



Victorian Certificate of Education
Trial Examination

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

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 Letter

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2023 PSYCHOLOGY

Written trial examination – Unit 3

Reading time: (15 minutes)

Writing time: (90 minutes)

QUESTION AND ANSWER BOOK

Structure of book

Section	Number of questions	Number of questions to be answered	Number of marks
A	40	40	40
B	6	6	50
			90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and one scientific calculator.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question and answer book
- Answer sheet for multiple-choice questions
- Additional space is available at the end of the book if you need extra space to complete an answer

Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct and sign your name in the space provided to verify this.
- Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.
- All written responses must be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

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STUDENT NUMBER

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 Letter

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Datasheet for multiple-choice questions

Question				
1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D
18	A	B	C	D
19	A	B	C	D
20	A	B	C	D
21	A	B	C	D
22	A	B	C	D
23	A	B	C	D
24	A	B	C	D
25	A	B	C	D

Datasheet for multiple-choice questions

Question				
26	☐ A	☐ B	☐ C	☐ D
27	☐ A	☐ B	☐ C	☐ D
28	☐ A	☐ B	☐ C	☐ D
29	☐ A	☐ B	☐ C	☐ D
30	☐ A	☐ B	☐ C	☐ D
31	☐ A	☐ B	☐ C	☐ D
32	☐ A	☐ B	☐ C	☐ D
33	☐ A	☐ B	☐ C	☐ D
34	☐ A	☐ B	☐ C	☐ D
35	☐ A	☐ B	☐ C	☐ D
36	☐ A	☐ B	☐ C	☐ D
37	☐ A	☐ B	☐ C	☐ D
38	☐ A	☐ B	☐ C	☐ D
39	☐ A	☐ B	☐ C	☐ D
40	☐ A	☐ B	☐ C	☐ D

Signed:_____

SECTION A – Multiple-choice questions

Instructions for Section A

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1; an incorrect answer scores 0.

Marks will not be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Questions 1-6 refer to the following information.

According to research, people who chew gum while learning new information are more likely to remember the information when asked to recall it. Mr Whittle is a Psychology teacher at a local secondary college. He decides to test this theory on his Year 12 Psychology class. His class contains 20 students. The students first participate in the control condition where they are required to listen to a list of 15 words that are read aloud by Mr Whittle. At the end of the list, students are asked to write down, in any order, the words they can remember.

Unfortunately, after completing the control condition, Mr Whittle ran out of time and the experimental condition was conducted the following day. The experimental condition required students to repeat the same procedure as the control condition, however this time they were required to chew gum while the words were read aloud.

Question 1

What type of design did Mr Whittle use?

- A. within subjects design
- B. between subjects design
- C. controlled experimental design
- D. mixed design

Question 2

A disadvantage of the design used by Mr Whittle is that

- A. it does not control for individual participant differences.
- B. more people are needed to ensure that changes in the dependent variable have been caused due to the manipulation of the independent variable.
- C. it can produce order effects.
- D. it is less time consuming compared to other experimental designs.

Question 3

How could the disadvantage identified in Question 2 be prevented by Mr Whittle?

- A. Mr Whittle could use a research assistant which would enable the control and experimental conditions to be conducted at the same time.
- B. Mr Whittle could match participants based on similar characteristics relevant to the investigation, such as memory ability.
- C. Mr Whittle could use more participants to increase the reliability of his research.
- D. Mr Whittle could conduct counterbalancing.

Question 4

When participants were in the control condition, Mr Whittle read aloud the words with a one second gap between each word. That night, while reflecting on the experiment, Mr Whittle felt that this wasn't long enough. The following day, when participants were involved in the experimental condition, Mr Whittle made the gap between words 2 seconds. Which of the following has occurred which may affect the results of the investigation?

- A. non-standardised instructions and procedures
- B. order effects
- C. situational variables
- D. demand characteristics

Question 5

When the students returned to class the following day, the temperature of the classroom was very hot compared to the previous day as the air conditioning had malfunctioned. This environmental factor that may affect the dependent variable is an example of

- A. non-standardised instructions and procedures.
- B. order effects.
- C. situational variables.
- D. demand characteristics.

Question 6

Mr Whittle would like to calculate the median number of words recalled when the students were chewing gum. To do this, he should

- A. place the results in order from lowest to highest and determine the middle number.
- B. place the results in order from lowest to highest and add the 10th and 11th numbers together and divide by 2.
- C. add all of the numbers together and divide by the number of students in the class.
- D. calculate the difference between the lowest and highest number of words recalled.

