**Insert School Logo**

**Semester One**

**Examination 2024**

**Question/Answer booklet**

**PSYCHOLOGY**

**UNIT 1**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Teacher: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Time allowed for this paper**

Reading time before commencing work: Ten minutes

Working time for the 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 (blue/black), pencils, eraser or correction fluid/tape, ruler, highlighters.

Special items: up to three calculators that have no capacity to create or store programs or text are permitted in this examination.

**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 material. 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 exam |
| Section One:  Short answer | 6 | 6 | 120 | 122 | 70 |
| Section Two:  Extended Answer  Part A | 1 | 1 | 60 | 19 | 10 |
| Part B | 2 | 1 | 30 | 20 |
|  |  |  | **Total** |  | 100 |

**Instructions to candidates**

1. The rules for the conduct of Western Australian external examinations are detailed in the *Year 12 Information Handbook: Part II Examinations.* Year 11 exams use the same rules and sitting this examination implies that you agree to abide by these rules.
2. Answer the questions according to the following instructions:

Section One and Section Two Part A: Write your answers in this Question/Answer booklet preferably using a blue/black pen. Do not use erasable or gel pens. Wherever possible, confine your answers the lines/spaces provided.

Section Two Part B: Consists of two questions. You must answer one question. Write your answer in this Question/Answer booklet preferably using a blue/black pen. Do not use erasable or gel pens.

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

# Section One: Short Answer 70% (122 marks)

This section has **six** questions. Answer **all** questions. Write your answers in the space provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end of the 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.

Suggested working time for this section is 120 minutes.

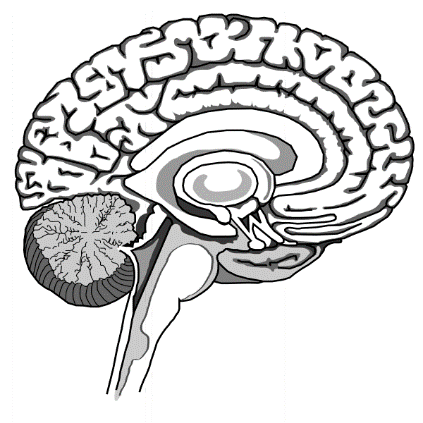
**Question 1 (18 marks)**

1. Name the **two** components of the central nervous system. (2 marks)

|  |  |
| --- | --- |
| 1. |  |
| 2. |  |

1. Joubert syndrome is a rare disorder in infants where the part of the brain that controls balance and coordination is underdeveloped or absent.

Label the part of the brain and structure affected by Joubert Syndrome on the diagram below: (2 marks)



**Question 1 (continued)**

(c) Compare the function of an interneuron and a sensory neuron. (2 marks)

(d) For each of the following actions, identify the lobe of the brain that corresponds most clearly. (5 marks)

|  |  |
| --- | --- |
| **Function** | **Lobe** |
| Listening to music |  |
| Avoiding walking into a pole |  |
| Making a moral decision |  |
| Sensing temperature |  |
| Processing visual information |  |

Researchers at a University are conducting research into human brain dysfunction for people who use illegal stimulants. They are recruiting male and female adults between the ages of 19 and 60 years and will use MRI scans to understand how the human brain is activated by doing things such as looking at pictures, thinking or playing games. They intend for the findings to help develop better treatments to reduce the side effects of illegal stimulants.

  (e) (i) Identify the aim for this study. (1 mark)

(ii) Identify the population and sample for this study. (2 marks)

|  |  |
| --- | --- |
| **Population** |  |
| **Sample** |  |

(iii) State why snowballing would be an appropriate method to recruit the sample. (1 mark)

(iv) Explain **one** disadvantage of using snowballing to recruit participants. (3 marks)

**Question 2 (20 marks)**

Walter Freeman conducted a series of brain procedures on human patients.

(a) (i) Identify the part of the brain Freeman’s procedure was targeting. (1 mark)

(ii) Identify the location of this part of the brain. (2 marks)

(iii) Describe **two** roles of the part of the brain targeted by Freeman. (4 marks)

(b) Name the procedure Freeman used. (1 mark)

(c) State how Freeman breached the ethical practice of withdrawal rights in his conduct. (1 mark)

In modern research, Freeman would be bound by ethical guidelines that would have prevented him from continuing.

