

PSYCHOLOGY

Year 11

Please place your student identification label in this box

Time allowed for this paper

Reading time before commencing work:	ten minutes
Working time for paper:	three hours

MATERIALS REQUIRED/RECOMMENDED FOR THIS PAPER

To be provided by the supervisor:

- This Question/Answer Booklet

To be provided by the candidate:

- Standard items: Pens, lead pencils, eraser or correction fluid, ruler, highlighter.
- Special items: Non-scientific calculators.

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	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of total exam
Section One: Research methods	4	4	40	25	25
SECTION TWO: Short answers	7	7	100	60	60
SECTION THREE: Extended answers	3	1	40	15	15
				Total	100

Instructions to candidates

1. The rules for the conduct of Western Australian external examinations are detailed in the *Year 11 Information Handbook 2015*. Sitting this examination implies that you agree to abide by these rules.
2. Write your answers in this Question/Answer Booklet.
3. 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.
4. Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.
 - Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
 - Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number.
Fill in the number of the question(s) that you are continuing to answer at the top of the page.

This section has **four (4)** questions. Answer **all** questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question(s) that you are continuing to answer at the top of the page.

Suggested working time: 40 minutes.

Question 1**(6 marks)**

Researchers wanted to determine whether eating a healthy lunch improved mood. A sample of 10-year old boys was provided with a healthy lunch consisting of a sandwich and fruit. The boys were then asked to rate their mood on a 10-point scale. The responses were rated to give a 'mood score' where 20 was the most positive. The results are shown in the table below.

Participant	Mood score
1	2
2	1
3	7
4	6
5	2
6	2
7	1

- (a) This research method was criticised for having poor reliability. Define reliability as it is used in psychological research. (1 mark)

- (b) This research method was criticised for having poor validity. Define validity as it is used in psychological research. (1 mark)

(c) Write an operational hypothesis for this study. (3 marks)

d) The factor that is being manipulated in an experiment is called the: (1 mark)

Question 2 (4 marks)

The ages of participants used in a research study are listed below.

22, 32, 21, 25, 31, 33, 27, 21

Calculate the mean, mode, median and range from these ages.