Question 7

Nicole is working at her parents' dry cleaning store. Late in her shift, she accidentally touches a steam iron that is incredibly hot. Without thinking, she immediately withdraws her hand. This action performed by Nicole is an example of a spinal reflex. Which of the following correctly outlines the spinal reflex as it applies to this scenario?

- A. It is an unconscious response which does not involve a decision made by Nicole's brain. It involves the somatic nervous system only and is considered an adaptive response.
- B. It is a conscious response which involves activation of Nicole's brain once the reflex has occurred. The peripheral nervous system is involved in this response.
- C. It is an involuntary response whereby the spinal cord has made a decision that the stimulus is dangerous and therefore sends information via motor neurons towards Nicole's hand, causing her to withdraw.
- D. It is a reflexive response which involves activation of both the somatic and central nervous systems. The spinal cord makes an adaptive response and sends information via motor neurons causing Nicole to move her hand.

Questions 8 and 9 refer to the following information.

Jesse is about to compete in a 100 metre sprint at his school athletics carnival. While waiting for his race to commence, he is incredibly nervous and worried that he may finish last which he will find embarrassing.

Question 8

The physiological changes that are occurring for Jesse as the race is about to start include

- A. increased sweating, increased release of adrenalin, increased release of cortisol and increased breathing.
- B. pupil dilation, bladder relaxation, increased glucose release and increased salivation.
- C. increased breathing, increased sweating, decreased salivation and increased heart rate.
- D. decreased sweating, decreased heart rate, increased release of cortisol and increased breathing.

Question 9

According to Lazarus and Folkman's Transactional Model of Stress and Coping, Jesse is most likely to primarily appraise the race as

- A. stressful and harm/loss.
- B. stressful and threat.
- C. benign-positive and challenge.
- D. stressful and challenge.

Question 10

Ayla is sitting in class and begins to sweat as she feels hot. Her teacher, Mr Fraser, refuses to turn on the air conditioning so Ayla decides to remove her jumper. Which of the following is the correct sequence of events that results in Ayla deciding that she is too warm?

- A. Sensory receptors in Ayla's skin detect the heat, information is sent to her spinal cord via sensory neurons and information travels to her brain where a decision is made that she is too warm.
- B. Sensory receptors in Ayla's skin detect the heat, information is sent to her spinal cord via efferent tracks and then to her brain to make a decision that she is too warm.
- C. Sensory neurons in Ayla's skin detect the heat, information is sent to her spinal cord via interneurons and travels to her brain which makes a decision that she is too warm.
- D. Sensory neurons in Ayla's skin detect the heat, information is sent to her spinal cord which makes an adaptive response and information is sent via motor neurons enabling Ayla to remove her jumper.

Question 11

Which of the following best describes the difference between a conscious and an unconscious response?

- A. A conscious response is an involuntary response that is reflexive in nature, meaning that the brain does not play a role in coordinating the action, whereas an unconscious response involves the somatic and central nervous systems to coordinate the action.
- B. A conscious response is deliberate whereby an individual has awareness of the behaviour they are performing, whereas an unconscious response, such as a spinal reflex, requires a decision to be made by the spinal cord rather than the brain.
- C. A conscious response requires activation of the brain to make a decision resulting in an individual having awareness of the behaviour, whereas an unconscious response is involuntary and therefore the brain is not involved in the decision making process.
- D. A conscious response usually involves the somatic and central nervous systems, while an unconscious response requires the activation of the sympathetic and parasympathetic nervous systems only.

Question 12

Alanah's sympathetic nervous system has been activated due to a stressor, which has caused changes to her rate of digestion. Which of the following correctly describes how the activation of the sympathetic nervous system affects digestion?

- A. When the sympathetic nervous system is activated, digestion is inhibited allowing for other bodily processes to function at a greater rate, including heart rate and salivation.
- B. Alanah's digestion is inhibited, allowing other bodily processes such as heart rate and breathing rate to function at an optimal level to deal with the stressor.
- C. Alanah's rate of digestion is increased along with other bodily processes to allow her to confront her stressor.
- D. Her rate of digestion remains at normal levels, as changes in digestion do not assist Alanah to cope with the stressor.

Question 13

Which of the following **incorrectly** identifies a difference between a neurotransmitter and a neuromodulator?

- A. A neurotransmitter has an effect on one or two postsynaptic neurons, whereas a neuromodulator has an effect on multiple postsynaptic neurons.
- B. A neurotransmitter enables rapid communication between two neurons, whereas a neuromodulator allows for slower communication.
- C. Examples of a neurotransmitter are glutamate and GABA, whereas examples of neuromodulators are dopamine and serotonin.
- D. Neurotransmitters can have either excitatory or inhibitory effects, whereas a neuromodulator can only have excitatory effects.