(d) Identify the role of ethical guidelines in psychological research. (1 mark)

(e) Shade the location of the primary visual cortex on the diagram below. (1 mark)

A brain with a black background

Description automatically generated

**Question 2 (continued)**

(f) (i) Compare the location and function of the primary motor cortex and the primary sensory cortex. (6 marks)

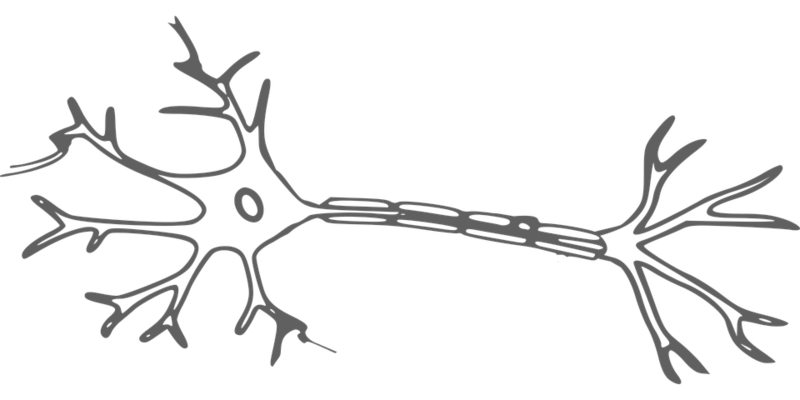
(ii) State the common feature of the structure of the primary motor cortex and the primary sensory cortex. (1 mark)

(g) Jesse experiences difficulty talking when they listen to music. Their doctors have conducted a CT scan and found no indication of a tumour. Explain why a useful choice could be functional magnetic resonance imaging to investigate Jesse’s brain function. (2 marks)

**Question 3 (23 marks)**

1. State the function of neurons. (1 mark)

(b) Label the parts of a neuron on the diagram below: (3 marks)



(c) Describe the structure of the myelin sheath. (2 marks)

(d) (i) Name the space between two neurons. (1 mark)

(ii) Describe the role of this space in neurotransmission. (2 marks)

Researchers at Mial University wanted to find out if adult neurons are activated more quickly to sounds played through headphones or ear buds. They recruited 100 males from within a 50km radius of the University. They measured the time between a sound being played and the participant pushing a button.

They were assigned to three different groups:

Condition 1: Headphones

Condition 2: Ear buds

Condition 3: No ear buds or headphones

Results from the study were as follows:

|  |  |
| --- | --- |
| **Condition** | **Mean Time in seconds** |
| Headphones | 0.5 |
| Ear buds | 0.41 |
| No earbuds or headphones | 0.8 |

(e) (i) Identify the control group in this study. (1 mark)

**Question 3 (continued)**

(ii) Describe how a mean score is calculated. (2 marks)

(iii) Identify **one** advantage of using a mean score. (1 mark)

(iv) Based on the data from the table on page 11, draw a conclusion about the response speed of the group who used headphones and the group that used ear buds. (2 marks)

(v) Are the results generalisable to the population? Give reasons for your answer.

(4 marks)

When the results were presented to peer reviewers, they did not accept the results as reaction time in response to a sound did not measure the activation of neurons.

(f) (i) Evaluation of research takes a number of factors into account. Describe which factor for the evaluation of research has been described by the reviewers. (2 marks)

(ii) Describe the type of signal transmitted through neurons. (2 marks)

**Question 4 (14 marks)**

(a) (i) Identify the location of the hypothalamus in the brain. (1 mark)

(ii) Outline two functions of the hypothalamus. (2 marks)

Function 1:

Function 2:

(b) For each of the lobes of the brain listed below, describe **two** behavioural changes likely to occur if there was damage to that lobe:

(4 marks)

|  |  |
| --- | --- |
| **Lobe** | **Behavioural Change** |
| **Parietal** |  |
| **Temporal** |  |

(c) Describe the location, structure and function of the reticular formation.

(3 marks)

|  |  |
| --- | --- |
| Location: |  |
| Structure: |  |
| Function: |  |

(d) Pol is reading a range of scientific sources to better understand the human brain. She is required to provide a reference list. List **four** required components in a reference for an online article. (4 marks)

1,

2.

