



ATAR course sample examination two

Question/Answer booklet

PSYCHOLOGY

Place one of your candidate identification labels in this box.
Ensure the label is straight and within the lines of this box.

WA student number: In figures

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In words

Time allowed for this paper

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

Number of additional
answer booklets used
(if applicable):

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 preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

Special items: up to three calculators, which do not have the capacity to create or store programmes or text, are permitted in this ATAR course 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 examination
Section One Short answer	8	8	120	119	70
Section Two Extended answer					
Part A	1	1	60	18	10
Part B	2	1		30	20
Total					100

Instructions to candidates

- The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook: Part II Examinations*. Sitting this examination implies that you agree to abide by these rules.
- Answer the questions according to the following instructions.

Sections One and 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 answer to the line 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.
- You must be careful to confine your answers to the specific questions asked and to follow any instructions that are specific to a particular question.
- 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.

See next page

Section One: Short Answer

70% (119 Marks)

This section has **eight** questions. Answer **all** questions. Write your answers in the spaces 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.

Suggested working time: 120 minutes.

Question 1**(17 marks)**

(a) State a psychological definition of memory.

(2 marks)

(b) Compare the sensory and long-term memory stores of the Atkinson and Shiffrin (1968) multi-store model with reference to capacity and duration.

(3 marks)

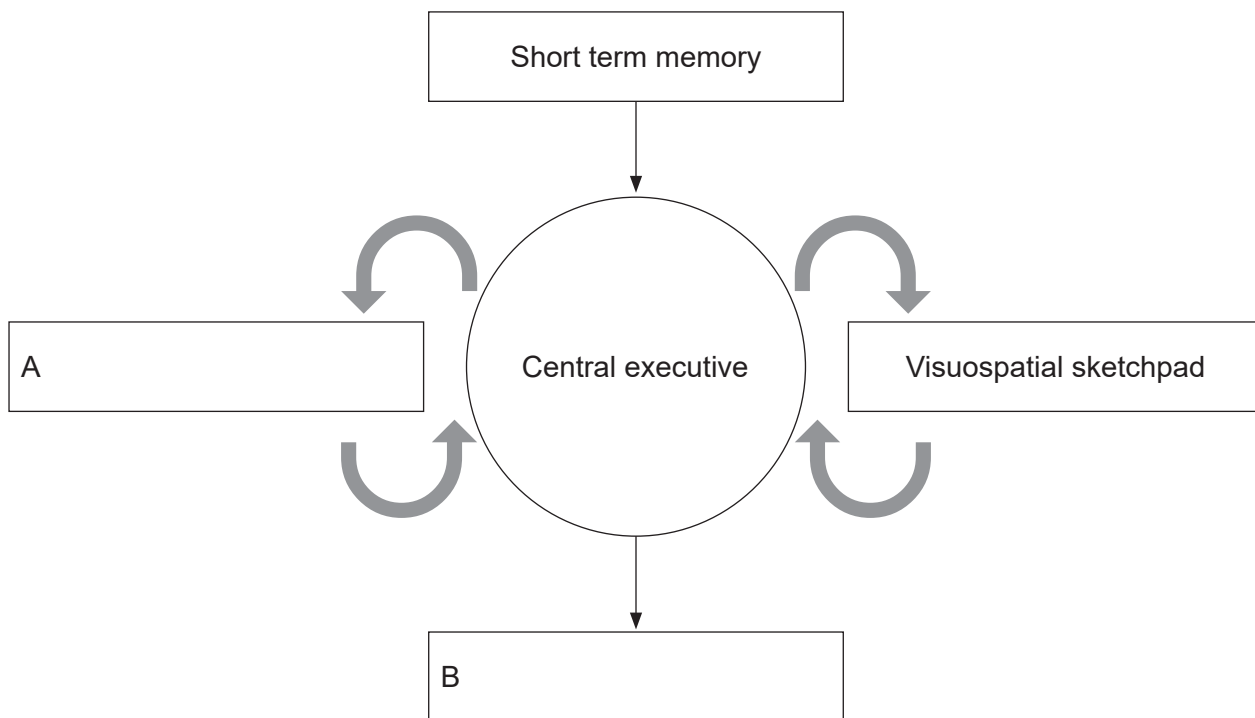
(c) State **one** limitation of Atkinson and Shiffrin's model of memory according to Baddeley and Hitch, and outline how the Baddeley and Hitch (1974) working memory model addresses this.