Question 14

Glutamate is said to have an excitatory role. What does the term excitatory mean?

- A. An excitatory neurochemical will always cause the postsynaptic neuron to fire an action potential.
- B. Once glutamate has bonded with the corresponding receptor site, the postsynaptic neuron becomes excited and is therefore more likely to receive more glutamate.
- C. There is an increased likelihood that the postsynaptic neuron will fire an action potential.
- D. The postsynaptic neuron will be more receptive to neuromodulators in future.

Question 15

Which of the following best describes the difference between dopamine and serotonin?

	Dopamine	Serotonin
A.	The dopamine pathway originates from the substantia nigra or the ventral tegmental area. Both areas are located in the midbrain	Has an inhibitory effect on the postsynaptic neuron
B.	The dopamine pathway originates from the raphe nuclei, which are masses of neurons in the brainstem	Has an excitatory effect on the postsynaptic neuron
C.	Can have both an excitatory or inhibitory effect on the postsynaptic neuron	Plays a role in reward-based learning
D.	Plays a role in the experience of pleasure	Plays a role in coordinating voluntary motor movement

Questions 16-18 refer to the following information.

Ben is in a school band and is learning to play guitar. He practises every day for an upcoming assembly where the band will play “For whom the bell tolls” by Metallica. He has noticed that his ability to play the guitar has improved dramatically since he first started learning.

Question 16

For Ben, long term potentiation has occurred. Which of the following is **not** a structural change that has occurred as a result of long term potentiation?

- A. an increased release of glutamate from the presynaptic to the postsynaptic neuron
- B. an increased number of receptor sites on the dendrites of the postsynaptic neuron
- C. bushier dendrites on the postsynaptic neuron due to sprouting
- D. an increased number of synaptic connections between neurons due to sprouting

Question 17

Which of the following is **not** required for long-term potentiation to occur for Ben?

- A. Ben needs to repeatedly practise playing the guitar
- B. synaptic connections are strengthened as a result of repeated coactivation
- C. an increase in the release of GABA to prevent bad guitar playing habits to be eliminated
- D. the formation of a memory trace to ensure Ben remembers the process of playing guitar

Question 18

A few weeks after the assembly, Ben decides to stop playing the guitar and instead focus on his studies. As a result, the neural pathway in Ben’s brain which corresponds to his guitar playing skills

- A. increased in strength as it was regularly activated.
- B. increased in strength as it was not regularly activated.
- C. decreased in strength as it was regularly activated.
- D. decreased in strength as it was not regularly activated.

Question 19

Oscar is waiting for a job interview to commence. He is incredibly nervous as he considers this his dream job. In terms of the pressure Oscar is placing on himself, the stress he is experiencing is best explained by which of the following?

	Type of stressor	Type of stress experienced
A.	Internal	Chronic
B.	External	Acute
C.	Internal	Acute
D.	External	Chronic

Question 20

Which of the following best describes the difference between distress and eustress?

- A. Eustress is subjective, whereas distress is objective.
- B. A stressor that resulted in eustress on one occasion, will lead to distress if the same stressor is presented on future occasions.
- C. Eustress results in a positive psychological response, whereas distress results in a negative psychological response.
- D. Stressors that result in eustress for one person will result in eustress for all people, while stressors that result in distress for one person may not necessarily result in distress for all people.

Question 21

Stress can be characterised as either chronic or acute. Which of the following correctly compares chronic and acute stress?

	Chronic Stress	Acute Stress
A.	Occurs due to activation of the fight-flight-freeze response	Results in a prolonged release of cortisol
B.	Is a form of stress that endures for a long period of time	Often results in the activation of the fight-flight-freeze response
C.	Is a form of stress that endures for a short period of time	Considered to be less damaging for the individual
D.	Causes the activation of both the sympathetic and parasympathetic nervous systems	Activates the sympathetic nervous system only

Question 22

Atharv is experiencing stress and as a result his body is experiencing a prolonged release of cortisol. Which of the following is **not** an adaptive function of cortisol?

- A. increases blood sugar levels
- B. improves metabolism
- C. energises the body
- D. suppresses the immune system

Question 23

Sam is a Year 12 Psychology student who has recently learned about Lazarus and Folkman's Transactional Model of Stress and Coping. His teacher has explained to the class that although this model has its strengths, it also has its limitations. Which of the following is a limitation of this model?

