

OCR

Oxford Cambridge and RSA

Practice Paper 2

A Level Psychology

H567/01 Research methods

Duration: 2 hours

MAXIMUM MARK 90

FINAL

This document consists of 19 pages

PREPARATION FOR MARKING ON-SCREEN

1. Make sure that you have accessed and completed the relevant and training packages for on-screen marking: *scoris assessor Online Training* and the *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the Instructions for On-Screen Marking and 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 and the **required number** of standardisation responses.

MARKING INSTRUCTIONS – FOR MARKING ON-SCREEN AND FOR PAPER BASED 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 40% 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 or the scoris messaging system, or by email.
5. **Crossed Out Responses**
Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

Rubric Error Responses – Optional Questions

Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM assessor, which will select the highest mark from those awarded. (The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)

Multiple Choice Question Responses

When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

Contradictory Responses

When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only one mark per response)

Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. (The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)

Short Answer Questions (requiring a more developed response, worth two or more marks)

If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

Longer Answer Questions (requiring a developed response)

Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

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 anyway 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. 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

10. These are the annotations, (including abbreviations), including those used in scoris, which are used when marking

Annotation	Meaning
	Unclear
	Attempts evaluation
	Benefit of doubt
	Context
	Cross
	Evaluation
	Extendable horizontal line
	Extendable horizontal wavy line
	Significant amount of material which doesn't answer the question
	Not answered question
	Good use of resources
	Tick
	Development of point
	Omission mark

Section A: Multiple choice

Question	Answer
1	B
2	A
3(a)	B
3(b)	D
4	D
5	C
6	C
7	A
8	C
9	A
10	B
11	D
12	D
13	A
14	B
15	A
16	D
17(a)	C
17(b)	B
18	A

Section B: Research design and response

Write a null hypothesis for this study. [3]					
Question		Answer	Marks	Guidance	
19			There will not be a significant correlation / relationship between the amount of sleep (in hours or minutes) a person has and their ability to concentrate (performance in a word search puzzle) the next day. Any correlation / relationship found will be due to chance	Max 3	-Can be written in future or present tense. -Use of the word 'significant' is not necessary for full marks. -Award zero for citing alternate hypothesis -Award zero if reference to 'difference' -For full marks both variables must be operationalised.
			Correctly cited null with both variables operationalized	3	
			Correctly cited null with reference to both variables, but only one operationalized	2	
			Correctly cited null with reference to both variables, but neither operationalized	1	
			The candidate has not provided any creditworthy information	0	

Explain how you would use the correlation technique to conduct this research. Justify your decisions as part of your explanation.

In your answer, the required features that you must refer to are:

- how you would obtain participants for the study
- how you would obtain data for variable 1
- how you would obtain data for variable 2
- how you would attempt to reduce the influence of one possible extraneous variable

You should use our own experience of practical activities to inform your response. [15]

Question		Answer	Marks	Guidance
20		Level 4 - Good knowledge and understanding of the correlation technique - Good application of knowledge and understanding of the correlation technique - Good justification of planning choices 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.	Max 15 12-15 marks	-Context = 'sleep' and 'concentration'
		Level 3 - Good knowledge and understanding of the correlation technique - Reasonable application of knowledge and understanding of the correlation technique - Reasonable justification of planning choices	8-11 marks	

			<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>Level 2</p>	<p>-Reasonable knowledge and understanding of the correlation technique -Limited application of knowledge and understanding of the correlation technique -Limited justification of planning choices</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 features showing basic understanding. There may be an attempt to justify decisions but it is likely to be weak. There is a line of reasoning presented with some structure. 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>	4-7 marks	
		<p>Level 1</p>	<p>-Reasonable knowledge and understanding of the correlation technique -Basic application of knowledge and understanding of the correlation technique -Basic justification of planning choices</p> <p>At least one of the required features is addressed and the candidate demonstrates knowledge here. There may be weak application of the chosen technique(s). There is unlikely to be any justification of decisions,</p>	1-3 marks	

			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.		
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Describe one strength of having quantitative data in this study. [3]