(2 marks)

See next page

Question 1 (continued)

The diagram below represents Baddeley and Hitch's (1974) working memory model.



(d) Label parts A and B in the diagram above. (2 marks)

Vu was working away from home and was reading from a storybook over the phone to his children. He was describing a picture to his children. The children listened while Vu spoke.

(e) Referring to Baddeley and Hitch's (1974) working memory model, outline the role of each of these components with respect to Vu's and the children's working memory.

(i) Central executive (2 marks)

Vu: _____

Children: _____

(ii) Visuospatial sketchpad (2 marks)

Vu: _____

Children: _____

See next page

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Baddeley updated the working memory model in 2000 and added another component.

- (f) Identify the name given to this new component. (1 mark)

- (g) Describe the role of this component and apply it to Vu's children. (3 marks)

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Question 2

(14 marks)

Chronic Traumatic Encephalopathy (CTE) is a cause of memory loss that is thought to be a result of repeated head injuries and concussion. A large majority of recent research on CTE has been on athletes in contact sports such as football.

A study published in 2022 proposed there is a cause-and-effect relationship between repetitive head impacts (RHI) and CTE. This study acknowledged it is not feasible to conduct experimental research on humans to establish a cause-and-effect relationship using these two variables, and instead applied a measure called the Bradford Hill criteria for causation.

- (a) Identify the cause of memory loss in CTE. Circle the correct response. (1 mark)

Trauma

Degeneration

Drug induced

Currently there are no clinical diagnostic criteria for CTE and while most cases are diagnosed post-mortem during autopsies, there are common changes to behaviour and emotion reported prior.

- (b) State **two** impacts that CTE can have on behaviour **or** emotion. (2 marks)

One: _____

Two: _____

- (c) Identify the following variables in the 2022 study above.

(i) Independent: _____ (1 mark)

(ii) Dependent: _____ (1 mark)

- (d) Using your understanding of ethical guidelines and practices, explain why it is **not** feasible to conduct experimental research on this topic. (3 marks)

See next page

The 2022 study identified that one of the major challenges with regards to research on CTE is the lack of longitudinal studies.

- (e) (i) Propose how researchers could conduct a longitudinal study on CTE. (4 marks)

- (ii) State **one** strength and **one** limitation of longitudinal studies as a research design. (2 marks)

Strength: _____

Limitation: _____

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Question 3

(19 marks)

Bruno is in Year 7 and is the youngest of three children. His older sister, Carlotta, is in Year 12 and is a talented pianist who is planning on studying music at university. His brother, Dino, is in Year 8 and plays the cello in the school orchestra. Bruno remembers always watching his siblings play at concerts, and them winning many awards at school assemblies for their musical achievements.

Bruno is already able to play the violin and his parents praise him when he tells them that he is going to audition for the school orchestra.

- (a) Complete the table below demonstrating your understanding of **four** processes of observational learning. (8 marks)

Process	Description	Application to Bruno
	Individuals need to be focused on the modelled behaviour	
Retention		
		Bruno is already able to play the violin
Motivation		

- (b) Describe vicarious reinforcement and include **one** example of this from the scenario above. (3 marks)

Bandura, Ross and Ross (1961) conducted a study on observational learning also known as the 'Bobo Doll' experiment.

