

**PSYCHOLOGY**

**Year 11 ATAR Unit 1 SEMESTER ONE EXAM 2016**

**Question/Answer Booklet**

Please place your student identification label in this box

Time allowed for this paper

Reading/planning time before commencing work: ten minutes

Working time for paper: three hours

Material required/recommended for this paper

To be provided by the supervisor

This Question/Answer Booklet

To be provided by the candidate

Standard materials:pens, pencils, eraser, correction fluid/tape, ruler, highlighters

Special items: non programmable calculators

Important note to candidates

No other materials may be taken into the examination room. It is your responsibility to ensure that you do not have any unauthorised notes or other material 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 | Suggested working time (minutes) | Number of questions available | Number of questions to be answered | Marks available | %  of exam |
| Section One:  Research  Methods | 30 | 2 | 2 | 30 | 20 |
| Section Two: Short Answer | 90 | 4 | 4 | 76 | 55 |
| Section Three: Extended Response | 60 | 2 | 2 | 50 | 25 |
|  |  |  | Total marks |  | 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. 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.

1. 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 that you are continuing to answer at the top of the page.

Section One: Research Methods 20% (30 marks)

This section has two (2) 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 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 that you are continuing to answer at the top of the page.

Suggested working time: 30 minutes

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Question 1 (20 marks)

A psychology teacher discovered that during exam periods her Year psychology 11 students were constantly eating lollies to keep them focussed. She wanted to conduct an experiment to see if the amount of sugar the students were consuming had an effect on their test results. Leading up to their first test of the semester, she provided the students with lollies. One half of the students would consume lollies with a normal sugar content and the other half would consume a placebo of sugar free lollies. She then collated the results to see which group had a higher average on the test.

(a) Write an appropriate operational hypothesis for this research study. (3 marks)

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(b) Name the independent variable and the dependent variable in this research study.

(2 marks)

Independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(c) State the sample and population of the experiment. (2 marks)

Sample: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Population: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(d) List **two (2)** variables that should be controlled in the above experiment. (2 marks)

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Two: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(e) The experimenter found the results to be reliable. Define the term reliable. (1 mark)

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(f) To ensure a fair test the experimenter included a placebo. Define the term placebo and explain the placebo effect. (3 marks)

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(g) Outline **three (3)** pieces of information that the psychologist must tell the participants to ensure that they give informed consent to participate in the study. (3 marks)

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(h) Identify and describe **two (2)** ethical considerations in research that the experimenter must follow to protect participants’ rights. (4 marks)

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Question 2 (10 marks)

The Psychology teacher decided to take her experiment further and look for a relationship between sugar intake and the students’ semester results. She graphed her results below.

(a) Identify the strength and direction of the graph below. (2 marks)

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(b) Outline what the data indicates about sugar consumption and semester results. (2 marks)

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(c) Calculate the following for the students’ sugar consumption in the graph above. (4 marks)

Mode:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Median:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mean: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(d) Another student was added to the Psychology class and the teacher included his average from his past school of 67%, explain the effect this would have on the mean of the Psychology results.

(2 marks)

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**End of Section One**

**Section Two: Short Answer 55% (80 Marks)**

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 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 that you are continuing to answer at the top of the page.

Suggested working time: 90 minutes

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Question 3 (41 marks)

Researchers conducted an experiment 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 participants’ right visual field and half were presented 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 key board 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 were presented to the left visual field. | 450 milliseconds | 350 milliseconds |

(a) Explain why there is a difference in the average response time for the right and left visual fields for groups and one two. (3 marks)