Question		Answer	Marks	Guidance	
21	(a)	Enables more statistical analyses, enables use in correlation analysis, can assess degree / extent of sleep loss of concentration etc	Max 3	-Context = 'sleep' and 'concentration'	
		Clear description of strength in context	3		
		Attempt to describe strength in context	OR Clear description of strength but not in context		2
		Attempt to describe strength (whether in context or not)			1
		The candidate has not provided any creditworthy information			0

Describe one weakness of having quantitative data in this study. [3]

Question		Answer	Marks	Guidance	
21	(b)	Lack of understanding of reasons / meanings, e.g. for why / how concentration is influenced by sleep etc	Max 3	-Context = 'sleep' and 'concentration'	
		Clear description of weakness in context	3		
		Attempt to describe weakness in context	OR Clear description of weakness but not in context		2
		Attempt to describe strength (whether in context or not)			1
		The candidate has not provided any creditworthy information			0

Outline one way that some qualitative data could be obtained in this study. [3]						
Question		Answer	Marks	Guidance		
22		For example, through the use of a self-report about the experiences of carrying out the task assessing concentration, or questions about the quality of sleep had the previous night etc (in a written questionnaire or interview)	Max 3	-Context = 'sleep' and 'concentration'		
		Clear outline how qualitative data could be obtained in context			3	
		Attempt to outline how qualitative data could be obtained			OR Clear outline of how qualitative data could be obtained	2
		Attempt to outline how qualitative data could be obtained (whether in context or not)			1	
		The candidate has not provided any creditworthy information			0	
Outline one way that the external validity of this study could be considered to be high. [3]						
Question		Answer	Marks	Guidance		
23	(a)	Could consider here the extent to which the sample used is representative or not (population validity) or the extent to which the task set to assess concentration relates to everyday life examples of how we concentrate (ecological validity) etc. More generally, the extent to which the research can be applied beyond the confines of the parameters of the research situation /context.	Max 3	-Context = 'sleep' and 'concentration' External validity is the extent to which the findings can be applied (or generalized) to other people (population validity) or situations / circumstances (ecological validity – the extent to which the research relates to everyday life). Having a representative sample and conducting the research in real life settings helps external validity.		
		Clear outline in context			3	
		Attempt to outline how the study could be considered to be high in external validity in context			OR Clear outline of how the study could be considered to be high in external validity but not in context	2
		Attempt to outline how the study could be considered to be high in external validity (whether in context or not)			1	
		The candidate has not provided any creditworthy information			0	

Outline one way that the external validity of this study could be considered to be low. [3]					
Question		Answer	Marks	Guidance	
23	(b)	Could consider here the extent to which the sample used is representative or not (population validity) or the extent to which the task set to assess concentration relates to everyday life examples of how we concentrate (ecological validity) etc. More generally, the extent to which the research can be applied beyond the confines of the parameters of the research situation /context.	Max 3	-Context = 'sleep' and 'concentration' External validity is the extent to which the findings can be applied (or generalized) to other people (population validity) or situations / circumstances (ecological validity – the extent to which the research relates to everyday life). Having a representative sample and conducting the research in real life settings helps external validity.	
		Clear outline in context	3		
		Attempt to outline how the study could be considered to be low in external validity in context	OR Clear outline of how the study could be considered to be low in external validity but not in context		2
		Attempt to outline how the study could be considered to be low in external validity (whether in context or not)			1
		The candidate has not provided any creditworthy information			0
Explain what the term 'demand characteristic' refers to in relation to your study. [2]					
Question		Answer	Marks	Guidance	
24		Demand characteristic refers to any change in participants' behaviour / response as a consequence of some aspect of the realisation / knowledge that they are being studied / monitored. Examples here(depending on how the candidate has suggested planning and conducting the research in response to earlier questions) could include such things as giving inaccurate details about the amount of sleep they have had or deliberately performing better or worse in the concentration task, or simply performing worse because of anxiety about doing well etc.	Max 2	-Context = 'sleep' and 'concentration'	
		Clear explanation in context	2		
		Attempt to explain what the term demand characteristic refers to in context	OR clear explanation but not in context		1
		The candidate has not provided any creditworthy information			0