- A. Primary and secondary appraisal can occur simultaneously.
- B. Individuals are always aware of their primary appraisal, but not of their secondary appraisal.
- C. Some researchers suggest that "challenge" should not be included in primary appraisal as a positive experience is not stressful.
- D. It is possible for some individuals to experience secondary appraisal before primary appraisal.

Question 24

Professor McKenzie is conducting research into the gut-brain axis. Specifically, she is researching the effect of faecal transplants on mental health. After months of research, which of the following statements best describes what Professor McKenzie is likely to discover?

- A. Faecal transplants will improve the bidirectional relationship between the central nervous system and the stomach.
- B. Faecal transplants will result in gut microbiota dysbiosis, resulting in better gut health and therefore better mental health.
- C. There is a bidirectional relationship between the central and enteric nervous system, meaning that poor mental health is likely to result in poor gut health.
- D. Faecal transplants lead to an improvement in gut health, resulting in better mental health.

Question 25

Charlie was given a new dog for his birthday. He remembers his Psychology classes in high school where he learnt about classical conditioning. Charlie decides to classically condition his dog to blink each time Charlie performs a particular action. Which of the following is likely to represent the unconditioned stimulus and conditioned stimulus respectively?

- A. click fingers; treat
- B. puff of air in eyes; treat
- C. puff of air in eyes; click fingers
- D. ring bell; blink due to ringing bell

Question 26

Classical conditioning is considered to be a _____ approach to learning, because learning occurs _____.

- A. behaviourist; by interacting with the external environment
- B. cognitive; by a consequence determining the likelihood that a behaviour will be repeated
- C. social-cognitive; due to the interaction between the individual, the environment and the model
- D. reflexive; involuntarily through the presentation of a stimulus

Question 27

Kiara has woken with a splitting headache and therefore decides to take a Panadol. The Panadol provides her with relief from the headache. In terms of operant conditioning, which of the following correctly describes what has happened to Kiara?

- A. Kiara has experienced positive reinforcement, whereby she has been rewarded with relief and therefore she is more likely to take Panadol in the future when she has a headache.
- B. Kiara has experienced negative reinforcement, whereby she has removed an aversive stimulus, being the headache, and she is therefore more likely to take a Panadol in the future when she has a headache.
- C. Kiara has experienced negative punishment, whereby she has removed something aversive, being the headache, which will increase the likelihood of her experiencing relief in the future.
- D. Kiara has experienced negative reinforcement, whereby she has removed a painful stimulus, decreasing the likelihood that she will experience headaches in the future.

Questions 28 and 29 refer to the following information.

Mitch wishes to teach his younger brother, Anakin, how to tie his shoelaces.

Question 28

In terms of the stages relating to observational learning, provided that each stage is followed correctly, when is Anakin most likely to perform the behaviour of tying his shoelaces?

- A. after reinforcement has occurred
- B. after reproduction has occurred
- C. after motivation and before reinforcement has occurred
- D. after retention and before reproduction has occurred

Question 29

According to the first stage of observational learning, which of the following characteristics about Mitch does **not** increase the likelihood of Anakin tying his shoelaces?

- A. Mitch is likely to provide Anakin with praise.
- B. Anakin perceives Mitch positively.
- C. Mitch is liked by Anakin.
- D. Anakin perceives Mitch as being similar to him.

Questions 30 and 31 refer to the following information.

Djalu is a 13 year old Aboriginal boy who has a younger sister called Cardinia. The two of them love playing games together and finding out more about the land they live on and the history of their people. They often speak to elders within their community and then share this knowledge with each other. Djalu enjoys sharing his knowledge with Cardinia by performing dance rituals where he mimics the movement patterns of particular animals. However, Cardinia prefers to demonstrate her knowledge to Djalu by taking him on walks and showing him animal behaviour, such as track markings and burrows.

Question 30

According to the elements of the Aboriginal learning framework, Djalu is demonstrating which element?

- A. story-sharing
- B. land links
- C. deconstruct/reconstruct
- D. non-verbal

Question 31

According to the elements of the Aboriginal learning framework, Cardinia is demonstrating which element?

- A. story-sharing
- B. land links
- C. deconstruct/reconstruct
- D. non-verbal

Question 32

Anthony is waiting at the bus stop. While waiting, Anthony is constantly receiving sensory input from the environment. Which of the following is **not** an example of information received by Anthony's sensory memory while he waits for the bus?

- A. the memory of the images of the cars after they have just passed him
- B. the sound of children playing in a nearby park
- C. the taste of the chewing gum in his mouth
- D. the memory of the smell of his girlfriend's perfume

Question 33

Which of the following correctly identifies strengths and limitations of the Atkinson and Shiffrin model of memory?