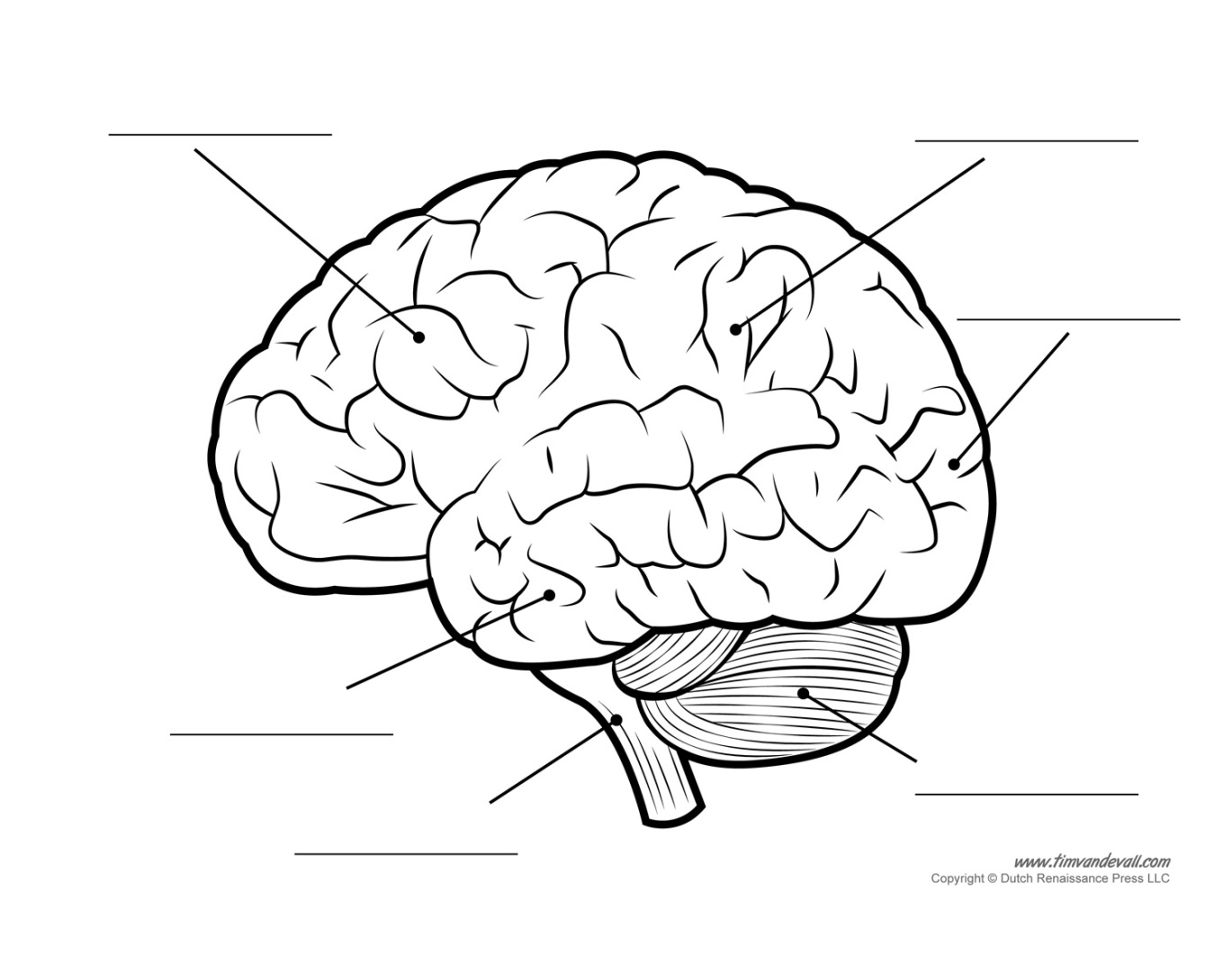
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(b) What do the results of this information indicate about hemispheric specialisation and the processing of verbal and non-verbal information? (2 marks)

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(c) Label the following diagram as outlined below.

1. Label all blank lines. (6 marks)
2. Label the four (4) lobes. (4 marks)
3. Label the midbrain, hindbrain and forebrain. (3 marks)



Phineas gage was a railway worker who suffered trauma to the brain after being impaled by a metal rod. The rod entered through his left cheek and exited through the top of his skull.

(d) Name the part of the brain that was damaged and outline the side effects of this brain damage.

(3 marks)

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(f) Had Gage suffered trauma to the RIGHT hemisphere of his brain, where in his body would you expect

to see the impairment? (1 mark)

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(g) 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)

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(h) Name the hemisphere of the brain that is responsible for judging rhythm and time. (1 mark)

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

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

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

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(l) A patient experiencing speech difficulties was treated for a brain tumor. A doctor wishes to check that treatment of the tumor 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)

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(m) Complete the following table. (9 marks)

|  |  |  |  |
| --- | --- | --- | --- |
| Class of psychoactive drug | One (1) physiological effect | One (1) psychological effect | One (1) example of a drug |
| Stimulants |  |  |  |
| Depressants |  |  |  |
| Hallucinogens |  |  |  |

(n) Outline one (1) way in which exercise can affect emotion. (2 marks)

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**Question 4 Total 15 marks**

(a) Using **Spearman’s** two factor theory of intelligence, explain why a person who scores well on the vocabulary part of an intelligence test, will be expected to perform well in all the other parts too.