- (c) State the aim of Bandura, Ross and Ross's (1961) research. (1 mark)

- (d) Referring to the scenario on page 8, assess which sibling is likely to have had the most influence on Bruno's behaviour. Justify your answer with findings from Bandura, Ross and Ross's (1961) research. (3 marks)

- (e) (i) With reference to their sampling method, select whether or not Bandura, Ross and Ross's (1961) sample is representative of the target population. Circle the correct response. (1 mark)

Yes

No

- (ii) Justify your response to part (e)(i). (3 marks)

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Question 4

(10 marks)

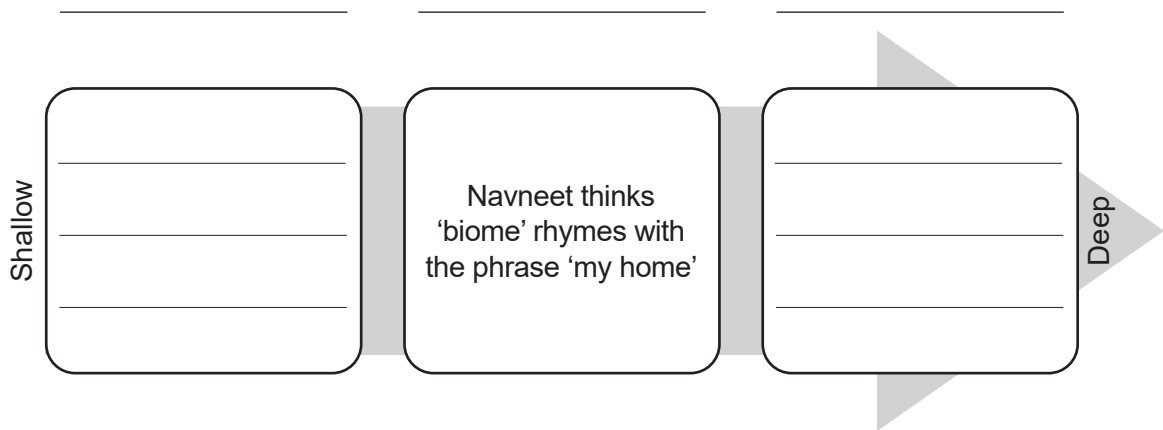
Navneet is revising for a Geography test. He identifies two terms that he is having difficulty remembering the meaning of and decides to focus on these terms during his revision.

Terms:

- Biome: an area with similar flora, fauna and climate.
- Climate zone: an area with similar long-term weather patterns such as rainfall and temperature.

(a) Identify the type of remembering that Navneet will be experiencing while revising. (1 mark)

(b) Demonstrate your understanding of Craik and Lockhart's (1972) levels of processing by labelling the diagram below and providing examples in relation to Navneet. (5 marks)



Craik and Tulving (1975) conducted a study which examined how levels of processing had an impact on recall.

(c) Summarise the method used in their study. (3 marks)

(d) Outline **one** contribution of Craik and Tulving's (1975) research. (1 mark)

Question 5

(16 marks)

Irene's workplace is interested in investigating the psychological wellbeing of its employees. Most of her colleagues describe Irene as being a warm and outgoing person who works well with everyone in her team, but is overly concerned about judgement from other people and will quickly go along with their ideas at the expense of her own.

- (a) Identify **one** factor from Ryff's (1989) model of psychological wellbeing that Irene is high in and identify **one** factor she is low in. (2 marks)

High: _____

Low: _____

All employees are given a copy of a survey designed to measure each factor of psychological wellbeing. The survey is a condensed version of the Ryff psychological wellbeing inventory, which has 18 questions in total. The employees rate statements (3 per factor) on a scale of 1 to 6.

The results from the survey indicated that overall the employees at Irene's work scored low on the personal growth factor.

- (b) List **two** characteristics of someone who would score low on personal growth. (2 marks)

One: _____

Two: _____

The medium and long forms of Ryff's psychological wellbeing inventory consist of 54 and 84 standardised questions respectively. It has been used in many contexts.

- (c) Define reliability and outline why these inventories would be more reliable than the survey administered at Irene's work. (2 marks)

