b> Candidates will achieve an additional 2 marks for applying their knowledge in a theoretical context by showing how the data is numerical in the case of each variable, e.g. the language test is based on the amount of correct answers given a number/total/score (1), the coordination was measured using a rating scale/scoring system/calculation (1).</p> <p>Alternatively, candidates may earn the additional 2 marks by explaining how correlation analysis can only be used where data is quantitative, e.g. as a researcher is plotting/comparing pairs of numbers (1), variables are measured on scales which show increases/decreases (1).</p> <p>Other appropriate responses should be credited.</p>	<p><b>3</b> 1 AO1 1a  2 AO2 d</p>	
19	(a)	<p><b>Name the graph that would be used to show a correlational analysis.</b></p> <p>1 mark for scatter diagram.</p>	<p><b>1</b> AO1 1b (m)</p>	Also accept 'scattergraph' and 'scattergram'.
19	(b)	<p><b>Name the section of a practical report where a graph would be presented.</b></p> <p>1 mark for 'Results'.</p>	<p><b>1</b> AO1 1b</p>	

Question		Answer	Marks	Guidance
20	(a)	<p><b>Describe ONE strength of using a self-selected sample in this study.</b></p> <p>1 AO3 mark for explaining a strength of a self-selected sample.            1 AO2 mark for explaining this strength in the context of this study.            1 AO2 mark for applying the strength to the study.</p> <p>e.g. 'One strength is that participants are well motivated (1) because they have actively chosen to come forward (1) and therefore are likely to do their best on the two tests giving a true measure of their abilities(1)'.</p> <p>'One strength is that it is more ethical than other sampling techniques (1) because participants will not have felt under pressure to take part (1) which is important when testing abilities that people might be sensitive about, such as spelling (1)'.</p> <p>Other appropriate responses should be credited.</p>	<p><b>3</b>            2 AO2 g             1 AO3            2a</p>	If more than one strength is offered then credit the one that maximises the candidate's mark.
20	(b)	<p><b>Describe ONE weakness of using a self-selected sample in this study.</b></p> <p>1 AO3 mark for explaining a weakness of a self-selected sample.            1 AO2 mark for explaining this weakness in the context of this study.            1 AO2 mark for applying the weakness to the study.</p> <p>e.g. 'One weakness is that certain types of people are likely to volunteer (1) and this gives a biased sample (1) such as people that are more confident who may overperform on the coordination tests because they like "performing" in front of others (1)'.</p>	<p><b>3</b>            2 AO2 g             1 AO3            2a</p>	

Question		Answer	Marks	Guidance
		<p>e.g. 'One weakness is that self-selected samples are unrepresentative (1) as they often attract people who have an interest in the field of the research (1) so participants may know how they should perform and behave accordingly so do badly on the coordination task if they know they have done well on the language test (1)'.</p> <p>Other appropriate responses should be credited.</p>		
21	(a)	<p><b>Outline how each of the following ethical considerations could have been dealt with in this study. (a) Confidentiality</b></p> <p>A maximum of 2 marks for how the consideration could have been dealt with. 1 mark for a brief or basic response, or 2 marks for a more developed response which is also suitably contextualised, e.g. 'test scores are kept anonymous (1), for example by making sure that numbers are used to match scores not names (1)'.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO2 c/g</p>	<p>Examiners need to check for overlap – for example, candidates may address confidentiality or consent under protection of participants but are likely to have been credited for this already.</p>
21	(b)	<p><b>Outline how each of the following ethical considerations could have been dealt with in this study. (b) Informed consent</b></p> <p>A maximum of 2 marks for how the consideration could have been dealt with. 1 mark for a brief or basic response, or 2 marks for a more developed response which is also suitably contextualised, e.g. 'participants are fully briefed (1) so they can agree to being tested on the two abilities (1)'.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO2 c/g</p>	<p>Examiners need to check for overlap – for example, candidates may address confidentiality or consent under protection of participants but are likely to have been credited for this already.</p>

