Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

7291107198

PSYCHOLOGY **9990/21**

Paper 2 Research Methods **May/June 2023**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

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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Section A

Answer **all** questions in this section.

1 Explain what is meant by the term 'ecological validity'. You may use an example in your answer.

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..... [2]

2 In the study by Laney et al. (false memory), different types of items were used in the various questionnaires. Two of the items included:

- rating items on a scale of 1–8 (from 'definitely did happen' to 'definitely did not happen')
- multiple choice items where participants circled a price they would pay for different foods, e.g. $1.90, $2.50, or 'would never buy'.

(a) Explain whether these items are both open questions, both closed questions, or one of each.

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..... [2]

(b) Laney et al. used a 'critical item' in the profile and in a questionnaire given to the experimental group.

Explain what is meant by a 'critical item', using the example from Laney et al.

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3 In the study by Canli et al. (brain scans and emotions), a repeated measures design was used.

(a) Explain what is meant by a 'repeated measures design'. Include an example from Canli et al. in your answer.

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(b) Explain **one** strength of using a repeated measures design.

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4 Explain **two** ways in which the procedure was standardised in the study by Yamamoto et al. (chimpanzee helping).

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[4]

5 Reliability refers to the consistency of tests, tasks or measures in research.

Explain why reliability is important in experiments.

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6 Describe the sampling techniques of 'opportunity sampling' and 'volunteer sampling', using any examples.

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..... [6]

Section B

Answer **all** questions in this section.

7 Steve is planning an experiment, using the technique of observation, to compare the level of frustration shown by shoppers in different types of shops. He has set up cameras to help measure the behaviour of shoppers in shops selling basic goods (things that are essential) and shops selling luxury goods (things that are not essential).

(a) Steve is concerned that situational variables could be a problem in his study.

(i) Suggest **two** situational variables that could affect Steve's study.

1 .....

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2 .....

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[2]

(ii) Explain how **each** of the situational variables that you suggested in **(a)(i)** could be a problem in Steve's study.

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[4]

(b) Steve is also concerned about the ethics of his study.

(i) Suggest why the ethical guideline of right to withdraw would be difficult for Steve to follow in his study.

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(ii) Suggest why the ethical guideline of privacy would be difficult for Steve to follow in his study.

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8 Leila is conducting a correlational study. She predicts that there will be a correlation between:
- 'success at learning a language'
- 'enjoyment of word puzzles', e.g. crosswords.

(a) Suggest an objective measure of 'success at learning a language' that Leila could use. Justify your answer. Do **not** use a self-report rating scale.

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(b) Leila is measuring 'enjoyment of word puzzles' by asking participants to rate how much they enjoy word puzzles on a scale of 0 (not at all) to 5 (very much).

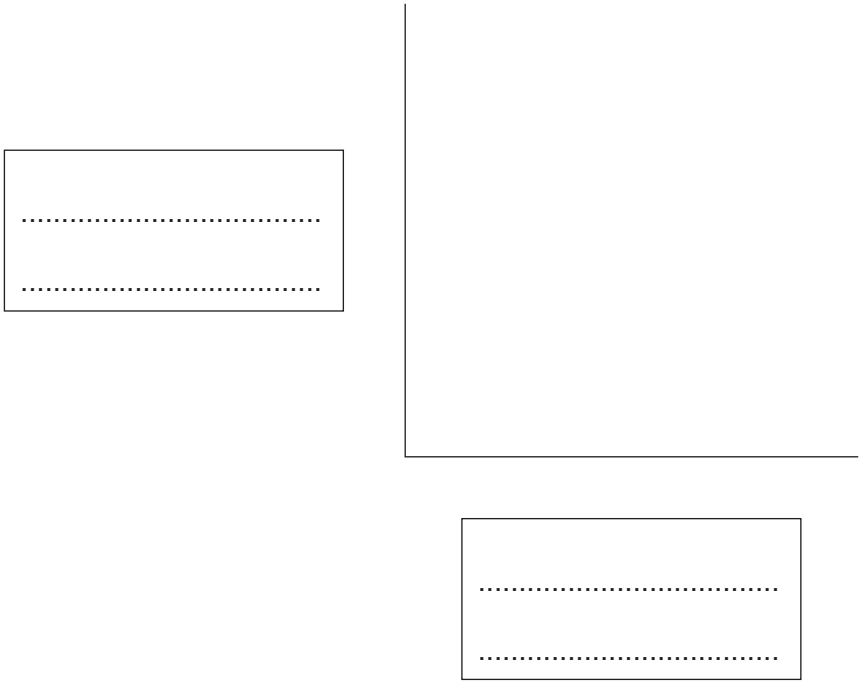
Explain how Leila would calculate the median for 'enjoyment of word puzzles'.

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..... [1]

(c) Leila conducts her study. Her results show a positive correlation.

Sketch a graph, using the axes below, to show the pattern of Leila's results.
You **must** label the axes.



[4]

9 Inma is conducting an experiment about learning. She predicts that animals will learn to find food in a maze faster in the light than in the dark. If an animal does not find the food after 10 minutes, they are given the food by the experimenter.

(a) Inma is using a directional (one-tailed) hypothesis.

Explain why Inma is using a directional hypothesis in her experiment.

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(b) Write a null hypothesis for Inma's experiment.

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..... [1]

(c) Inma will use an independent measures design for her experiment.

Explain **one** advantage of using an independent measures design compared to a repeated measures design.

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(d) Explain how Inma followed **one** ethical guideline in relation to animals.

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Section C

Answer **all** questions in this section.

10 Dr Clare is planning an observational study of student behaviour in a library at a university. She will be the only observer. She is interested in student behaviours such as:

- how they study
- how they find books
- what they do in the library other than studying
- how long they spend in the library.

(a) Describe how Dr Clare could conduct an observational study to investigate the behaviour of students in a library at a university.

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(b) Identify **one** practical weakness/limitation with the procedure you have described in your answer to part **(a)** and suggest how your study might be done differently to overcome the problem.

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

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