	Strength	Limitation
A.	The model outlines that each memory store has a different capacity and duration.	The model doesn't help to explain why amnesia patients may have difficulty retrieving memories from long term memory.
B.	The model distinguishes between short term memory and long term memory which is supported by findings from memory studies.	The model has received criticism as many consider it to be oversimplified.
C.	The model accounts for individual differences in memory processes relating to storage duration and capacity.	Recent studies now show that transferring information into long term memory can happen without rehearsal, which contradicts previous beliefs.
D.	The model takes into consideration factors such as motivation which can improve memory.	The model shows that capacity and duration are the same for each memory store.

Questions 34 and 35 refer to the following information.

Jiya completed a Psychology course 3 years ago. She thoroughly enjoyed the course and often reminisces about the content that was taught.

Question 34

Which of the following is true when Jiya is remembering the specific details of the course?

- A. This is a type of explicit memory, specifically semantic memory.
- B. This is a type of explicit memory, specifically episodic memory.
- C. This is a type of implicit memory, specifically procedural memory.
- D. This is a combination of implicit and explicit memory.

Question 35

Jiya remembers information regarding brain structures responsible for memory formation and storage. Which of the following correctly describes the function of specific brain structures?

	Brain Structure	Function
A.	Hippocampus	Responsible for the encoding and storage of semantic and episodic memories
B.	Amygdala	Encodes and stores implicit procedural memories
C.	Neocortex	Responsible for the formation of explicit memories
D.	Basal Ganglia	Responsible for the encoding and storage of procedural and classically conditioned memories

Question 36

Zoe has been involved in a car accident and has damaged her hippocampus. As a result, she can no longer construct possible imagined futures. This is evident in her inability to do which of the following?

- A. imagine what she might wear to her upcoming Year 12 Formal
- B. imagine the direct route to her parents' house
- C. visually remember how her father taught her to drive
- D. visually picture what her bedroom looks like while she is at school

Question 37

Peter suffered from Alzheimer's Disease in the years leading up to his death. After his passing, a post-mortem was conducted where lesions were found on his brain, specifically in his hippocampi. Which of the following correctly identifies the lesions that would have been found and the effect that this would have had on Peter's memory?

	Names of lesions	Effect on memory
A.	Neurofibrillary plaques and Amyloid tangles	Difficulty with implicit procedural memories
B.	Neurofibrillary tangles and Amyloid plaques	Difficulty with semantic and episodic memories
C.	Neurofibrillary plaques and Amyloid tangles	Difficulty with explicit memories
D.	Neurofibrillary tangles and Amyloid plaques	Difficulty with autobiographical events and memories relating to fear

Question 38

Niru has recently been diagnosed with a condition known as Aphantasia. Her doctor would have made this diagnosis as Niru is unable to

- A.** feel pain.
- B.** remember the lyrics to a song when the music is not being played.
- C.** mentally visualise a tree.
- D.** store procedural memories.

Question 39

Amrit is learning about the planets in her Year 9 Science class. Her teacher explains that an easy way to remember the planets is by using a mnemonic device. A mnemonic device is a

- A.** technique that a person uses that allows for quicker retrieval of information.
- B.** device which improves memory by increasing the duration of short term memory.
- C.** device that increases the likelihood that information to be remembered transfers quicker from short term memory to long term memory.
- D.** technique or device that aids in the encoding, storage and retrieval of information.

Question 40

Which of the following correctly lists mnemonic devices used by oral traditions compared to written traditions?

	Mnemonic devices used by written traditions	Mnemonic devices used by oral traditions
A.	sung narratives, song lines	method of loci, acrostics, acronyms
B.	method of loci, song lines, acrostics	acronyms, sung narratives
C.	method of loci, acrostics, acronyms	sung narratives, song lines
D.	acronyms, sung narratives	method of loci, song lines, acrostics

END OF SECTION A

SECTION B**Instructions for Section B**

Answer all questions in the spaces provided.

Write using blue or black pen.

Question 1 (12 marks)

Rishika and Kiera are twin sisters. They attend the local high school, and they are currently studying Year 12 Psychology. Recently, their Psychology teacher, Mr Singh, has informed the class that they have a SAC scheduled in two weeks. Kiera has loved studying Psychology this year and is thoroughly looking forward to the SAC as it enables her to demonstrate her understanding of the topics covered. Rishika, on the other hand, has struggled with Psychology and is feeling quite stressed about the possibility that she may fail. Kiera is planning to implement an approach strategy to deal with the upcoming SAC, while Rishika will employ an avoidance strategy.

