OCR
Oxford Cambridge and RSA

Monday 05 October 2020 – Afternoon

AS Level Psychology

H167/01 Research methods

Time allowed: 1 hour 30 minutes

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

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H167 01

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 **16** pages.

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

SECTION A – Multiple choice

Answer **all** the questions. You should put the letter of the correct answer in the box provided.

1 What is the median for this set of scores? 12, 8, 18, 16, 5, 9, 11, 18

A 11

B 11.5

C 12

D 18

Your answer ☐ **[1]**

2 What is the range for this set of scores? 32, 28, 15, 24, 9

A 9

B 19

C 23

D 32

Your answer ☐ **[1]**

3 In an experiment, which of the following best describes what 'control' refers to?

A apart from the IV, keeping as many other things the same as possible

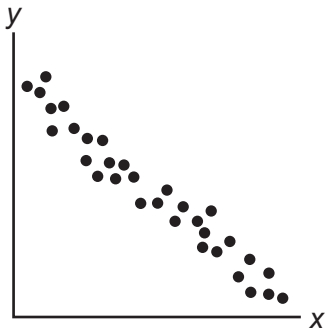
B apart from the DV, keeping as many other things the same as possible

C restricting participants to a specific amount of time to complete tasks

D restricting participants to a specific number of attempts to complete the tasks

Your answer ☐ **[1]**

4 Which correlation coefficient best relates to the data displayed in this scatter diagram?



A −0.7

B −0.07

C +0.7

D +0.07

Your answer ☐ **[1]**

5 What does the null hypothesis in an experiment state?

A there will be an effect of the IV on the DV

B there will not be an effect of the IV on the DV

C there will be a relationship between the IV and the DV

D there will not be a relationship between the IV and the DV

Your answer ☐ **[1]**

6 Which of these indicates the research is significant at the 2% level of probability?

A $p<2.0$

B $p<0.2$

C $p<0.02$

D $p>0.002$

Your answer ☐ **[1]**

7 What is the name given to the type of reasoning where a theory is established first and then data obtained to test if it is true?

A deductive

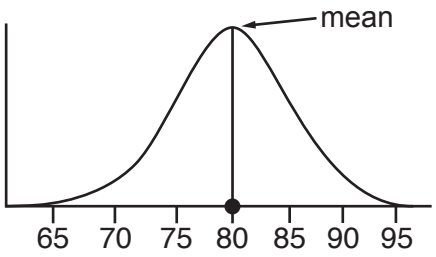
B inductive

C syllogistic

D systemic

Your answer ☐ **[1]**

8 What is the mode in the data displayed in this normal distribution curve where the mean is 80?



A 75

B 80

C 85

D 95

Your answer ☐ **[1]**

9 In a study of stress, which of the following would produce interval level data?

A asking participants to keep a diary of how they feel

B classifying people as ‘calm’ or ‘anxious’

C ratings on a zero to ten scale (0 = ‘relaxed’, 10 = ‘nervous’)

D temperature readings in degrees celsius

Your answer ☐ **[1]**

10 In which section of the write up of a practical report would you be **least** likely to find comments about the research conducted by other psychologists?

A abstract

B discussion

C introduction

D method

Your answer ☐ **[1]**

11 In the study by Freud, what kind of data was the information received about Little Hans in letters from his father?

A interval

B ordinal

C primary

D secondary

Your answer ☐ **[1]**

12 In the study of hemispheric deconnection by Sperry, what is the decimal for the duration in seconds that images were presented to the visual fields?

A 0.001

B 0.01

C 0.1

D 1.0

Your answer ☐ **[1]**

13 Which of these is an ethical consideration under the British Psychological Society (BPS) guidelines?

A rejection

B respect

C respiration

D respite

Your answer ☐ **[1]**

14 Which of these is the name given to the type of validity that refers to when research at least appears to be measuring what it claims to?

A face

B internal

C population

D test-retest

Your answer ☐ **[1]**

15 When conducting research, what is the name of the group of people that we want to study and apply the results to?

A cohort

B participants

C population

D sample

Your answer ☐ **[1]**

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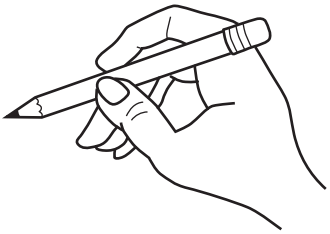
SECTION B – Research design and response

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

Doodling

Doodling can be described as 'drawing whilst our attention is otherwise occupied', such as when trying to listen to what someone is saying, or whilst trying to read something etc. Although it seems that this may make it less likely that we are able to focus on other things happening at the same time, some research suggests that it may actually improve our ability to concentrate. A psychologist wants to study this further by using the experimental method to investigate if people are able to concentrate better when doodling compared to when not doodling.



16 Write a two-tailed alternative hypothesis for this study.

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..... **[3]**

17* Explain how you would conduct a study using the experimental method to investigate if people are able to concentrate better when doodling compared to when not doodling. Justify your decisions as part of your explanation. You must refer to:

- use of repeated measures design
- how you would operationalise the dependent variable (DV) in a way that would produce quantitative data
- the control of one extraneous variable.

You should use your own experience of practical activities to inform your response.

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[12]

18 **(a)** Outline how you would use random sampling to obtain a sample of 20 participants for this study from a group of 120 students in a lecture theatre at a university.

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(b) Outline **one** strength of using random sampling to obtain participants for this study.

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19 Name the sampling technique you used in any one of your own practical activities and outline **one** strength of obtaining participants in this way for your study.

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20 Outline **one** strength and **one** weakness of not having any qualitative data in this study.

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21 **(a)** Outline how you could obtain some nominal data in this study.

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(b) Outline one strength of having nominal data in this study.

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SECTION C – Data analysis and interpretation

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

Phombies (talk, don't walk!)

People seem to use their mobile phones more and more these days and it seems we prefer to text than actually talk to other people at times. When out and about some people even use their phone whilst still walking, looking like some kind of phone zombie (phombie), often so fixated on their display screen that they are completely oblivious of other people and their surroundings.

One psychologist conducted an observation study in a busy town centre to investigate this further and see if there was a difference in males' and females' use of the phone whilst walking. The data is presented below.

Number of males and females walking or not walking whilst using their mobile phone in a town centre		
	Walking whilst using phone	Not walking whilst using phone
Males	84	32
Females	58	26

22 What level of data has been collected in this study? Give reasons for your answer.

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23 Outline **two** conclusions that can be made from the data collected in this study.

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24 Draw a fully labelled pie chart displaying the data from this study.

[4]

25 Calculate the overall percentage of people using their phones whilst walking. Show your workings.

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26 **(a)** Explain why the chi-square would be the appropriate non-parametric inferential statistical test to use to analyse the data from this study.

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(b) Using the extract of the tables of critical values for the chi-square test presented below, what is the critical value at the 5% probability level for data collected in this study?

	Probability level		
Degrees of freedom (df)	0.5	0.05	0.01
1	0.455	3.841	6.635
2	1.386	5.991	9.210
3	2.366	7.815	11.345
4	3.357	9.488	13.277
5	4.351	11.070	15.086

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(c) The calculated value of chi-square is 0.2681. Write the significance statement at the 5% level of probability for this study.

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27 Name the appropriate inferential statistical test to analyse the data from any one of your own practical activities. Give reasons for your answer.

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END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).