Oxford Cambridge and RSA

Monday 12 May 2025 – Afternoon

AS Level Psychology

H167/01 Research methods

Time allowed: 1 hour 30 minutes

You must have:
- a ruler (cm/mm)
- a scientific or graphical calculator

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number | | | | | | Candidate number | | | | |

First name(s) _____

Last name _____

INSTRUCTIONS
- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

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 has **20** pages.

ADVICE
- Read each question carefully before you start your answer.

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Section A

Multiple choice

For each question write the letter in the box.

1 Which experimental design has participants with similar features or abilities in each condition?

A independent measures design

B matched participants design

C repeated measures design

D selective measures design

Your answer ☐ **[1]**

2 Which question would produce ordinal data?

A How do you like to sleep? ☐ on your back ☐ on your front ☐ on your side

B My favourite food is ☐ spicy ☐ savoury ☐ bitter ☐ sweet

C Rate how much you like football on a scale 0 (‘not at all’) to 5 (‘very much so’)

D What is your favourite type of movie? ☐ romance ☐ comedy ☐ horror

Your answer ☐ **[1]**

3 Which measure of central tendency involves adding all the scores together and dividing by the number of scores?

A mean

B median

C mode

D none of the above

Your answer ☐ **[1]**

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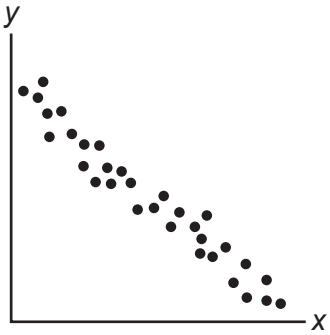
4 Which option is the best estimation of the correlation coefficient shown in the scatter diagram below?



A −0.9

B −0.1

C +0.1

D +0.9

Your answer ☐ **[1]**

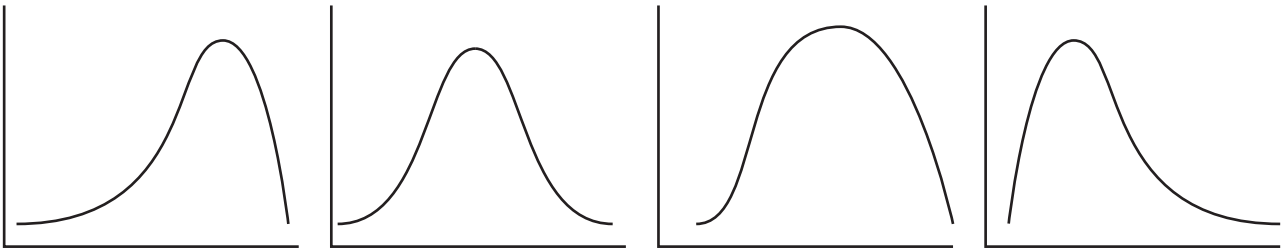
5 Which graph shows a positively skewed distribution curve?

A 1

B 2

C 3

D 4



1 **2** **3** **4**

Your answer ☐ **[1]**

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6 If the standard deviation of a set of data is 3, what is the variance?

A 1.5

B 3

C 6

D 9

Your answer ☐ **[1]**

7 In research using the observation method, what does 'non-participant observation' mean?

A when participants do not do anything that gets recorded

B when stooges are used

C when the researcher is not part of the group being observed

D when there are no participants

Your answer ☐ **[1]**

8 In an observation study, which of these describes event sampling?

A recording specific behaviours at an event

B recording specific behaviours at some times but not others

C recording specific behaviours every time they occur during an uninterrupted period of time

D recording specific behaviours from selected individuals

Your answer ☐ **[1]**

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9 Which of these best describes what a tally chart is?

A a way of displaying the relationship between two variables in a correlation

B a way of interpreting data from a self-report

C a way of presenting a summary of the data in an experiment

D a way of recording raw data in an observation

Your answer ☐ **[1]**

10 Which of these is **not** a criterion for using parametric inferential statistical tests?

A data in each condition should be from the same participants

B data in each condition should have similar variances

C data should be at least interval level

D data should be from a normally distributed population

Your answer ☐ **[1]**

11 Which of these research methods best describes what was used in Loftus and Palmer's (1974) study into eyewitness testimony?

