



Joseph Banks Secondary College

**Research Methods and Biological
Influences**
Worth 8% of the school mark
Question/Answer Booklet

PSYCHOLOGY

Unit 3

Student name : _____

Time allowed for this paper

Reading time before commencing work: **three minutes**

Working time for the paper: **fifty minutes**

Materials required/recommended for this paper

To be provided by the supervisor:

This Question/Answer Booklet
Formulae and Data Booklet

To be provided by the candidate:

Standard items: pens (blue/black preferred), pencils (including coloured), sharpener,
correction tape/fluid, eraser, ruler, highlighters.

Special items: non-programmable calculators approved for use in the WACE
examinations

Important note to candidates

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of this paper

Section	Number of questions available	Suggested working time (minutes)	Your Mark	Marks available	Percentage of test
Section One: Research Methods	2	20		27	50
Section Two: Short Answer	3	41		22	50
Total				49	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**(10 marks)**

Read the following scenario and answer the questions that follow

Renowned Perth Psychologist, Dr Wrona, was interested in the relationship between sleep levels and an individual's mood state. After putting an advertisement in a local newspaper, she gathered 50 volunteers (ages 18-65), who experienced the following hours of sleep per night:

1-4 OR 6-9. She then asked them a series of open-ended questions in her clinic in order to understand the nature of their respective mood states.

a) Identify the Independent Variable/s. (1 mark)

b) Identify the Dependent Variable. (1 mark)

c) Create an operationalised hypothesis for this research study. (4 marks)

d) Identify the **type of data** collected by the psychologist. (1 mark)

e) Describe one disadvantage/limitation of using this form of data. (1 mark)

f) Describe **another data collection method** that Dr Wrona should use in conjunction with the data she has already collected. (2 marks)

Question Two (7 marks)

A psychologist wanted to investigate students' attitudes towards fast food advertising on television.

a) Name two qualitative methods the psychologist could use to collect data. (2 marks)

b) Outline one benefit of using qualitative methods for collecting research data. (1 mark)

c) Outline two limitations of using qualitative methods for collection research data. (2 marks)

d) Explain one way in which the role of the experimenter is different in qualitative research compared with quantitative research (1 mark)

e) The psychologist designs a question that measures attitudes on a scale of 1 to 10. Identify the name of this scale. (1 mark)

Question Three**(10 marks)**

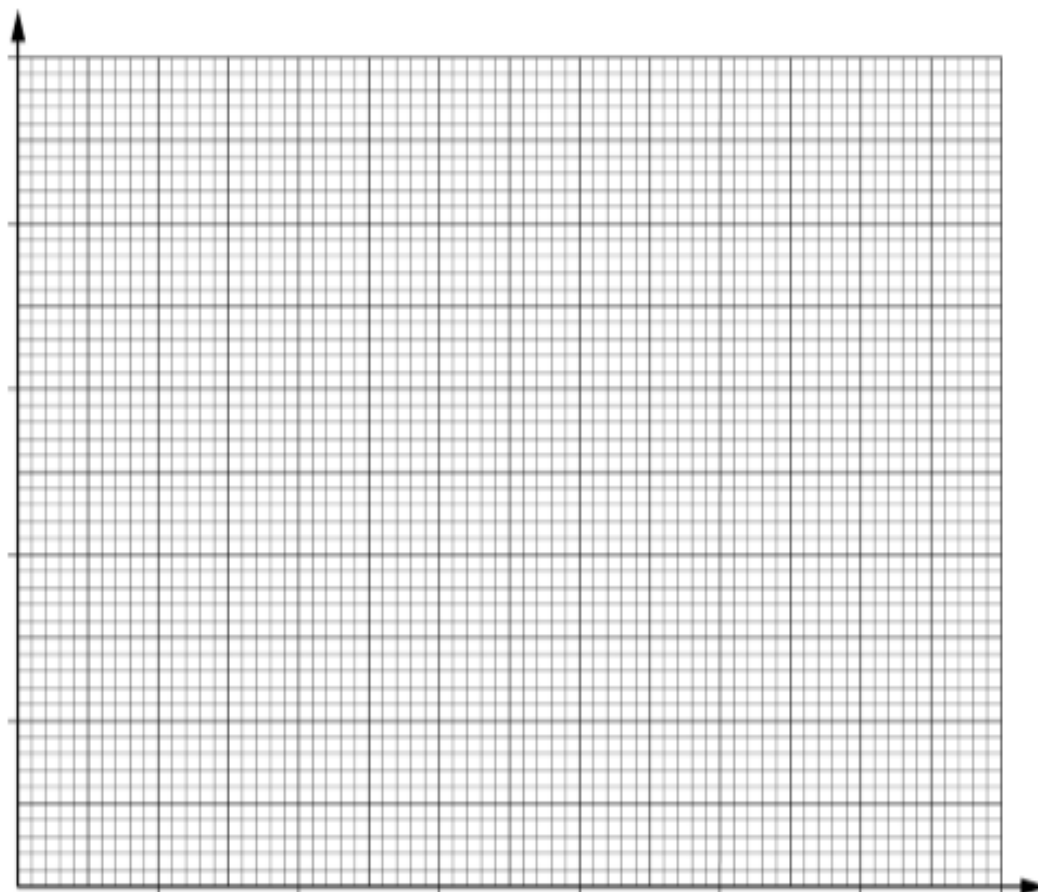
a) Define the term objective quantitative data and give two examples.