Mean: _____

Mode: _____

Median: _____

Range: _____

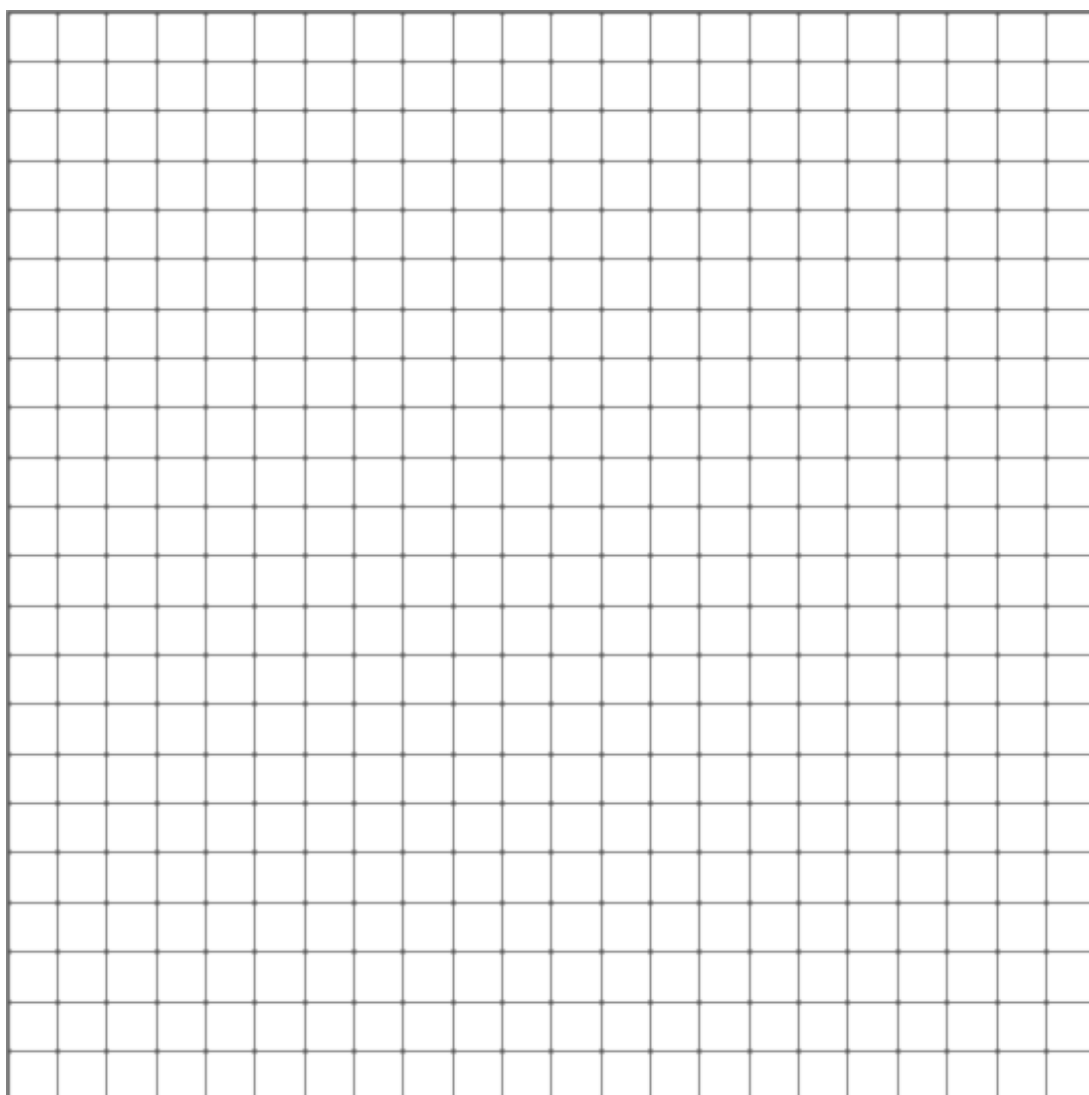
Question 3**(7 marks)**

An experiment was conducted to determine whether the number of times people heard a list of 20 words increased their memory as measured by their ability to recall those words. The data from the experiment are shown below.

Number of words recalled with increasing number of trials

Number of trials	Number of words recalled
2	3
3	5
4	7
5	11
6	12
7	14
8	15

- (a) Construct a graph to display these data on the grid below. A spare grid is provided at the end of this Question/Answer booklet. If you need to use it, cross out this attempt. **(5 marks)**



- (b) Name the operationalised independent variable and the operationalised dependent variable. (2 marks)

Operationalised independent variable: _____

Operationalised dependent variable: _____

Question 4 (8 marks)

Researchers are designing an experiment to determine whether listening to music while exercising causes people to exercise harder. There will be 100 participants in the experiment, 50 in the experimental group, and 50 in the control group.

- (a) Identify whether the study described above is an experimental or non-experimental study. Explain briefly the reason for your answer. (2 marks)

- (b) List **two** variables that should be controlled in this experiment. (2 marks)

One: _____

Two: _____

- (c) Identify **one** ethical consideration relevant to this study. Explain how the researchers would deal with this consideration in their research. (2 marks)

- (d) Describe one method the researchers could use to determine which participants will be in the control group and which participants will be in the experimental group. (2 marks)

Section Two: Short answer**60% (60 marks)**

This section has seven (7) sections. Answer all questions. Write your answers in the spaces provided.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

- Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
- Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question(s) that you are continuing to answer at the top of the page.

Suggested working time: 100 minutes.

Question 1**(7 marks)**

a) Complete the table below.

(6 marks)

Class of recreational drug	List one (1) effect on behaviour	Example of this class of drug
Hallucinogen		
Depressant		
Stimulant		

b) State why exercise is frequently used in combination with or even as an alternative for drug therapy for people suffering from anxiety or depression. **(1 mark)**

Question 2

(5 marks)

Researchers conducted an investigation into hemispheric specialisation with two groups of healthy, male, right-handed adults with intact brains. The research is summarised in the table below.