Section C: Data analysis and interpretation

Calculate the percentage of Science students who 'did' and 'did not' open the box. Show your workings. [4]				
Question	Answer	Marks	Guidance	
25	Percentage of science students who DID open the box $39/60 \times 100 = 65\%$	Max 4		
	Percentage of science students who DID NOT open the box $21/60 \times 100 = 35\%$			
	For each calculation ...			
	Correct calculation / answer with workings shown			2
	Correct answer without workings			1
	The candidate has not provided any creditworthy information	0		
What was the ratio of Arts students who did not open the box to those who did? [2]				
Question	Answer	Marks	Guidance	
26	45:15 Which can be simplified to 3:1	Max 2		
	For each calculation ...			
	Ratio correctly calculated and presented in its simplest form (3:1)			2
	Ratio correctly calculated but not presented in its simplest form (45:15, or 9:3)			1
				The candidate has not provided any creditworthy information

What would be the appropriate non-parametric inferential statistical test to use to analyse the data from this study? Give reasons for your answer. [3]

Question		Answer	Marks	Guidance
27	(a)	The correct test would be the Chi square test. This is because ... 1. It is a test that examines differences between different types of student and whether they opened the box or not 2. It is a test that is used for independent measures designs where the values in each condition come from different participants and there where different types of student (science, arts, humanities) 3. It is a test that uses nominal level data and the frequency counts of number of students who did or did not open the box is nominal	Max 3	-Context = student(s) (science, arts, humanities), did open, did not open box
		Test correctly identified and two justifications for its selection referred to with one in context	3	
		Test correctly identified and two justifications for its selection referred to but neither in context	2	
		Test correctly identified but with no justification (or incorrect justifications offered)	1	
		The candidate has not provided any creditworthy information	0	

Explain how the expected frequency (E) values for each cell would be calculated before the formula for this inferential test could be used. [2]															
Question	Answer	Marks	Guidance												
27 (b)	<p>Expected frequencies (E) for use in a chi square test are calculated separately for each cell using the formula row total x column total / overall total. For example, in this study the E value for the cell 'Science students who did open the box' would be ...</p> <p>$60 \times 62 / 150 = 24.8$. The table below shows the calculated E values (in brackets) for each cell (although these are not required, some students may include them as part of their explanation of how to calculate them).</p> <table border="1" data-bbox="524 705 1162 1023"> <thead> <tr> <th>Type of student</th> <th>DID open the box</th> <th>Did NOT open the box</th> </tr> </thead> <tbody> <tr> <td>Science</td> <td>39 (E=24.8)</td> <td>21 (E=35.2)</td> </tr> <tr> <td>Arts</td> <td>15 (E=24.8)</td> <td>45 (E=35.2)</td> </tr> <tr> <td>Humanities</td> <td>8 (E=12.4)</td> <td>22 (E=17.6)</td> </tr> </tbody> </table>	Type of student	DID open the box	Did NOT open the box	Science	39 (E=24.8)	21 (E=35.2)	Arts	15 (E=24.8)	45 (E=35.2)	Humanities	8 (E=12.4)	22 (E=17.6)	Max 2	<p>-Context = student(s) (science, arts, humanities), did open, did not open box</p> <p>Calculations (if correct) for the actual E values, if provided, are also creditworthy.</p>
	Type of student	DID open the box	Did NOT open the box												
	Science	39 (E=24.8)	21 (E=35.2)												
	Arts	15 (E=24.8)	45 (E=35.2)												
Humanities	8 (E=12.4)	22 (E=17.6)													
Clear explanation of how to calculate the expected frequencies for use in a Chi square test	2														
Attempts to explain how to calculate the expected frequencies in context	OR clear explanation of how to calculate the expected frequencies but not in context	1													
The candidate has not provided any creditworthy information		0													

Explain what the symbol (>) would mean in the significance statement when reporting the findings from the inferential statistical test for this study. [2]					
Question		Answer	Marks	Guidance	
27	(c)	The symbol '>' means 'greater than. In this study it would mean the probability of the null hypothesis being true (i.e. that there is no difference between different types of students and whether they open the box or not) is greater than 5% so the null hypothesis is accepted and the alternative hypothesis is rejected (the findings are not (statistically) significant).	Max 2	-Context = student(s) (science, arts, humanities), did open, did not open box -Also accept reference to interpretation of the symbol '003C' in relation to other levels of probability in addition to 5% (e.g. 2% or 1% etc)	
		Clear explanation of what the symbol '>' means in context			2
		Attempts to explain what the symbol '>' means in context in context	OR clear explanation of what the symbol '>' means but not in context		1
		The candidate has not provided any creditworthy information			0