(4 marks)

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(b) What was **Binet’s** contribution to the field of intelligence and why was it important? (2 marks)

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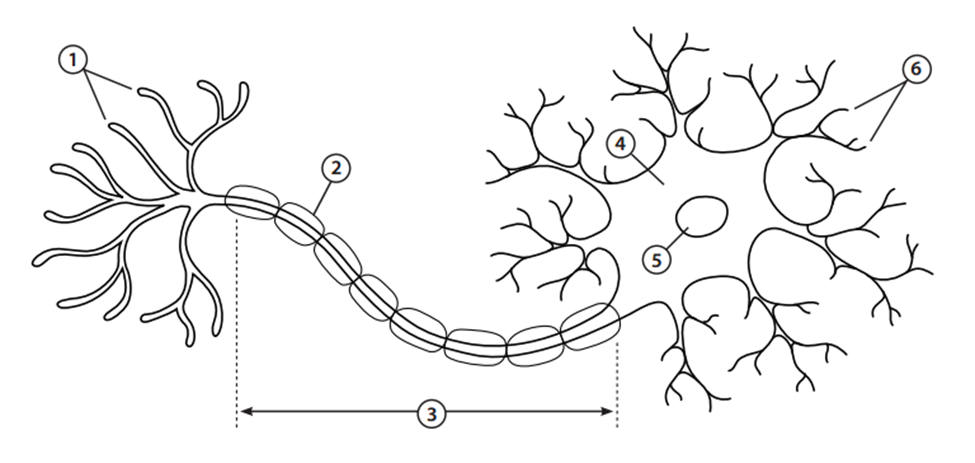
(c) Dr. Charles Xavier, a psychologist, has been hired by an advertising company to help them recruit more ‘intelligent’ employees. His first objective is to prepare a presentation on the importance of **‘emotional intelligence’** in the workplace. Briefly discuss the theory behind emotional intelligence and explain what evidence is there to suggest it is required for the workplace. (4 marks)

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(d) Complete the following table detailing the various theorists/theories associated with intelligence. (5 marks)

|  |  |
| --- | --- |
| Name of theorist | Overview of theory |
|  | Intelligence is thought to be a combination of both general intelligence and specific intelligence. |
| Binet and Simon |  |
|  | Empirical model of intelligence. Developed tests to measure intelligence in adults as well as in children. |
| Gardner |  |
|  | EQ can matter more than IQ – it can help effective social interaction with others. |

**Question 5 Total 13 marks**

a) The parts of the neuron have been labelled with numbers 1-6. Write the correct name for each part and explain what it does.

|  |  |
| --- | --- |
| 1.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 4.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 6.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

(b) Draw arrows on the above diagram to indicate the direction a nervous impulse would travel. (1 mark)

Question 6 Total 9 marks

Adam is undergoing a functional magnetic resonance imaging (fMRI) scan. He is asked to perform some cognitive tasks during the fMRI scan.

(a) Name the substance in the bloodstream that is detected by the fMRI scan. (1 mark)

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(b) Outline the general information that the fMRI scan provides when a patient performs a cognitive

task. (1 mark)

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c) Explain **two (2)** differences between a MRI scan and a fMRI scan. (2 marks)

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Julie has been complaining of constant headaches that don’t seem to go away. These headaches are starting to affect her daily life in relation to functioning, completing tasks and movement. Julie’s GP has referred her to a neurologist who has recommended that Julie undergo brain function testing.

d) Outline **two (2)** possible test options and describe the process of each. (4 marks)

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e) What is an electroencephalograph (EEG) is used to measure. (1 mark)

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**End of Section Two**

Section Three: Extended Answer 25% (50 Marks)

This section contains two (2) questions. You must answer both questions.

Pages are included at the end of the two 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.

Suggested working time: 60 minutes

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Question 9 25 marks

Part of the role of a psychologist is to assess people’s intelligence in workplaces. Different theories of intelligence include the intelligence quotient (IQ), emotional intelligence and multiple intelligences. Describe **two** of these different theories of intelligences and how they may be used to understand an individual.

In your answer, you should:

* Define intelligence, IQ, emotional intelligence and multiple intelligences.
* Describe how an understanding of different theories of intelligence may be useful.
* Refer to theorists related to different understandings of intelligence that you have mentioned above.
* Link appropriate theorists to the theories of intelligence.
* Finish with a conclusion

Question 10 25 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.
* Describe how the structure and function of the brain related to hemispheric specialisation.
* Outline how Roger Sperry’s research contributed to modern day knowledge regarding “split brain” procedures and hemispheric specialisation,

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