3.

4.

**Question 5 (24 marks)**

1. Alex is 24 and has a healthy and loving relationship with her mother. She says that her mother is very close to her, and they always have a special relationship. Describe how Alex’s statement illustrates ‘attachment’ according to Bowlby.

(3 marks)

(b) Bowlby identified as having an ‘evolutionary perspective’. Describe how attachment behaviour can be seen as having an evolutionary function. (3 marks)

(c) (i) Explain how a case study of wild/feral children illustrates Bowlby’s theory of maternal deprivation.

(4 marks)

(ii) Suggest why a case study is the only research design likely to be approved for cases of wild/feral children.

(2 marks)

**Question 5 (continued)**

(iii) Outline the concept of “enriched environment” in terms of child development.

(2 marks)

(iv) Outline the impact of an enriched environment for the development of cognitive skills in childhood. (2 marks)

(d) (i) Interviews are one method used to collect data. Describe the type of data collected in interviews.

(2 marks)

(ii) Complete the table below applied to interviews. (6 marks)

|  |  |  |
| --- | --- | --- |
| **Type of interview** | **Description** | **Strength** |
|  | **Participants meet in a small group with the researcher to discuss topic of research.** |  |
| **Structured interview** |  |  |
|  |  | **Allows for comparison of data as well as information/description the researcher may not have thought of.** |

**Question 6 (23 marks)**

Mari is 9 years old and wants to become an elite soccer player. Her parents have registered her at the local soccer club, and she attends training regularly.

(a) (i) Name the developmental stage for a Western Australian child in primary school.

(1 mark)

(ii) Outline the area of physical development at this age that is likely to help her achieve her sporting goal. (3 marks)

(iii) Describe why Mari’s social development will be important in her goal to be a member of a sporting team. (2 marks)

(iv) Outline how Mari’s emotional development might be progressing at her age. (3 marks)

(b) Describe **two** physical changes in motor skills that occur during older age. (4 marks)

**Question 6 (continued)**

(c) In order to study the effect of ageing on emotional development, researchers recruited 100 participants to complete a rating scale with a top score of 50 on the same day. The participants were identified as follows:

|  |  |
| --- | --- |
| Age in years | Number of participants |
| 18 – 28 | 20 |
| 29 - 39 | 20 |
| 40 - 50 | 20 |
| 51 - 61 | 20 |
| 62 - 72 | 20 |

(i) Describe the type of research design applied to this study. (2 marks)

(ii) Outline **one** limitation of this type of design related to participant variables. (2 marks)

(d) Rating scale data was analysed and an association between each age group and happiness was reported using Pearson’s correlation coefficient.

|  |  |
| --- | --- |
| Age in years | Correlation |
| 18 – 28 | r = 0.2 |
| 29 - 39 | r = 0.4 |
| 40 - 50 | r = 0.5 |
| 51 - 61 | r = 0.8 |
| 62 - 72 | r = 0.9 |

(i) Identify the relationship between age and happiness for the groups in the ages of 62-72 compared to the 18-28 age group. (4 marks)

**Question 6 (continued)**

(ii) Name the type of graph represented below. (1 mark)

(iii) Identify **one** disadvantage of using correlation to study the effect of ageing on happiness. (1 mark)

**End of Section One**

# Section Two: Extended Response 30% (49 marks)

This section has **two** parts.

You must answer **one** question in Part A and **one** question in Part B.

**Part A:** This part has **one** compulsory question. Write your answer in the space provided.

**Part B:** Answer **one** question from a choice of **two.** Write your answer in the space provided.

Supplementary pages for planning/continuing your answers to questions are 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.

Recommended working time for this section is 60 minutes.

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**Part A:** This part has **one** compulsory question.

Write your answer to Question 7 on pages 26-29. When you have answered this question, turn to pages 32 and 33 to complete Part B.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Question 7 (19 marks)**

Lim was walking home from school when she noticed something hiding behind a tree. Suddenly, a person wearing a scary mask jumped out and shouted “Boo!”. Lim screamed and ran home as fast as she could.

When she arrived at home and felt safe and was able to relax.

