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Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

0331938760

PSYCHOLOGY **9990/21**

Paper 2 Research Methods **October/November 2024**

1 hour 30 minutes

You must answer on the question paper.

You will need: Ruler

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.

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[Turn over

Section A

Answer **all** questions.

1 Explain what is meant by a 'matched pairs design', including any example.

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..... [2]

2 A longitudinal experiment is testing the hypothesis 'Elephants will learn better as they grow older'.

Identify the type of hypothesis in this experiment. Justify your answer.

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..... [2]

3 For the study by Baron-Cohen et al., a revised version of the 'eyes test' was developed. However, some problems with ecological validity remained.

(a) Define what is meant by the term 'ecological validity'.

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..... [1]

(b) (i) Outline **one** problem with the ecological validity of the revised eyes test.

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..... [1]

(ii) Explain **one** way in which the problem you identified in part **(b)(i)** could be solved.

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4 The study by Hassett et al. (monkey toy preferences) was an experiment.

(a) Describe what is meant by an 'experiment'.

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(b) State **one** independent variable from this study.

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(c) Describe **two** strengths of experiments as a research method.

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5 Describe inter-rater reliability and inter-observer reliability, using any example(s).

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6 Dr Eynon is a university lecturer studying personality. She tested the personality of some of her students and divided them into two groups, 'personality R' and 'personality S'. Dr Eynon then showed them photographs of pleasant scenes, such as a beach. Half of the scenes contained people and half did not contain people. They scored each photograph to show how much they liked it.

(a) (i) Suggest **one** pleasant scene that Dr Eynon could use for one of her photographs, other than a beach.

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..... [1]

(ii) Dr Eynon needs to control many features about the scenes to ensure that they are similar, in addition to manipulating whether they contain people or not.

Suggest **two** features that Dr Eynon should control about the scenes.

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[2]

(iii) Explain why **one** of the features you have suggested in part **(a)(ii)** would be important in Dr Eynon's study.

Feature 1 or 2: .....

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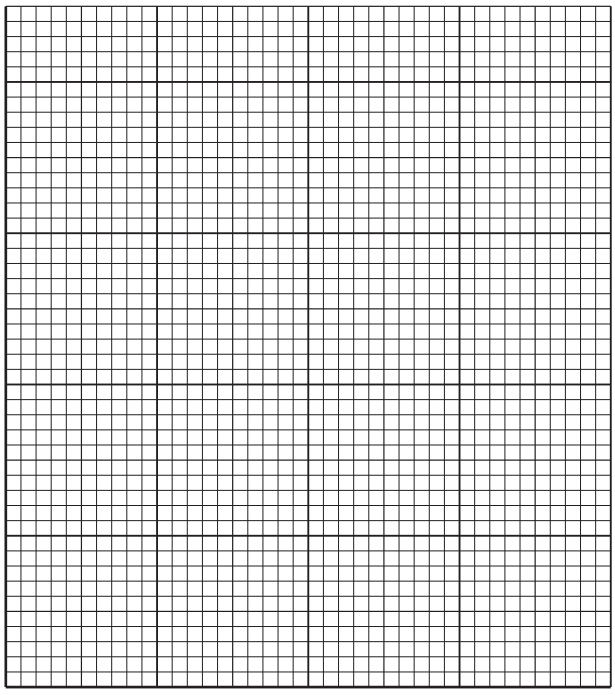
(b) Participants were shown the photographs in a random order. Dr Eynon calculated a total liking score for each of the two types of scene.

(i) Table 6.1 shows the total scores for the two types of scene, for each group of participants.

Draw a graph, showing **only** the results for 'photographs with people' from Table 6.1.
You **must** label the axes.

Table 6.1

	Total score for photographs:	
	with people	**with no people**
Personality R	45	15
Personality S	18	25



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[3]

(ii) Describe the conclusion that can be made from the data in Table 6.1.

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7 Mr Grainger trains each of his farm animals to enter a stable. He lets the animal approach the stable, then rewards it with food. Each time the animal gets closer to the stable than before, he rewards it with food. When the animal enters the stable, he rewards it again. He repeats this each day until the animal enters the stable without rewards.

(a) (i) Suggest **one** way that Mr Grainger can measure the success of this training.

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(ii) For the measure of success you suggested in part **(a)(i)**:

Identify the type of data produced by this measure of success. Justify your answer.

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(iii) For the measure of success you suggested in part **(a)(i)**:

Explain **one** weakness of the type of data produced by this measure of success.

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(b) On some days the training sessions are more successful than on other days. This difference may be caused by situational variables.

(i) Suggest **two** situational variables that could have affected the success of training.

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..... [2]

(ii) For **one** of the situational variables you suggested in part **(b)(i)**:

Explain why this situational variable may have caused differences in the success of training of the animals.

Variable number 1 or 2: .....

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8 Chen is conducting a study that is similar to the study by Piliavin et al. (subway Samaritans). She has asked a young person and an old person to act as 'victims'. Each victim will appear to have difficulty climbing the step on to a bus. Chen will count how many old passengers and how many young passengers help each victim to climb the step.

(a) Suggest **two** ways in which Chen's study is similar to the study by Piliavin et al.

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(b) Suggest **two** ways in which Chen's study is different from the study by Piliavin et al.

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(c) Explain the sampling technique Chen is using.

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Section B

Answer **all** questions.

9 Tanya is investigating prosocial behaviour (this is positive, friendly behaviour between individuals). She is studying prosocial behaviours in children at her local school and will give a questionnaire to every teacher in the school.

(a) Describe how Tanya could conduct a study using a questionnaire for teachers to investigate a variety of prosocial behaviours in children.

Do **not** describe sample/sampling technique or ethical issues/guidelines in your answer.

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(b) (i) Describe **one** practical/methodological strength of the procedure you have described in your answer to part **(a)**.

Do **not** refer to sampling or ethics in your answer.

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(ii) Describe one practical/methodological weakness of the procedure you have described in your answer to part **(a)**.

Do **not** refer to sampling or ethics in your answer.

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