Question		Answer	Marks	Guidance
21	(c)	<p><b>Outline how each of the following ethical considerations could have been dealt with in this study. (c) Protection of participant</b></p> <p>A maximum of 2 marks for how the consideration could have been dealt with. 1 mark for a brief or basic response, or 2 marks for a more developed response which is also suitably contextualised, e.g. 'participants are told of their right to withdraw (1) at the beginning and reminded of this throughout the language ability and physical coordination tests (1)'.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO2 c/g</p>	<p>Examiners need to check for overlap – for example, candidates may address confidentiality or consent under protection of participants but are likely to have been credited for this already.</p>
22		<p><b>Explain why the data from the language ability test may be criticised for lacking construct validity.</b></p> <p><b><u>AO1 – 2 marks</u></b> Up to 2 AO1 marks for demonstrating knowledge and understanding of (a lack of) construct validity.</p> <p><b><u>AO2 – 1 mark</u></b> Credit for application of knowledge and understanding can be achieved by applying the criticism to the context of the measure of language ability.</p> <p>e.g. 'Findings lack construct validity when a narrow measure has been used (1) therefore reducing the complexity of a behaviour (1). In this case, there is more to language ability than spelling and understanding word meaning – for example, there is no test of speaking or listening ability (1).'</p> <p>Other appropriate responses should be credited.</p>	<p><b>3</b> 2 AO1 1a 1 AO2 c</p>	<p>Examiners should be mindful that construct validity may not be explicitly defined/described and that the understanding may be more implicit in the response – where this is obvious, then credit accordingly.</p>

Question	Answer	Marks	Guidance
23	<p>*  <b>You have been asked to carry out a follow-up study to investigate the difference in the language ability of people when they are carrying out a physical task and when they are not.</b></p> <p><b>Explain how you would carry out an experiment to investigate if there is a difference or not. Justify your decisions as part of your explanation.</b></p> <p><b>You must refer to:</b></p> <ul style="list-style-type: none"> <li>• <b>field or laboratory experiments</b></li> <li>• <b>the experimental design you would use</b></li> <li>• <b>at least one control you would use.</b></li> </ul> <p><b><u>AO1 – 2 marks</u></b></p> <p><u>Required features which demonstrate knowledge and understanding of scientific processes.</u></p> <ul style="list-style-type: none"> <li>• <b>Either field OR laboratory experiments.</b></li> <li>• <b>Experimental design.</b></li> <li>• <b>At least one control.</b></li> </ul> <p><b><u>AO2 – 6 marks</u></b></p> <p>Responses will achieve AO2 credit through the application of design decisions in the context of this investigation.</p> <ul style="list-style-type: none"> <li>• <b>applying the chosen experimental method to the investigation, e.g. the environment will be controlled by ensuring there are no other distractions apart from the task itself</b></li> <li>• <b>applying the chosen experimental design to the investigation, e.g. half of the participants will be tested without the task first while the other half will be tested whilst doing the task first</b></li> </ul>	<p><b>12</b>  2 AO1  1b</p> <p><b>6 AO2</b>  g/h</p> <p><b>4 AO3</b>  2b</p>	<p><b>Level 4: 10–12 marks</b></p> <p><b>Good</b> knowledge and understanding of field or laboratory experiments and of an appropriate experimental design and control(s).</p> <p><b>Good</b> application of knowledge and understanding to the design of the investigation.</p> <p><b>Good</b> justification of design.</p> <p>All of the required features are addressed and the candidate demonstrates accurate knowledge of each. There is good evidence of application in the description of features showing high levels of understanding. There is appropriate justification of all or most decisions 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.</p> <p><b>Level 3: 7–9 marks</b></p> <p><b>Good</b> knowledge and understanding of field or laboratory experiments and of an appropriate experimental design and control(s).</p> <p><b>Reasonable</b> application of knowledge and understanding to the design of the investigation.</p> <p><b>Reasonable</b> justification of design.</p>

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> <li>• identifying an appropriate extraneous variable, e.g. the time given to complete the language test could affect the results.</li> <li>• outlining how a chosen extraneous variable would be controlled, e.g. all participants will be asked if their first language was English.</li> </ul> <p><b><u>A03 – 4 marks</u></b></p> <p>Broad discussion of design decisions</p> <p>Candidates will demonstrate an ability to develop design and procedures through the justification of these decisions – this is likely to be one mark for each decision which is adequately justified but a well-developed justification may earn all four marks e.g. giving the various advantages of an independent groups design.</p> <p>There are no additional marks for contextualising the justification of the chosen experiment and design but a good answer should include this at points.</p> <p>Other appropriate responses should be credited.</p>		<p>Most if not all 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 features showing a level of understanding. There is likely to be some appropriate justification of decisions 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.</p> <p><b>Level 2: 4–6 marks</b></p> <p><b>Reasonable</b> knowledge and understanding of field or laboratory experiments and of an appropriate experimental design and control(s).</p> <p><b>Limited</b> application of knowledge and understanding to the design of the investigation.</p> <p><b>Limited</b> justification of design.</p> <p>At least some of the required features are addressed and the candidate demonstrates knowledge of these. There is limited evidence of application in the description of techniques showing basic understanding. There may be an attempt to justify decisions but it is likely to be weak. 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.</p>