- a.** Explain the difference between approach and avoidance strategies, providing an example of a strategy that each twin may use to combat the stressor of their upcoming SAC.

4 marks

- b.** According to Lazarus and Folkman's Transactional model of Stress and Coping, explain how the twins' primary appraisal of the upcoming SAC would differ.

4 marks

- c.** Explain why Lazarus and Folkman's Transactional Model of Stress and Coping is considered a form of modelling.

1 mark

- d.** Unfortunately for Rishika, her coping strategy was not successful in relieving her stress. In addition to this, she failed her SAC, which contributed to further stress and caused her to enter the resistance stage of the General Adaptation Syndrome. Describe the physiological symptoms that Rishika would experience during the resistance stage and explain why these symptoms occur.

3 marks

Question 2 (9 marks)

Tristan has asked his son Michael to buy 5 items from the shop. Michael is having difficulty remembering the items he has been instructed to buy, so Tristan has decided to teach Michael how to use acronyms and acrostics as mnemonic devices to remember the items. The items to be remembered are: soap, meat, apples, raspberries and tomatoes.

- a.** What is the difference between acronyms and acrostics? 2 marks

- b.** Create an acronym and an acrostic for the items Michael is required to buy. 2 marks

- c.** Using the five stages of observational learning, explain how Tristan can teach Michael how to create the mnemonic devices. 5 marks

Question 3 (10 marks)

Professor Brammer is conducting research on faecal transplants and the effect on mental health. His research involves the transplant of faeces from a mentally healthy individual into the gut of an individual with a mental illness. His sample consists of 20 people who suffer from depression. He divides the sample into two even groups. Group A will not receive faecal transplants, while Group B is the experimental group and will receive daily faecal transplants from healthy individuals for a period of three months.

- a.** With reference to the gut-brain axis, explain why faecal transplants are likely to be beneficial to people suffering from mental health issues such as depression. 3 marks

- b.** Explain the concept of a single-blind procedure and why it would be unlikely for a single-blind procedure to be conducted in Professor Brammer's research. 2 marks

- c.** Identify the purpose of Group A in Professor Brammer's research? 1 mark

- d.** Jason has been placed in Group B. Explain whether Jason is more or less likely to feel that his depression has improved compared to people in Group A. 1 mark

- e.** Write a research hypothesis for Professor Brammer's research. 3 marks

Question 4 (5 marks)

Riley is a keen basketball player. He has been playing for several years and thoroughly enjoys his training sessions. Riley's coach is unfortunately no longer able to conduct all training sessions, and he has employed a new coach to assist when he is absent. The new coach yells at Riley whenever he fumbles the ball and criticises him whenever he misses a shot. This has caused Riley extreme anxiety and he now feels anxious whenever he enters the basketball stadium.

- a.** Using the language of classical conditioning, outline the three-phase process of how Riley learnt to feel anxious when entering the basketball stadium.

3 marks

- b.** As a result of feeling anxious, Riley no longer enjoys his basketball training sessions and claims that he is feeling ill whenever the new coach is filling in. Name and describe the type of reinforcement that is causing Riley to not attend these sessions.

2 marks

Question 5

Kyan and his friend Alex plan to have a competition to see who can remember the most amount of playing cards in a deck of cards. Kyan has researched a technique called the Method of Loci which can be used as a mnemonic device. Explain how Kyan can use the Method of Loci to remember the playing cards.

4 marks

Question 6 (10 marks) – Extended Response Question

Kirra is an Aboriginal child who is learning about her culture from an elder. The elder teaches Kirra via a number of different elements within the Aboriginal learning framework, including story-sharing, symbols and images, and land links. Kirra is a keen learner as she hopes to one day pass this knowledge on to her own children. To remember the information being taught to her, Kirra uses sung narratives and song lines as mnemonic devices.

Provide an explanation as to how Kirra can learn the culture of her people, taking the following into consideration:

- A description of how the elder can use three different elements (story-sharing, symbols and images, and land links) of the Aboriginal learning framework
- An explanation of the two mnemonic devices Kirra has implemented (sung narratives and song lines)
- How these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory.