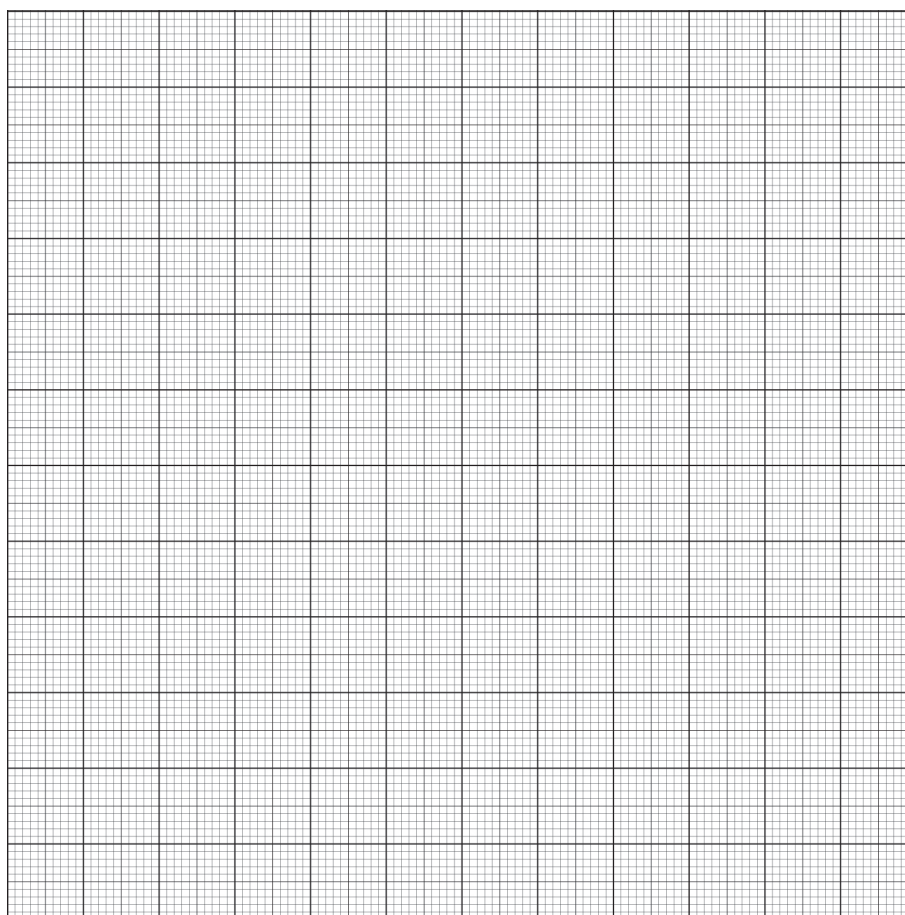
Question 5 (continued)

The human resources manager implemented a wellbeing improvement program to increase the employees' level of wellbeing on the personal growth and self-acceptance factors. She used the scores from the survey as a baseline and then had the employees complete it again after the program.

The mean scores before and after the program are shown in the table below.

	Before	After
Personal growth	2	5.5
Self-acceptance	3.5	5

- (d) Construct an appropriate graph to display the data. (5 marks)



A spare grid is provided at the end of this Question/Answer booklet. If you need to use it, cross out this attempt and indicate that you have redrawn it on the spare page.

The human resources manager decides to use a mixed methods research design to investigate the impact of the program.

- (e) Describe **one** strength of a mixed methods design. (2 marks)

- (f) Propose how the human resources manager could collect qualitative data by applying this method to the scenario. (3 marks)

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Question 6

(13 marks)

Shivanya is going on her first solo overseas trip to Europe after completing high school. Her first destination is Paris with a stopover in Singapore for two hours. When Shivanya arrives at the airport, she finds out that her flight to Singapore has been delayed by four hours and she panics as this means she will miss her connecting flight to Paris.

Shivanya feels calmer when the airline tells her they can book her a seat on another flight from Singapore to Paris for no extra charge.

Her other concern is her accommodation for the night in Singapore. She doesn't want to spend over 18 hours waiting at the terminal, so she decides to ask the airline if they are willing to provide her with a voucher for a hotel near the airport.

- (a) State Selye's (1936) psychological definition of stress. (1 mark)

Lazarus and Folkman (1984) created the Transactional Theory of Stress and Coping.

