

Structure of this paper

Section	Number of questions available	Suggested working time (minutes)	Your Mark	Marks available	Percentage of test
Section One: Research Methods Planning	2	22		18	50
Section Two: Research Methods Interpreting data	3	22		22	50
Total				40	100

Instructions to candidates

1. The rules for the conduct of Western Australian external examinations are detailed in the *Year 11 Information Handbook 2016*. Sitting this examination implies that you agree to abide by these rules.
2. Write your answers in this Question/Answer Booklet.
3. When calculating numerical answers, show your working or reasoning clearly. Your working should be in sufficient detail to allow your answers to be checked readily and for marks to be awarded for reasoning.

In calculations, give final answers to one significant figures and include appropriate units where applicable.

4. You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
5. Supplementary pages for the use of planning/continuing your answer to a question may have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Question One**(11 marks)**

Zara, a Ph.D student studying psychology, was interested in the effects of intermittent dieting (diets that include fasting) on a person's cognitive abilities, namely their mood and ability to concentrate. She placed flyers around her Perth university asking for volunteers aged between 18-35. 40 people volunteered with equal numbers of males and females. The participants agreed to follow a strict diet for one month as part of the investigation. Half of the participants were asked to follow a diet where they ate three meals a day adding up to 2000 calories. The other half were asked to replace two of their meals with a shake each day, their daily calorie intake each day did not to exceed 600 calories. At the end of the study participants were asked to complete a self-report and a memory test.

- a) Identify the experimental and the control group. (2 marks)

Experimental:

Control:

- b) Identify the Independent variable. (1 mark)

- c) Identify the Dependent variable. (1 mark)

- d) Identify the population in the study. (1 mark)

- e) Define the term 'sample' as it relates to psychology experiments. (1 mark)

- f) Identify the sample group in this experiment. (1 mark)

- g) Write an operationalised hypothesis for Zara's experiment. (4 marks)

Question Two

(7 marks)

This question will ask you to cite and outline a piece of research that you were allowed to prepare prior to this assessment.

- a) Outline the following aspects of the piece of research that you investigated:

- i. The aim: (1 mark)

- ii. The two variables being investigated: (1 mark)

- iii. The participants and method: (3 marks)

- iv. The findings and conclusion: (2 marks)

Section Two Research Methods – Analysis and Interpretation

Question Three

(10 marks)

Dr Webb was interested in the effects of social media on teens. She asked her friend Amy if she could use her four adolescent children in her study and follow their use of social media. Amy agreed that her 13-year-old twins Monica and Ashley, her 15-year-old son Tim, and her 18-year-old son Xavier could be a part of Dr Webb's study.

The table below represents some of the data Dr Webb collected on Amy's children in 2011.

Table 1: Number of hours spent in 2011 on various forms of social media

	Facebook	Instagram	Snapchat	Twitter
Monica	1555	460	856	29
Ashley	1200	980	320	26
Tim	765	460	10	49
Xavier	205	6	2	31

- a) Calculate the mean amount of time Amy's children spent on Facebook in 2011. (1 mark)

- b) Describe three of the findings from Dr Webb's research. (3 marks)

- c) Identify whether the data collected is objective or subjective. (1 mark)

- d) Define the term mentioned in part 'c' of this question. (1 mark)

e) Identify whether the research that Dr. Webb conducted is experimental or non-experimental.

Justify your response.

(2 marks)

f) Dr. Webb's research was found to have low reliability and high validity. Define both of these terms.

i. Reliability

(1 mark)

ii. Validity

(1 mark)

Question Four**(12 marks)**

A study was conducted to determine the effect of meditation on memory in high school students. Researchers randomly divided 100 Year 11 students into two groups, with 50 participants in each group. Group One participated in 20 minutes of meditation before the test while Group Two did not participate in meditation. All participants sat a memory recall test at the same venue at the same time. The test required participants to recall as many words as possible from a list of 20 words they had been shown earlier.

a) Identify two extraneous variables that would need to be controlled in this piece of research.

(2 marks)

b) Identify two variables that were controlled for both the experimental and control group. (2 marks)

c) Outline one reason why extraneous variables are attempted to be controlled for. (1 mark)

- d) Below is a section of scores attained in the study. Calculate the mode, median and range for this data set. (3 marks)

Median: _____

Mode: _____

Range: _____

Group 1 Participants	No. of words recalled
Participant 1	12
Participant 2	11
Participant 3	13
Participant 4	13
Participant 5	14
Participant 6	2
Participant 7	18

The researcher found that, on average, Group 2 participants remembered 12.6 words. A statistical test between the means for both groups found that $p > 0.05$.

- e) State whether difference between the means for the two groups were statistically significant. Justify your answer (2 marks)

- f) Explain what the term statistically significant means. (2 marks)