10 marks

[illegible]

END OF QUESTION AND ANSWER BOOK

Suggested answers to multiple-choice questions

1. A	2. C	3. D	4. A	5. C	6. B	7. D	8. C
9. B	10. A	11. C	12. B	13. D	14. C	15. A	16. A
17. C	18. D	19. C	20. C	21. B	22. D	23. A	24. D
25. C	26. A	27. B	28. C	29. A	30. D	31. B	32. D
33. B	34. A	35. D	36. A	37. B	38. C	39. D	40. C

Suggested answers to short-answer questions

Question 1 (12 marks)

- a. Approach strategies are coping strategies that directly confront the source of the stress and therefore aim to eliminate it **(1 mark)**. Kiera may approach her stressor of the upcoming psychology SAC by participating in active studying **(1 mark)** for a similar example). Whereas avoidance strategies are a form of coping strategy that involve evading or distancing oneself from the source of stress **(1 mark)**. Rishika may distract herself from the SAC by exercising or hanging out with friends **(1 mark)** for a similar example).
- b. Kiera's primary appraisal would be that the upcoming SAC is stressful and that it is a challenge **(1 mark)**. She has appraised it as a challenge because she is looking forward to the opportunity for growth and this is evident by her wishing to demonstrate her understanding of the topics covered **(1 mark)**. On the other hand, Rishika's primary appraisal of the SAC would be stressful and threat **(1 mark)**. This is because she is concerned for future damage as she feels that she may fail **(1 mark)**.
- c. Modelling refers to the construction and/or manipulation of a system (such as the psychological evaluation of a stressor) which aids in the simplification of a psychological phenomenon to be more easily understood in lay-person terms **(1 mark)** for a similar response).
- d. During the resistance stage, Rishika's levels of bodily arousal will remain above normal levels, enabling her to deal with the stressor **(1 mark)**. Prolonged release of cortisol begins to suppress the immune system **(1 mark)**, increasing the likelihood that Rishika will become ill and suffer from minor illnesses such as cold or flu **(1 mark)**.

Question 2 (9 marks)

- a. An acronym is a mnemonic device in which the first letter of each word forms a pronounceable word **(1 mark)**, whereas an acrostic is a mnemonic device whereby the first letter of each word to be remembered creates a phrase, rhyme or poem **(1 mark)**.
- b. *Acronym* – SMART or TRAMS **(1 mark)**.
Acrostic – Some men are rather tall **(1 mark for a similar response)**.
- c. *Attention* – While explaining how to create an acronym or acrostic, Tristan must ensure that Michael watches closely **(1 mark)**.
Retention – Michael must form a mental representation of how to create an acronym and an acrostic **(1 mark)**.
Reproduction – Michael must have the physical and mental ability to create an acronym and an acrostic **(1 mark)**.
Motivation – Michael must have the want or desire to create an acronym or acrostic **(1 mark)**.
Reinforcement – Michael is more likely to repeat the behaviour if there is the prospect of a positive outcome. For example, Tristan praises Michael for creating an acronym and an acrostic **(1 mark)**.

Question 3 (10 marks)

- a. The gut-brain axis refers to the bidirectional relationship between the brain and the gut, meaning that the health of the gut will influence the health of the brain and vice versa **(1 mark)**. Faecal transplants from healthy individuals will improve the gut microbiota in the individuals suffering from depression **(1 mark)**. This improves the gut health in the people suffering from depression and due to the bidirectional relationship, this in turn will improve their depression **(1 mark)**.
- b. A single-blind procedure occurs when the participants do not know whether they are in the control or the experimental condition; this is to eliminate/reduce participant expectations **(1 mark)**. A single-blind procedure is unlikely to be conducted in this research, as participants would know whether they have received the faecal transplant or not. Students may also state that giving a placebo faecal transplant would be invasive and therefore preferably avoided. **(1 mark)**.
- c. The purpose of group A is to serve as a control group and is used to establish the effect of the IV (faecal transplants) on the DV (depression) **(1 mark)**.
- d. Jason is more likely to experience reduced levels of depression as he has received the experimental treatment and therefore, at the very least, he may experience the placebo effect even if the faecal transplants don't work **(1 mark for a similar answer)**.
- e. It is hypothesised that people suffering from depression who receive faecal transplants from healthy individuals will have reduced levels of depression compared with those who do not receive faecal transplants **(3 marks for similar hypothesis. Students should include IV, DV and direction)**.

Question 4 (5 marks)

- a. Before Conditioning – The basketball stadium is the neutral stimulus that would not cause a response. The unconditioned stimulus of being yelled at by the new coach would naturally cause the unconditioned response of anxiety due to being yelled at **(1 mark)**.
During Conditioning – The NS (basketball stadium) is presented prior to the UCS (being yelled at by coach) multiple times **(1 mark)**.
After Conditioning – The neutral stimulus becomes the conditioned stimulus which causes the conditioned response (anxiety due to basketball stadium) **(1 mark)**.
- b. This is an example of negative reinforcement **(1 mark)** as Riley has avoided an unpleasant stimulus (being yelled at by coach) which will increase the likelihood that Riley will claim to be sick in future when the new basketball coach is filling in **(1 mark)**.