Question	Answer	Marks	Guidance
			<p><b>Level 1: 1–3 marks</b></p> <p><b>Reasonable</b> knowledge and understanding of field or laboratory experiments and of an appropriate experimental design and control(s).</p> <p><b>Basic</b> application of knowledge and understanding to the design of the investigation.</p> <p><b>Basic</b> justification of design.</p> <p>At least one of the required features is addressed and the candidate demonstrates knowledge here. There may be weak application of chosen technique(s). There is unlikely to be any justification of decisions and, if so, it will be weak. 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.</p> <p><b>0 marks:</b> No creditworthy response.</p>

Question	Answer	Marks	Guidance
<b>Section C: Data analysis and interpretation</b>			
24	<p><b>Outline how a median is calculated.</b></p> <p>1 mark for knowing that a data set needs to be organised into numerical order.</p> <p>1 mark for knowing that the middle number is then identified.</p>	<p><b>2</b> AO1 1b (m)</p>	<p>It is acceptable to award the second mark without the first but not the other way around.</p>
25	<p><b>Outline a conclusion that can be drawn from the above table. Refer to the median ratings as part of your answer.</b></p> <p>1 mark for an appropriate conclusion. e.g. there is no (significant) difference between the job satisfaction experienced between office workers who hot desk and those who have their own personal desks.</p> <p>1 mark for making a judgement about the ratings. In order for the mark to be gained, reference must be made to the medians. e.g. because the medians are very similar/only differ by 0.5.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO3 1a (m)</p>	<p>If a candidate suggests there is a difference in job satisfaction only credit as a conclusion if they go on to recognise that this is negligible. However, an incorrect conclusion may still lead to an analysis of the medians which is creditworthy.</p> <p>Do not award the second mark for responses which simply quote the medians – there needs to be some analysis of the difference between them.</p>
26	<p><b>State which office had a greater dispersion of scores. Justify your answer.</b></p> <p><b><u>AO2 – 1 mark</u></b> 1 mark is achieved through applying understanding of quantitative data, by stating the greater dispersion of scores is for the office with hot desking (or similar).</p> <p><b><u>AO3 – 1 mark</u></b> 1 mark is gained through making a judgement, by recognising the range (of ratings) is greater for this group.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> 1 AO2 h (m)</p> <p>1 AO3 1a (m)</p>	<p>Only award the second mark where the first mark has been awarded.</p>

Question		Answer	Marks	Guidance
27		<p><b>Draw a line graph to show the distribution of the frequency of ratings for the hot desking office.</b></p> <p>Up to 2 marks for an accurately plotted line graph (including appropriate use of scales). More than two errors and neither mark is awarded.            1 mark for a clear title that makes reference to the condition and the measure.            1 mark for accurately labelled axes e.g. x-axis is 'job satisfaction rating' and y-axis is 'frequency' (or similar).</p>	<p><b>4</b> AO2 h (m)</p>	<p>If candidate plots both sets of data and the data for 'hot desking' is accurate then the first two marks can be awarded, as can the mark for labelling axes.</p> <p>If either access is mislabelled ('median ratings for job satisfaction'), unlabelled or poorly labelled (e.g. 'rating', 'job satisfaction') then do not award fourth mark.</p>
28	(a)	<p><b>Outline what is meant by a quasi experiment.</b></p> <p>1 mark for recognising that an independent variable and dependent variable are present.            1 mark for knowing that the independent variable pre-exists/is naturally occurring/cannot be directly manipulated.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO1 1b</p>	
28	(b)	<p><b>Explain why the investigation into job satisfaction levels is an example of a quasi experiment.</b></p> <p>1 mark for identifying the type of office/desk is the independent variable.            1 mark for explaining why/how this is not open to manipulation, e.g. the office are real offices where the type of desks used is decided already.</p> <p>Other appropriate responses should be credited.</p>	<p><b>2</b> AO2 g</p>	<p>Either mark can be awarded independently of the other. The first mark can be awarded when the IV is identified implicitly as part of the explanation.</p>