- (b) Describe the key idea of Lazarus and Folkman's (1984) theory. (2 marks)

- (c) Outline the role of the following cognitive appraisals and apply them to Shivanya. (4 marks)

Primary: _____

Application: _____

Secondary: _____

Application: _____

(d) Explain the method of coping Shivanya is using in the scenario. (3 marks)

(e) Name and outline **one** other method of coping Shivanya could use. Include an example relating to the scenario. (3 marks)

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Question 7

(12 marks)

Researchers are wanting to investigate changes in the sleep cycle and ageing, specifically the relationship between age and the amount of time spent in rapid eye movement (REM) sleep. They collect a sample of 200 participants between the ages of 5 and 75. The researchers collect data using a range of physiological measures, including electroencephalogram (EEG) and heart rate.

- (a) Identify the type of non-experimental research design used in this study. (1 mark)

- (b) Outline **two** characteristics of REM sleep other than eye movement and heart rate. (2 marks)

One: _____

Two: _____

- (c) Construct a directional hypothesis for this study. (2 marks)

- (d) Describe and justify which sampling method would be most appropriate for this study. (3 marks)

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After the researchers collected data and ran several statistical analyses on the relationship between age and the amount of time in REM sleep, they found $r = - 0.8$.

- (e) Discuss whether the hypothesis you constructed in part (c) was supported or rejected. (4 marks)

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Question 8

(18 marks)

Nerida is a 16-year-old who is experiencing partial sleep deprivation. For the past few months she has averaged five hours of sleep per night and wakes up multiple times during the night. One of the things that wakes her up is social media notifications from her phone, which is on her bedside table next to her as she also uses it as an alarm to wake her up in the morning. Nerida says it's convenient for her to put her phone there as she often scrolls through social media before she goes to bed or if she can't fall asleep.

- (a) Identify and describe the main cause of Nerida's sleep deprivation. (3 marks)

- (b) Complete the table below to name and demonstrate **one** physiological and **one** psychological impact that partial sleep deprivation could have on Nerida. (4 marks)

	Name	Demonstrate how it will have an impact
Physiological		
Psychological		

He et al. (2020) conducted a study investigating techniques to improve sleep hygiene.

- (c) State the aim of He et al.'s (2020) research. (1 mark)

Below is an example of a statement from one of the data collection measures used in their research – the Pre-sleep Arousal Scale (PSAS):

When I try to fall asleep in my usual environment bedroom, I am distracted by sounds/noise in the environment (e.g. ticking of clock, house noises, traffic).

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

(d) (i) State the method of data collection that the PSAS is classified as. (1 mark)

(ii) Identify **one** strength and **one** limitation of this method of data collection. (2 marks)

Strength: _____

Limitation: _____

(e) Apply the findings of He et al.'s (2020) research to Nerida. (4 marks)

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Question 8 (continued)

- (f) Propose **one** technique, other than environment and management of devices, that Nerida could use to improve her sleep hygiene. (3 marks)

End of Section One

See next page

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Section Two: Extended answer**30% (48 Marks)**

This section has **two** parts.

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 the 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**10% (18 Marks)**

This part has **one** compulsory question.

Write your answer to Part A on pages 23 to 27. When you have answered this question turn to pages 28 to 29 to select either Question 10 or Question 11.

Question 9**(18 marks)**

Growing up, Mateo's neighbours had a pug (dog) that was aggressive and would frequently escape from their front yard. One of Mateo's earliest memories is feeling terrified while the dog chased him and tried to bite his ankles.

Now, Mateo fears all dogs, not just pugs, and actively avoids them wherever possible. When going for a run, he will cross the road if he knows a house that he's about to go past has a dog in the front yard. Mateo will not go to any venues such as cafes that are dog-friendly.

Mateo's partner desperately wants to get a dog and believes that his phobia is having a negative impact on Mateo's life. Mateo decides to see a psychologist to help treat the phobia and the psychologist suggests they try systematic desensitisation.

Write an extended answer that demonstrates Science inquiry and Psychological knowledge and understanding in relation to the scenario above.

In your answer you must:

- define classical conditioning (1 mark)
- outline the key features in the process of classical conditioning (5 marks)
- apply these features to explain why Mateo has developed a phobia of dogs (5 marks)
- summarise how systematic desensitisation could be used to treat Mateo's phobias (5 marks)
- evaluate systematic desensitisation as a treatment for phobias. (2 marks)

See next page

Part B

20% (30 Marks)

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 11.

