Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

0954147526

PSYCHOLOGY **9990/23**

Paper 2 Research Methods **October/November 2022**

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 Dement and Kleitman (sleep and dreams) investigated a correlation between the length of the dream narrative and the duration of the REM period.

Describe the correlation that was found.

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..... [2]

2 A researcher is planning to investigate forgetting in very old people. However, measuring forgetting in very old people can be more ethically and practically difficult than measuring forgetting in younger people.

(a) Suggest **one** ethical reason why measuring forgetting in very old people can be difficult.

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..... [2]

(b) Suggest **one** practical reason why measuring forgetting in very old people can be difficult.

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..... [2]

3 In the study by Laney et al. (false memory) two of the questionnaires used were the Food History Inventory (FHI) and the Restaurant Questionnaire (RQ).

(a) (i) Each of these questionnaires included a 'critical item'.

Explain what is meant by a 'critical item'.

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..... [1]

(ii) Describe how the critical item in **either** the FHI **or** the RQ was measured.

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..... [1]

(b) Explain the purpose of the items that are **not** critical items in the FHI and the RQ.

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..... [2]

4 A teacher records each student's test results once a week. At the end of the year he calculates the mean of the test results for each student.

Describe how the mean would be calculated in this study.

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..... [2]

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5 In the study by Yamamoto et al. (chimpanzee helping), a small sample of chimpanzees was tested.

(a) Explain **one** practical weakness of using this small sample.

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..... [2]

(b) Explain **one** ethical strength of using this small sample.

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..... [2]

6 Describe laboratory experiments and natural experiments, using any examples.

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..... [6]

Question 7 appears on Page 6.

Section B

Answer **all** questions in this section.

7 Pranit uses a questionnaire to investigate whether psychology students know more about operant conditioning than the general public. His questions are:

A Describe what you think a 'reward' is and does.
B Tell me what 'punishment' is and does.
C "Rewards are more effective than punishment". Do you agree? yes / no.
D How sure are you that you could accurately explain 'operant conditioning'?
1 = certainly could, 5 = certainly could not.

(a) (i) Identify **one** closed question from A to D.

..... [1]

(ii) Identify **one** open question from A to D.

..... [1]

(b) (i) Pranit adds two new questions to his questionnaire:

E Do rewards increase or decrease the frequency of a behaviour?
increase / decrease.
F Explain the effect of punishment on the frequency of a behaviour.

Suggest **one** problem that Pranit could have when using **one** of the new questions.

Question E or F: .....

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..... [2]

(ii) Explain what the responses to Question E **and** Question F would tell Pranit about the participants' understanding of operant conditioning.

E .....

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F .....

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..... [2]

8 Candy is investigating sleepiness in a student population. She is recording the number of hours' sleep the students have at the beginning and at the end of the year. She has identified two extraneous variables. One is a participant variable and one is a situational variable:

- Highly motivated students often work harder at the beginning of the year
- Late-night parties are more common at the end of the year.

(a) Explain which **one** of these is a participant variable.

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..... [1]

(b) Explain which **one** of these is a situational variable.

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..... [1]

(c) **(i)** Suggest how Candy could limit the effect of **either** the participant variable **or** the situational variable.

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..... [2]

(ii) Attempting to limit the effects of one extraneous variable in a study can create other problem effects.

Suggest **one** problem that your answer to **(c)(i)** could create in Candy's study.
Do **not** refer to demand characteristics in your answer.

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..... [2]

(d) Candy is also concerned about the effect of demand characteristics on her results.

(i) Suggest **one** way that demand characteristics could affect Candy's results.

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..... [2]

(ii) Candy does not want to deceive her participants by giving them a false aim.

Suggest **one** way that Candy might reduce the effect of demand characteristics on her results, other than by giving her participants a false aim.

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..... [2]

9 Vernon is conducting an observational study about the helping behaviour of students in a school.

(a) Vernon wants to use an opportunity sample but his teacher tells him that his sample will not be representative.

Explain what Vernon's teacher means, using an example relating to Vernon's study.

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..... [2]

(b) Vernon decides to use a random sample instead.

Suggest how Vernon could obtain a random sample of 50 participants.

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..... [2]

(c) Vernon is planning how to observe and record helpful behaviour in the school.

(i) Suggest how **two** helping behaviours could be operationalised for Vernon's observation.

1 .....

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2 .....

..... [2]

(ii) Suggest how Vernon could be a non-participant observer to collect data about helpful behaviour.

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..... [2]

Section C

Answer **all** questions in this section.

10 Meena wants to investigate one child in a class who is very resistant to authority and is sometimes very disobedient. Meena wants to study the child in detail to explore the child's behaviour.

(a) Describe how Meena could conduct a case study to investigate the behaviour of this child.

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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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