Question	Answer	Marks	Guidance
29	<p><b>The psychologist used a structured interview to collect the data.</b>  <b>Describe how a structured interview is different from an unstructured interview.</b></p> <p><b><u>AO1 – 2 marks</u></b></p> <p>Candidates must demonstrate knowledge and understanding of structured and unstructured interviews.</p> <p>1 mark is achieved for knowing that structured interviews use pre-set questions.</p> <p>1 mark for knowing that unstructured interviews use questions based on the interviewees' previous answers.</p> <p><b><u>AO3 – 1 mark</u></b></p> <p>1 further mark for a distinction which is likely to be evaluative – this may be explicit, e.g. structured interviews are therefore more focused whereas unstructured interviews can explore other lines of enquiry or implicit, e.g. it is easier to compare responses with a structured interview.</p> <p>Other appropriate responses should be credited.</p>	<p><b>3</b>  2 AO1  1b  1 AO3  2a</p>	<p>Do not credit definitions of either interview where they are implicit or 'obvious opposites'.  e.g. structured interviews used pre-set questions whereas unstructured interviews do not.  e.g. structured interviews have pre-set questions but the questions have not been decided in unstructured interviews.</p> <p>Do not credit the idea that structured interviews provide quantitative data and unstructured interviews provide qualitative data (as this depends on type of questions not type of interview).</p>

Question		Answer	Marks	Guidance
30	(a)	<p><b>Outline the purpose of peer review in psychological research.</b></p> <p>1 mark for demonstrating basic knowledge and understanding of the term peer review e.g. where fellow psychologists examine another’s research. plans/procedure/findings/article – this understanding may be implicit in the response.</p> <p>1 further mark for a brief or basic explanation of the purpose of peer review e.g. to check the reliability of findings, to identify if there any mistakes/errors of judgement, to reduce the chance of bias, etc.</p> <p>Or 2 further marks for a more developed explanation of the purpose e.g. ‘peer review ensures a level of reliability (1) because if more than one researcher agrees on the value of an investigation and on the validity of findings then the research is easier to trust (1)’.</p> <p>Other appropriate responses should be credited.</p>	<p><b>3</b> AO1 1b</p>	
30	(b)	<p><b>Following a peer review, the following statement was made about the study above; “There is a potential issue with social desirability when considering these findings.” Explain what this statement means in relation to this study.</b></p> <p><b><u>AO1 – 1 mark</u></b></p> <p>1 x AO1 mark for demonstrating an understanding of the meaning of the term social desirability, e.g. when participants respond in a way they think they ought to.</p>	<p><b>5</b> 1 AO1 1a  2 AO2 c  2 AO3 1b</p>	

Question	Answer	Marks	Guidance
	<p><b><u>AO2 – 2 marks</u></b></p> <p>Up to 2 x AO2 marks for applying the term and associated issues to the context of the study, e.g. employees may worry for their jobs/promotion prospects if they say they are not satisfied with their job, people may feel foolish for doing a job they don't like so pretend they do like it, employees may feel under pressure from co-workers to say they don't enjoy their work, employees may think they should be seen to like working in a hot desking office because it's a new initiative/more modern, office workers may rate job satisfaction highly to retain their personal desks, etc.</p> <p><b><u>AO3 – 2 marks</u></b></p> <p>Up to 2 x AO3 marks for interpreting the information, making a judgement and reaching a conclusion on the issue – for example in terms of why it happens (e.g. participants want to please the researcher, people do not want to appear different from their peers) or of the consequences (e.g. invalid results, exaggeration or underestimation of an effect).</p> <p>Other appropriate responses should be credited.</p>		

**Assessment Objectives (AO) Grid**  
 (\*includes quality of extended response)

Question Number	Assessment Objectives			Total	Maths
	AO1	AO2	AO3		
1	1			1	
2	1			1	
3		1		1	
4		1		1	
5			1	1	
6		1		1	Interpret pie chart/calculate fraction (1)
7	1			1	
8			1	1	
9			1	1	Use decimal form (1)
10	1			1	
11		1		1	Principles of sampling (1)
12	1			1	
13			1	1	
14		1		1	
15			1	1	
16	1	1		2	Probability (2)
17		1		1	
18	1	2		3	
19a	1			1	Use of scatter diagram (1)
19b	1			1	
20a		2	1	3	
20b		2	1	3	
21a		2		2	
21b		2		2	
21c		2		2	
22	2	1		3	
23*	2	6	4	12	

Question Number	Assessment Objectives			Total	Maths
	AO1	AO2	AO3		
24	2			2	Understand median (2)
25			2	2	Interpret summary table (2)
26		1	1	2	Understand range (2)
27		4		4	Produce a line graph (4)
28a	2			2	
28b		2		2	
29	2		1	3	
30a	3			3	
30b	1	2	2	5	
<b>TOTAL</b>	<b>23</b>	<b>35</b>	<b>17</b>	<b>75</b>	<b>16</b>