Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

8573507784

PSYCHOLOGY **9990/22**

Paper 2 Research Methods **October/November 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 From the study by Pepperberg (parrot learning):

(a) State the aim of this study.

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..... [1]

(b) Explain why it was necessary to present the parrot with questions in a random order.

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..... [2]

2 Explain the importance of the ethical guidelines of anaesthesia, analgesia and euthanasia in relation to the use of animals in research.

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..... [3]

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3 Participants in the study by Laney et al. (false memory) completed a 'Restaurant Questionnaire', which was formatted to look like a menu.

(a) Describe the Restaurant Questionnaire.

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..... [2]

(b) Explain why it was important that the Restaurant Questionnaire looked like a menu.

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..... [2]

4 The study by Yamamoto et al. (chimpanzee helping) used a repeated measures experimental design.

(a) Outline what is meant by a 'repeated measures design'. Include an example from the study by Yamamoto et al. in your answer.

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..... [2]

(b) Explain **one** advantage of using a repeated measures design for this study, compared to using an independent measures design.

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..... [2]

5 In a study that measured two variables, a relationship between the variables was found. As one variable increased, the other decreased.

(a) Name this relationship.

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..... [1]

(b) Suggest **two** variables, from any core study, that show this relationship.

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..... [1]

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6 Describe natural experiments and naturalistic observations, using any examples.

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..... [6]

Section B

Answer **all** questions in this section.

7 James is conducting an interview to investigate topics that could influence anger and euphoria. He has already written his questions about anger. James needs to write questions which cover three topics that could increase euphoria. These topics are:

- sports or games
- films or music
- the natural world (e.g. animals and plants, being outside or good weather).

(a) Suggest **one** closed question and **one** open question that James could use to investigate **one** of his three topics about euphoria. Do **not** use a rating scale in your answer.

Closed question .....

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Open question .....

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[3]

(b) James has chosen to conduct a semi-structured interview.

Explain **two** strengths of a semi-structured interview.

1 .....

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2 .....

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[4]

(c) James was planning to use opportunity sampling to obtain participants from his university but has decided random sampling would be better.

(i) Explain how James could use random sampling to obtain participants from his university.

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..... [2]

(ii) Explain **one** advantage for James of using random sampling compared to using opportunity sampling.

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..... [2]

8 Olive and Durnaz are planning a questionnaire to use in their study, which aims to investigate forgetting in old people.

(a) Olive thinks that they should include some irrelevant questions so that the participants are less likely to guess the aim of the study. Durnaz thinks this is unethical.

(i) Explain why Olive's plan to include irrelevant questions would be useful.

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..... [2]

(ii) Explain why Durnaz thinks that Olive's plan would be unethical.

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..... [2]

(b) Olive and Durnaz want to be able to generalise their findings to all old people.

(i) Suggest **one** variable that could affect memory in old people, other than age.

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..... [1]

(ii) Explain why the variable you suggested in **(b)(i)** could affect memory in old people.

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..... [2]

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9 Gagan has collected data about personality characteristics. Two of the questions he asked were:

- Personality question:
  Which word best describes your personality? Angry / Confident / Kind / Worried.
- Shyness question:
  How shy do you feel in new situations on a scale of 0–5? (0 = not at all, 5 = very).

(a) Name the **most** appropriate measure of central tendency to use with the data from each question.

Personality question .....

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Shyness question .....

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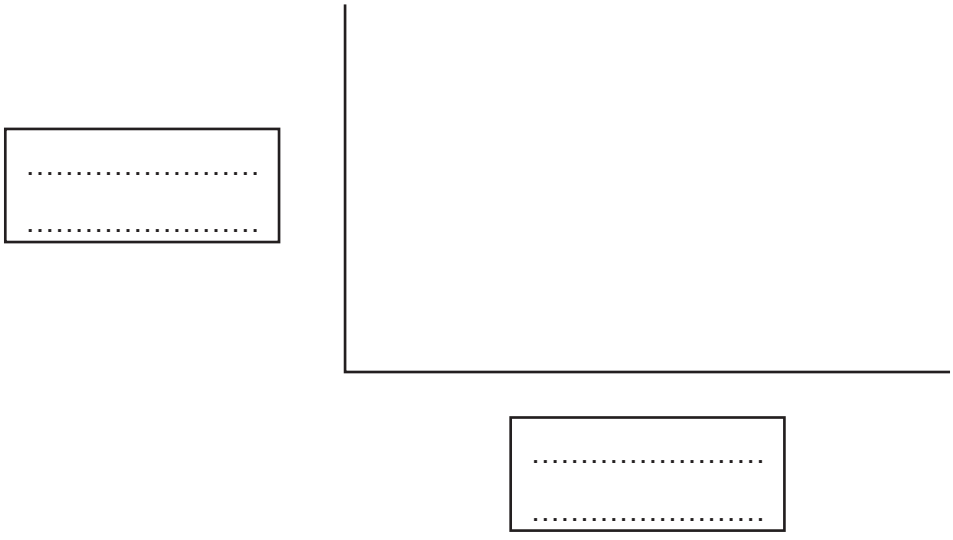
[2]

(b) Name the **most** appropriate type of graph for Gagan to use to display the results from the 'personality question'.

..... [1]

(c) When Gagan analyses the data for the 'shyness question', he finds that the scores are normally distributed.

Sketch a graph using the axes below to show the pattern of Gagan's data from the 'shyness question'. You **must** label the axes.



[3]

Section C

Answer **all** questions in this section.

10 Sara wants to test whether people with a higher intelligence quotient (IQ) are better at concentrating. She will conduct a laboratory experiment and already has a test for measuring the IQ of the participants.

(a) Describe how Sara can conduct a laboratory experiment to test whether people with a higher IQ are better at concentrating than people with a lower IQ.

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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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..... [4]

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