Question 5 (4 marks)

- Step 1** – Kyan should choose a place or a route that he knows well (also known as memory palace), such as his own house or his route to school **(1 mark)**.
- Step 2** – Kyan should create a mental path throughout the memory palace. For example, if his house were chosen, Kyan could mentally walk from the front door into each room **(1 mark)**.
- Step 3** – While mentally walking through his house, Kyan would need to visualise each playing card in a different location. For example, the Queen of Hearts at the front door, the Ace of Spades in the hallway, etc. **(1 mark)**.
- Step 4** – Kyan would then mentally walk through his house, where each location (such as the front door) would serve as a memory cue to remember the playing card that he mentally attached to this location (such as the Queen of Hearts) **(1 mark)**.

Question 6 (10 marks) – *Extended Response Question*

This question should be marked globally. Therefore, student responses should be marked in accordance with the marking grid that follows, as a suggested response. This answer is open to interpretation and therefore students may not necessarily include all levels of detail and still achieve full marks.

Information that may be included in response:

The Aboriginal and Torres Strait Islander approaches to learning are said to be multimodal in nature, meaning that a variety of methods are used which form the Aboriginal Learning Framework. In total, this framework consists of 8 elements including story-sharing, symbols and images and land links. The Aboriginal elder could explain the culture to Kirra in the form of story-telling. This would involve the elder telling stories to Kirra regarding Aboriginal customs, traditions and past times; this practice is often referred to as yarning. These stories should be repeatedly used which enables learning to be built upon by real world experience rather than through printed text and screens. The Aboriginal elder could also teach Kirra with the use of symbols and images. This is where information is taught in the form of art and drawings. The art and drawings can represent landmarks, animals or objects and can exist for only a few moments (made in sand and rubbed out) or for a long period of time. Finally, the Aboriginal elder could use land links to teach concepts to Kirra about her culture. This would require Kirra to venture out into her community and learn through others, by seeing and doing. This would enable Kirra to obtain real life experiences and witness different aspects of her culture for herself.

To remember the information taught to her from the elder, Kirra can use two mnemonic devices that are often used in oral cultures. These mnemonic devices include sung narratives and song lines. Sung narratives can enhance the encoding, transfer and retrieval of cultural information. When songs are sung daily and frequently repeated, information contained within the song becomes a part of Kirra's memory. Song lines are conducted by family or community as they travel through the country. Song lines carry laws and stories that Aboriginal people live by. When they are sung as Kirra walks through the landscape, she will be able to retrieve the information that is linked to the song.

To transfer the information into long term memory so that Kirra can one day pass this knowledge on to her own children, she must listen and watch carefully as the elder teaches about the Aboriginal culture. According to the Atkinson and Shiffrin Multi-store model of memory, information is first detected by the sensory memory store. This has a duration of between 0.2 and 0.4 seconds and an unlimited capacity. If Kirra does not pay attention to the elder, this information is forgotten. However, if she does attend to this information then it is transferred to short term memory which has a duration of 12-30 seconds and a capacity of 7 +/- 2 pieces of information. If Kirra encodes this information further, it will be transferred into long term memory which has an unlimited capacity and a relatively permanent duration. One day, should Kirra have children of her own and wishes to communicate knowledge regarding her culture, then she would need to retrieve the information from long term memory to short term memory.

Standard	Marks	Suggested Marking grid
Very High	9-10	- a detailed explanation of the three different elements of the Aboriginal learning framework - a detailed explanation of the two mnemonic devices used to improve memory - a detailed explanation of how these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory
High	7-8	- a thorough explanation of the three different elements of the Aboriginal learning framework - a thorough explanation of the two mnemonic devices used to improve memory - a thorough explanation of how these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory
Medium	5-6	- a moderate explanation of the three different elements of the Aboriginal learning framework - a moderate explanation of the two mnemonic devices used to improve memory - a moderate explanation of how these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory
Low	3-4	- a low level explanation of the three different elements of the Aboriginal learning framework - a low level explanation of the two mnemonic devices used to improve memory - a low level explanation of how these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory
Very Low	0-2	- a limited/non-existent explanation of the three different elements of the Aboriginal learning framework - a limited/non-existent explanation of the two mnemonic devices used to improve memory - a limited/non-existent explanation of how these devices assist in the transfer of information to long-term memory with reference to the Atkinson and Shiffrin model of memory