(3 marks)

b) Researchers were interested in the relationship between exercise and self-esteem. Data from six participants are shown in the table below.

Participant	Hours of exercise per week	Life satisfaction score
1	2.0	14
2	2.5	16
3	1.5	12
4	5.0	18
5	3.5	17
6	1.0	11

c) Produce a scatter plot of the data on the grid below.

(5 marks)

d) Outline what the results indicate about the association between exercise and self-esteem.

(2 marks)

Section two – Biological Influences

(22 marks)

Question Four

(16 marks)

a) List two functions that are controlled by the

i. Somatic Nervous system

(2 marks)

ii. Autonomic nervous system

(2 marks)

b) A person is sitting inside a quiet house watching television when suddenly there is a loud noise outside.

i. List three symptoms produced by the autonomic nervous system that the person might experience.

(3 marks)

- ii. Name the division of the autonomic nervous system that is responsible for producing these symptoms. (1 mark)

- c) Compare afferent and efferent neurons. (2 marks)

Similarity	Difference

- d) Stacey got up during the night to get a glass of water. While walking to the kitchen, she felt something brush against her leg. She did not realise that it was her cat and was so scared that she tripped and fell, hitting her head on the wall. Stacey's mother woke up and found her daughter lying on the floor. When she asked Stacey what had happened, Stacy had trouble in hearing her and asked her mother to repeat. Stacy had problems processing what her mother was saying.

- i. Name nervous system division that would have allowed Stacey used to walk to the kitchen (1 mark)

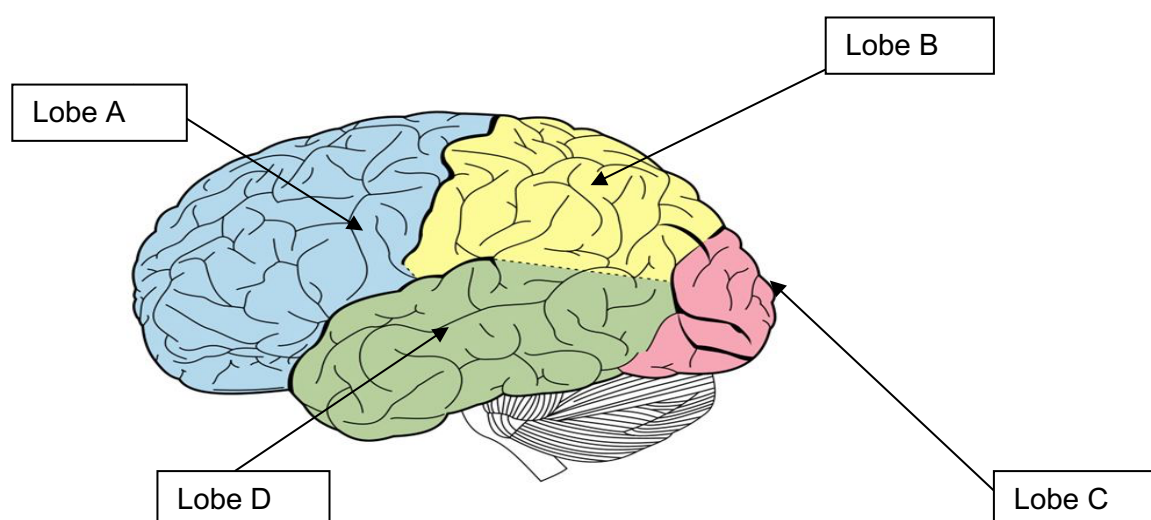
- ii. Name the lobe of Stacey's brain that has most likely suffered trauma and explain the reason for your response, using evidence from the scenario. (3 marks)

- iii. If Stacy woke up and was unable to process visual information, name the lobe of the brain that might have been affected. (1 mark)

- iv. Name the lobe of the brain responsible for processing the feeling of the cat brushing against Stacey's leg. (1 mark)
-

Question Five**(6 marks)**

- a) Name the brain lobes and describe the functions of each in the table below. (6 marks)



Lobe	Lobe Name	Lobe Function/s
A		
B		
C		