Question 10**(30 marks)**

A teacher, Sadie, is concerned about her Year 9 Maths class' level of motivation. She has noticed that students seem disinterested in the content and they are reluctant to participate in the activities. Their test scores have also dropped despite Sadie having a prize for the top mark in class.

Sadie reads articles on the internet about motivation and decides she likes Deci and Ryan's (1985) self-determination theory. After reading further about the theory, she decides to implement some of their ideas, particularly those about psychological needs, in her class to help improve her students' motivation.

Sadie decides to use test scores as a way of measuring the improvements in motivation. She also tells the students that if the students improve their results by 5%, they will receive a lolly.

Write an extended answer that demonstrates Science inquiry and Psychological knowledge and understanding in relation to the scenario above.

In your answer you must:

- define motivation (1 mark)
- describe **two** key assumptions of Deci and Ryan's (1985) self-determination theory (4 marks)
- describe **three** psychological needs according to the self-determination theory (6 marks)
- assess which **one** of these needs isn't presently being met in Sadie's class (3 marks)
- suggest how Sadie could support the other **two** needs in her class (4 marks)
- describe the type of motivation the lollies represent and assess the impact they will have according to the self-determination theory (3 marks)
- state **two** strengths and **one** limitation of the self-determination theory (3 marks)
- explain how the experimenter effect could have an impact on the results (3 marks)
- use appropriate psychological terminology. (3 marks)

or

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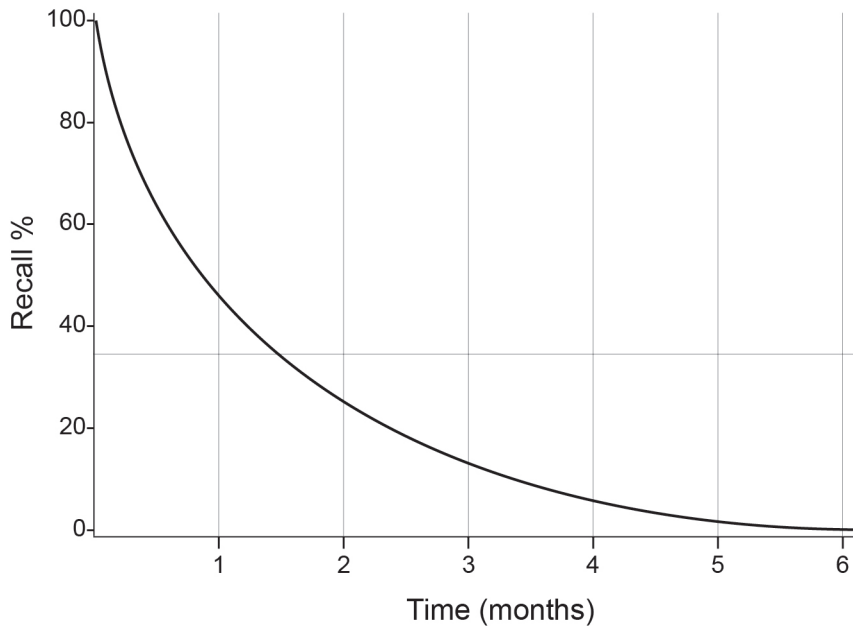
Question 11

(30 marks)

Dr Lamont is conducting a research study of people who have experienced natural disasters, specifically on memory and forgetting.

He tracked participants over a six-month period, starting a week after the natural disaster and interviewed them at three-week intervals, asking them to describe their personal experiences during the event and any emotions associated with these experiences. The average level of recall over time is displayed in the graph below.

Figure: Average recall of events following a natural disaster



One survivor had markedly higher levels of recall, even after six months, which they thought may be because they regularly discussed the events with a psychologist. Another participant had low levels of recall, even at the start of the study where they struggled to recall key aspects of the event.

