



Cambridge International Advanced Subsidiary and Advanced Level

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9990/22

October/November 2018

1 hour 30 minutes

No Additional Materials are required.

Write your Centre number, candidate number and name in the spaces at the top of this page.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

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[Turn over

Section A

Answer **all** questions in this section.

- 1 (a)** Define what is meant by the 'mean'.

.....
.....[1]

- (b)** Describe how a mean is calculated.

.....
.....
.....
.....[2]

- 2** In the study by Andrade, two groups were compared, a doodling condition and a control condition. Each participant produced a memory score.

- (a)** Explain the purpose of a 'control condition', using an example from this study.

.....
.....
.....
.....[2]

- (b)** Name a suitable graph to display the mean memory scores for the doodling condition and the control condition.

.....[1]

3 The study by Saavedra and Silverman (button phobia) was a case study.

(a) Outline what is meant by a 'case study'.

.....

.....

.....

.....[2]

(b) Suggest **one** disadvantage of using a case study.

.....

.....

.....

.....[2]

4 In the study by Pepperberg (parrot learning), the data collected was the parrot's speech. Alternatively, the parrot's actions in response to instructions, such as 'peck yellow square' could have been observed.

(a) Suggest why observing the parrot's actions might have been a better way to collect data than using the parrot's speech.

.....

.....

.....

.....[2]

(b) Suggest why observing the parrot's actions might **not** have been a better way to collect data than using the parrot's speech.

.....

.....

.....

.....[2]

- 5** The procedure in the study by Canli et al. (brain scans and emotions) was standardised as each participant was treated in the same way.

Explain **one** advantage of standardisation, using this study as an example.

.....

.....

.....

..... [2]

- 6** Describe what researchers can and cannot learn from correlational studies, using any examples.

[6]

Section B

Answer **all** questions in this section.

- 7 Dr Kwan plans to investigate whether any species other than chimpanzees will offer help. During testing, each animal will be with another animal but afterwards they will be kept in separate cages.

- (a) Explain **one** ethical issue Dr Kwan should consider in choosing which species to test. You may use an example in your answer.

.....

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.....[2]

- (b) Dr Kwan has considered testing whether the animals can help each other to avoid pain.

Explain why this might be an unethical procedure.

.....

.....[1]

- (c) Dr Kwan should use as few animals as possible, for ethical reasons.

State why it would also be important that Dr Kwan uses a big enough sample.

.....

.....[1]

- (d) Dr Kwan has developed behavioural categories for observing the animals. However, he thinks that another researcher should conduct the observations rather than him.

Explain why this is a good idea.

.....

.....

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.....

.....[3]

- 8 Kieran is planning a self-report study about dream content, to find out whether people feel happier during the day if they have had pleasant dreams the night before. He is considering using either a structured questionnaire or an unstructured interview.

(a) Suggest **two** closed questions that Kieran could ask in a structured questionnaire.

1.....

 2.....
 [2]

(b) Explain **one** advantage of using closed questions.

.....

 [2]

(c) Outline what is meant by an 'unstructured interview'.

.....

 [2]

(d) Suggest **one** open question that Kieran could ask during an unstructured interview.

.....
 [1]

(e) Explain **one** advantage of using open questions.

.....

 [2]

- 9 Marla is working in a centre for adults with autism. She is observing social behaviour and communication, such as whether the residents seem to understand facial expressions.

- (a) Identify and operationalise **one** behaviour that Marla could record to measure whether the residents understand facial expressions.

behaviour:

.....

operationalisation:

.....[2]

- (b) Explain what Marla should do to be a participant observer.

.....

.....

.....

.....[2]

- (c) Explain what Marla should do to be a non-participant observer.

.....

.....

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.....[2]

- (d) Explain whether Marla should choose a participant observation or a non-participant observation for her study.

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.....

.....[2]

10 Dr Fox is planning a field experiment to investigate obedience in school children. Her aim is to test whether they are more obedient to teachers who are dressed in informal or formal clothes.

.....[10]

- (b) Identify **one** 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.

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.....[4]

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