Group	Details	Average response time	
		Right visual field	Left visual field
1	Participants were required to focus on a central point on a screen. A word was flashed to one side of the screen and participants had to say the word aloud as quickly as possible. Half of the words were presented to the participants' right visual field and half to the left visual field.	350 milliseconds	450 milliseconds
2	Participants were required to focus on a central point on a screen. A picture was flashed to one side of the screen and participants were required to press a space bar on a keyboard with either hand as quickly as possible when they saw the picture. Half of the pictures were presented to the participants' right visual field and half to the left visual field.	450 milliseconds	350 milliseconds

- (a) Explain why there is a difference in the average response times for the right and left visual fields for groups 1 and 2. (3 marks)

- (b) What do the results of this information indicate about hemispheric specialisation and the processing of verbal and non-verbal information? (2 marks)

Question 3**(6 marks)**

- a) State the name given to the part of the brain that connects the two cerebral hemispheres and describe the function of this part. (2 marks)

- b) Name the hemisphere of the brain responsible for judging rhythm and time. (1 mark)

- c) Name the hemisphere of the brain responsible for speaking, writing and comprehending language. (1 mark)

- d) Name the hemisphere of the brain responsible for logical thought and encompassing mathematical ability. (1 mark)

- e) Name the hemisphere of the brain responsible for painting a picture of a landscape. (1 mark)

Question 4**(11 marks)**

Functional magnetic resonance imaging (fMRI) is a neuroimaging technique that may be used to identify changes in the brain during learning.

- a) Describe an advantage of using fMRI when a person is undertaking a learning task. (2 marks)

- b) If a person has a metallic implant in their body, such as a heart pacemaker or a pin in a bone, they are advised not to undertake a certain brain scanning technique. What is the name of this technique? (1 mark)

- c) What does an electroencephalograph (EEG) measure? (1 mark)

- d) A patient experiencing speech difficulties was treated for a brain tumour. A doctor wishes to check that treatment of the patient's brain tumour has been successful. He conducts both a positron emission tomography (PET) scan and a computerised tomography (CAT) scan of the patient's brain. Why might the doctor order **both** scans? (2 marks)

- e) A CAT scan is an example of a still picture. Explain what this means. (3 marks)

- f) A sugar tracer (fluorodeoxyglucose) is the most common type of tracer used in which type of scanning technique? (1 mark)

- g) State one negative factor of using fMRI scans. (1 mark)

Question 5 (17 marks)

- a) The brain can be broken up into three major parts, the hindbrain, midbrain and forebrain.

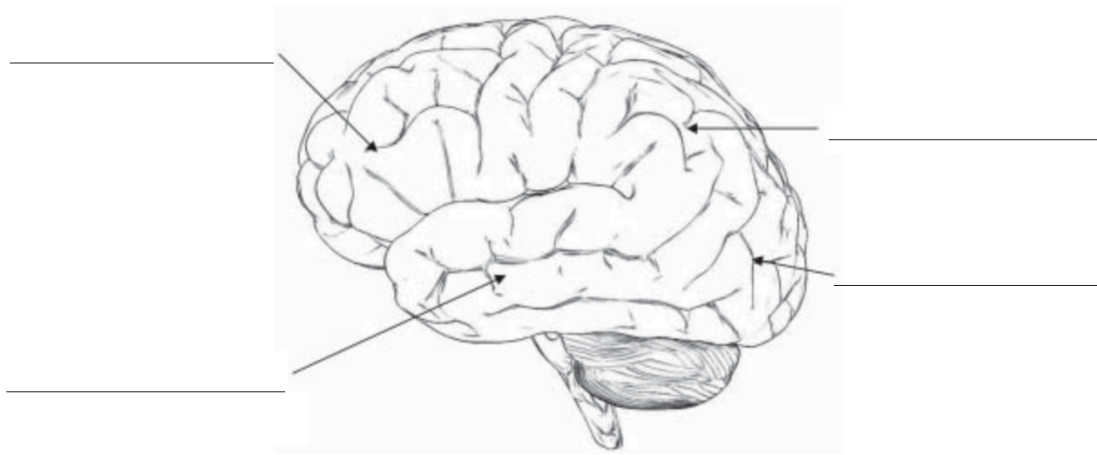
- (i) Which of these three parts is the largest and most highly developed part of the brain? (1 mark)

- (ii) Which of these three parts receives all messages from the senses except smell? (1 mark)

- (iii) Which of these parts plays a major role in how we think, feel and behave? (1 mark)

b) Correctly label the brain lobes indicated on the diagram below.