In your answer, you must:

* Describe the function of the peripheral nervous system. (3 marks)
* Outline the role of the two parts of the autonomic nervous system**.** (6 marks)
* State **two** objective physiological measures that could be used to measure Lim’s response in this scenario. (2 marks)
* Identify **one** advantage of using an objective measure over a subjective measure.

(1 mark)

* Propose a directional hypothesis in relation to the likely results applying **one** of your measures to the threat response of secondary students to a fright. (4 marks)
* Explain how the use of a rating scale could be applied to research about fright responses in secondary students. (3 marks)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part B:** Answer **one** question from a choice of **two**.

Indicate the question you will answer by ticking the box next to the question.

Write your answer on the pages provided following Question 9.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Question 8 (30 marks)**

Silva and Cor are very excited about being parents of their first child who is now 9 months old. At their parenting classes, they are learning about cognitive development and the work of Jean Piaget.

Silva and Cor agree to test their child’s responses to the Piagetian task appropriate to their age. They agree for their child to be part of an observational study using the task and comparing the responses of their child to other participants.

Explain how Piaget’s theory is applied to Silva and Cor’s child.

In your answer, you must:

* Define cognitive development. (1 mark)
* Describe language development in the first nine months of life. (4 marks)
* Outline Piaget’s theory of cognitive development. (2 marks)
* Explain the concept of a ‘schema’ in Piaget’s theory. (2 marks)
* Identify Piaget’s stage of development that Silva and Cor’s new baby is in. (1 mark)
* Describe the features of this stage of cognitive development. (4 marks)
* Outline the Piagetian task that applies to this stage of development including information about how the child would be expected to react during this task before and after completion of this stage. (5 marks)
* Identify **two** limitations of Piaget’s stage theory of development. (2 marks)
* Describe observational research design and explain why it would be an appropriate design to study 9-month-old children. (4 marks)
* Outline **one** method to improve the reliability of data collection for an observational study. (2 marks)
* Use appropriate psychological terminology in a clear and logical way. (3 marks)

**or**

**Question 9 (30 marks)**

Perla and Gita have two young children and were discussing the concept of attachment. Perla declared that her child demonstrated Ainsworth’s Type A attachment while Gita stated that her child was Type C. They were both worried about the classifications.

Perla stated that she did not believe in Ainsworth’s classifications as they were culturally limited.

Discuss Ainsworth’s types of attachment in the context of her Strange Situation study.

In your answer you must:

* Outline emotional development in infancy. (3 marks)
* Describe the aim of Ainsworth’s study. (1 mark)
* Outline the method used in the Strange Situation. (8 marks)
* Describe Ainsworth’s findings regarding Type A and Type C attachment. (8 marks)
* Identify **one** contribution of Ainsworth’s study to psychology. (1 marks)
* Describe observational research design and explain why it was the appropriate design for the Strange Situation. (4 marks)
* Outline **one** method to improve the reliability of data collection for an observational study. (2 marks)
* Use appropriate psychological terminology in a clear and logical way. (3 marks)

**End of exam**

Question number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Additional working space**

Question number(s): ……………………

**Additional working space**

Question number(s): ……………………

**Additional working space**

Question number(s): ……………………

**Additional working space**

Question number(s): ……………………

**ACKNOWLEDGEMENTS**

Question 1:

Yale Medicine. (2023). Thalamus and hypothalamus in cocaine dependence. https://www.yalemedicine.org/clinical-trials/thalamus-and-hypothalamus-in-cocaine-dependence

Image Created by [Nickbyrd](https://commons.wikimedia.org/wiki/User:Nickbyrd). A 2D vector drawing of the brain sliced down the center from viewed from the side. [Creative Commons](https://en.wikipedia.org/wiki/en:Creative_Commons) [Attribution-Share Alike 3.0 Unported](https://creativecommons.org/licenses/by-sa/3.0/deed.en) license. https://commons.wikimedia.org/wiki/File:Brain\_%28PNG%29.png

Question 2:

Image Brain Stem normal human.svg Licence: Patrick J. Lynch, medical illustrator; C. Carl Jaffe, MD, cardiologist. <https://creativecommons.org/licenses/by/2.5/> https://commons.wikimedia.org/wiki/File:Brain\_stem\_normal\_human.svg

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