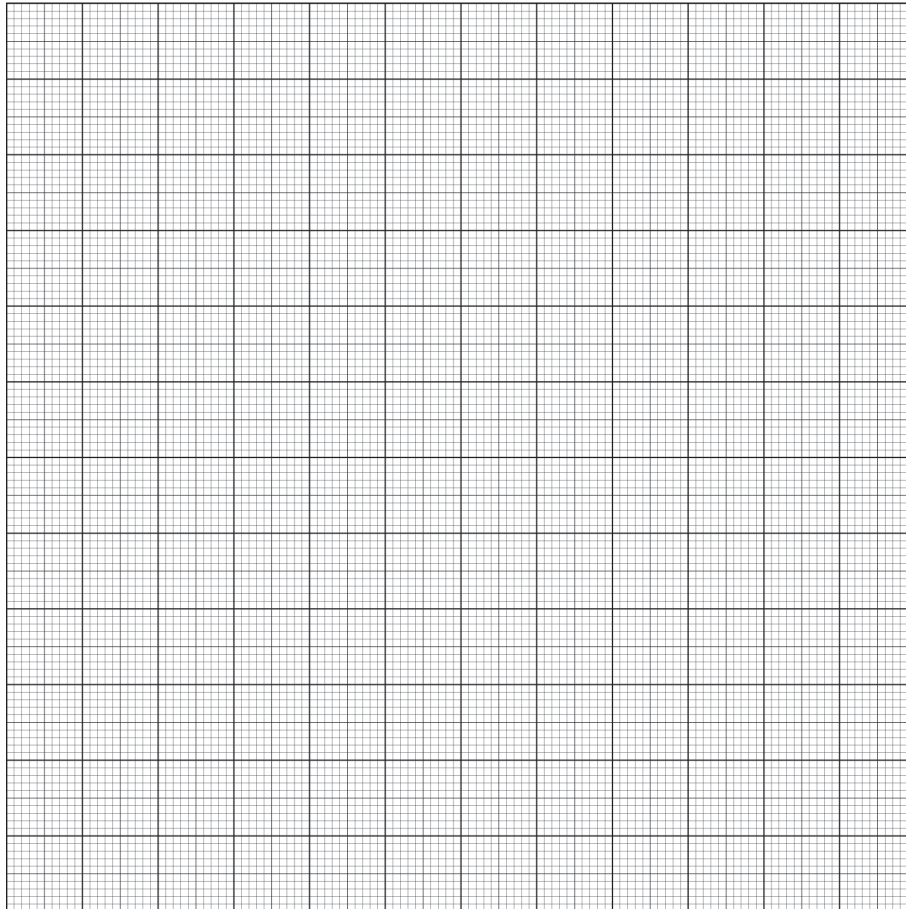
Write an extended answer that demonstrates Science inquiry and Psychological knowledge and understanding in relation to the scenario above.

In your answer you must:

- explain the role of the hippocampus in the formation of the participant's memories of the natural disasters (3 marks)
- name and describe a case study which has informed your understanding of the hippocampus (3 marks)
- name and explain the role of another brain structure that would be involved in the formation of the survivors' memories of the natural disasters (4 marks)
- use Ebbinghaus' forgetting curve to discuss why one survivor had higher levels of recall even after six months (4 marks)
- discuss why one survivor was unable recall details of the event at the start of the study (4 marks)
- discuss how Dr Lamont should ensure informed consent procedures are implemented at the start of the study (4 marks)
- evaluate this scientific inquiry (5 marks)
- use appropriate psychological terminology. (3 marks)

End of questions

Spare grid for question 5(d)



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ACKNOWLEDGEMENTS

- Question 1** Adapted from: Baddeley, A. (2010, February). Working memory [Diagram]. *Current Biology*, 20(4), p. 137. Retrieved May, 2021, from [https://www.cell.com/current-biology/comments/S0960-9822\(09\)02133-2](https://www.cell.com/current-biology/comments/S0960-9822(09)02133-2)
- Question 2** Paragraphs 1–4 information from: Nowinski, J. C., Bureau, S. C., Buckland, M. E., et al. (2022, July). Applying the Bradford Hill Criteria for Causation to Repetitive Head Impacts and Chronic Traumatic Encephalopathy. *Frontiers in Neurology*, 13. Retrieved March, 2023, from <https://pubmed.ncbi.nlm.nih.gov/35937061/>

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