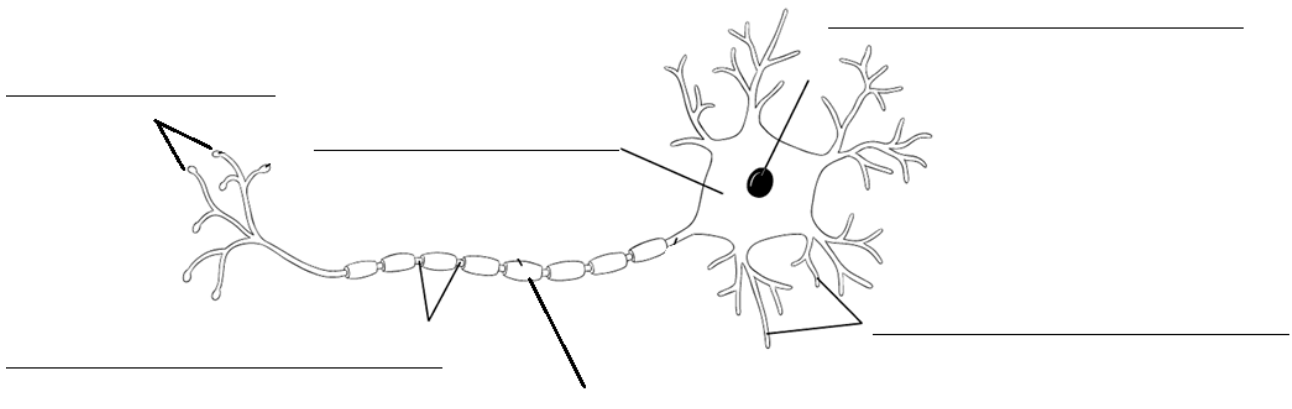
(4 marks)



c) Andy fell heavily from her horse while riding in a cross-country event, and suffered head injuries as a result. Following the accident, her vision has become impaired. Which lobe of the brain did Andy most likely damage? (1 mark)

d) Correctly label the diagram below.

(4 marks)



e) Write a definition for the term 'neuron'.

(1 mark)

f) Describe how neurotransmitters work in communicating messages between neurons at a synapse.

(3 marks)

g) Describe the location of the cerebral cortex. (1 mark)

Question 6 (5 marks)

a) Describe two (2) key ideas in Francis Galton's (1869) theory of intelligence. (2 marks)

b) According to Howard Gardner (1999) there are nine different types of intelligence. Name and describe any two (2) of these types of intelligence. (2 marks)

c) State the name of the person who came up with the theory of Emotional Intelligence. (1 mark)

Question 7**(6 marks)**

The Stanford-Binet Intelligence Scale, Wechsler's Intelligence Scale and Intelligence Quotient are three tests which are used to measure intelligence.

- a) Describe the Stanford-Binet Intelligence Scale, explain who was involved with developing the test and describe its relevance in society today. (3 marks)

- b) Describe the Wechsler's Intelligence Scale, explain who was involved with developing the test and describe its relevance in society today. (3 marks)

This section has two (2) sections. You must answer **one** (1) question.

Pages are included at the end of the questions for planning and writing your answers.

- Planning: If you use a page for planning, indicate this clearly at the top of the page.
- Answering the question: In the pages provided indicate clearly the number of the question you are answering.
- You should refer to relevant psychological concepts, theories and research in your answer.

Two (2) marks are allocated for paragraph structure and grammar/spelling.

Suggested working time: 40 minutes.

Question 12**(15 marks)**

Roger Sperry was a neuropsychologist and neurobiologist who, together with David Hubel and Torsten Wiesel won the 1981 Nobel Prize in Physiology and Medicine for his work with split-brain research.

In your answer, you should

- Explain the procedure involved in a split-brain operation.
- Describe one reason why the split-brain operation would be used on a patient.
- Explain why split-brain patients shown an image in only their left visual field cannot vocally name what they have seen.
- Explain why split-brain patients touching a mysterious object with only the left hand, while also receiving no visual cues in the right visual field, cannot say out loud the name of that which the right side of the brain is touching.
- Explain what the term 'hemispheric specialisation' refers to and provide examples.

OR

Question 13**(15 marks)**

Intelligence has been defined in many different ways such as in terms of one's capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning, creativity and problem solving. There have been numerous tests designed to test ones intelligence.

In your answer, you should

- Define the term 'intelligence tests'.
- Refer to an example of a group intelligence test and an individual intelligence test.
- Describe two advantages of group intelligence testing.
- Describe two disadvantages of group intelligence testing.
- Describe two advantages of individual intelligence testing.
- Describe two disadvantages of individual intelligence testing.

Question number: _____

[illegible]

Question number: _____

[illegible]

[illegible]

Question number: _____

[illegible]

[illegible]

Question number: _____