Draw a fully labelled bar chart to display the data collected in this study. [4]															
Question	Answer	Marks	Guidance												
28	<p>For example (but please accept other, appropriate versions) ...</p> <div style="text-align: center;"> <p>Bar chart showing the number of different types of student who 'DID' or 'did NOT' open the box</p> <table border="1"> <caption>Data from the bar chart</caption> <thead> <tr> <th>Subject</th> <th>DID open box</th> <th>did NOT open box</th> </tr> </thead> <tbody> <tr> <td>science</td> <td>39</td> <td>21</td> </tr> <tr> <td>arts</td> <td>15</td> <td>45</td> </tr> <tr> <td>humanities</td> <td>8</td> <td>22</td> </tr> </tbody> </table> </div>	Subject	DID open box	did NOT open box	science	39	21	arts	15	45	humanities	8	22	Max 4	-Context = student(s) (science, arts, humanities), did open, did not open box
Subject	DID open box	did NOT open box													
science	39	21													
arts	15	45													
humanities	8	22													
	All features included	4													
	3 features included	3													
	2 features included	2													
	1 feature included	1													
	The candidate has not provided any creditworthy information	0													

Outline two conclusions that can be reached from the raw data collected in this study? [6]					
Question	Answer		Marks	Guidance	
29	Conclusions could include: overall more students did not open the box, so were perhaps obedient (perhaps being a student means you are more likely to follow instructions / orders?); Science students were the most curious and opened the box, perhaps because science students are more inquisitive and like to find things out; Arts students were the least likely to open the box, perhaps because they are used to doing what they are told? etc		Max 6	-Context = student(s) (science, arts, humanities), did open, did not open box -For max marks must be a conclusion	
	For each conclusion ...				
	Clear, detailed response in context				3
	Clear, detailed response but not in context	OR attempt in context			2
	Attempt, whether in context or not	OR simply stating a finding			1
The candidate has not provided any creditworthy information		0			
Outline one ethical issues arising from how data was obtained in this study. [3]					
Question	Answer		Marks	Guidance	
30	Possible answers could be based on the ethical issue of consent for real purpose of the study, privacy (observing without knowledge), and withdrawal (as true purpose of being in the waiting room was not disclosed) etc		Max 3	-Context = student(s) (science, arts, humanities), did open, did not open box	
	Clear outline of ethical issue in context				3
	Attempt to outline ethical issue in context	OR Clear outline of ethical issue but not in context			2
	Attempt to outline ethical issue (whether in context or not)				1
	The candidate has not provided any creditworthy information				0

Outline two things that may affect the reliability of the data collected in this study (and influence whether the same / similar findings would be obtained if repeated). [6]						
Question		Answer	Marks	Guidance		
31		Possible answers could include: type of students in the sample (e.g. if from different faculties etc); number of students in the sample; instruction of what not to do (e.g. if changed from simply being told 'not to open a box' etc); location of where the study was conducted; presence of other people in the room at the same time etc	Max 6	-Context = student(s) (science, arts, humanities), did open, did not open box		
		For each thing referred to that may affect reliability ...				
		Clear, detailed response in context			3	
		Clear, detailed response but not in context			OR attempt in context	2
		Attempt, whether in context or not			OR simply stating a finding	1
		The candidate has not provided any creditworthy information			0	
Identify three things that would appear in the appendices section of the practical report for this study. [3]						
Question		Answer	Marks	Guidance		
32		Possible things could include: standardised instructions; description of the box used; raw data for number of students who 'did' and 'did not' open the box; calculations (e.g. for the chi square test, and / or mean) etc	Max 3	-Context = student(s) (science, arts, humanities), did open, did not open box -Cap at 2 marks max if none of the suggested things are identified in context		
		Three appropriate things identified			3	
		Two appropriate things identified			2	
		One appropriate thing identified			1	
		The candidate has not provided any creditworthy information			0	