A independent measures design laboratory experiment

B independent measures design laboratory experiment and self-report

C repeated measures design laboratory experiment

D repeated measures design laboratory experiment and self-report

Your answer ☐ **[1]**

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12 Which of these is a weakness of the research method used in Grant et al.'s (1998) study into context-dependent memory?

A individual differences in memory ability in general between participants in the different conditions

B participants performing better in one condition due to having taken part in another condition already

C the article being more difficult to read in one condition than another condition

D the memory tests being more difficult in one condition than another condition

Your answer ☐ **[1]**

13 For how long was visual material presented to the participants in Sperry's (1968) split brain study?

A $\frac{1}{2}$ second

B $\frac{1}{5}$ second

C $\frac{1}{10}$ second

D $\frac{1}{20}$ second

Your answer ☐ **[1]**

14 Which of these could **not** be the result of a Chi-square inferential statistical test?

A −0.05

B 0.00

C 3.42

D 11.68

Your answer ☐ **[1]**

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15 Which of these is a sub-section of the method section when writing a practical report in psychology?

A abstract

B introduction

C results

D sample

Your answer ☐ **[1]**

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Section B

Research design and response

Class act

Pupils behave in many different ways in a classroom during a lesson and reveal individual differences that may reflect their personality and style of learning. Some are able to maintain focus and concentrate. Others are easily distracted and may use their phone when they shouldn't, talk to others, and fidget. Knowledge of this could be useful in helping design more effective lessons. A psychologist wants to investigate this further by using the observation method to record the behaviour of pupils in a lesson.

16* Explain how you would use the observation method to investigate the behaviour of pupils in a classroom during a lesson. Justify your decisions as part of your explanation.
You must refer to:

- the behavioural categories in your coding scheme (five behaviours you will look out for)
- the use of time or event sampling
- details of how one ethical consideration would be addressed.

You should use your own experience of practical activities to inform your response. **[12]**

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17 Outline how you could use self-selected sampling to obtain a class of pupils from a school to use as participants for this study.

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18 Outline **one** strength and **one** weakness of the use of the observation method in this study.

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19 Outline **two** ways that inter-rater reliability could be increased if there were two researchers responsible for recording the behaviour in this study.

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20 Outline **two** ways that you could reduce possible demand characteristics in your design of this study.

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21 Outline what information you would include in a debrief with participants at the end of the study.

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PLEASE DO NOT WRITE ON THIS PAGE

Turn over for the next question

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Section C

Data analysis and interpretation

Empathy is the ability to understand and share the feelings of another individual and may be related to the willingness to help another person.

Helping someone is often regarded as being ‘kind-hearted’, but could it be more of a cognitive process related to the way a person thinks?

To investigate this, a psychologist conducted a correlation study to investigate the relationship between empathy and helping behaviour. Ten people were given a set of 12 questions assessing their ability to empathise. They were then asked to indicate if they would offer help or not in 12 hypothetical situations where a person needed help of some kind.

The table shows the data collected in this study.

Participant	Empathy score (0 to 12)	Helping score (0 to 12)
a	7	9
b	12	12
c	3	5
d	6	7
e	10	11
f	2	4
g	1	3
h	11	2
i	4	6
j	8	10

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22

(a) Draw a fully labelled scatter diagram displaying the data from this study.

[4]

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(b) Outline **two** conclusions that can be made from the data displayed in this scatter diagram.

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[6]

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23 Outline **one** strength and **one** weakness of the use of the self-report method to gather data in this study.

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24 Explain why Spearman's Rho would be the appropriate non-parametric inferential statistical test to use to analyse the data from this study.

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25 Use the formula for Spearman's Rho provided to calculate the value of r_s.
The value of $\sum d^2 = 72$.
Show your workings.

Write your answer to **2** significant figures.

$$r_s = 1 - \frac{6(\sum d^2)}{n(n^2 - 1)}$$

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26 Explain what it would mean if a type 2 error was made following the analysis of the data in this study.

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END OF QUESTION PAPER

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EXTRA ANSWER SPACE

If you need extra space use these lined pages. You must write the question numbers clearly in the margin.

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