Units 3&4 Psychology Practice Exam 2022 – Assessment Guide

Section A

VCAA Key Knowledge	Question	Answer guide
the role of the neuron (dendrites, axon, myelin and axon terminals) as the primary cell involved in the reception and transmission of information across the synapse (excluding details related to signal transduction)	**Question 1** Which of the following structures of a neuron is responsible for sending neurotransmitters into the synaptic gap? **A.** dendrites **B.** axon **C.** myelin **D.** axon terminals	*D* *Axon terminals release neurotransmitters into the synaptic gap.*
the role of the neuron (dendrites, axon, myelin and axon terminals) as the primary cell involved in the reception and transmission of information across the synapse (excluding details related to signal transduction)	**Question 2** Which of the following structures of a neuron is responsible for receiving neurotransmitters from neighbouring neurons? **A.** dendrites **B.** axon **C.** myelin **D.** axon terminals	*A* *Dendrites (specifically, receptor sites on dendrites) receive neurotransmitters from nearby neurons.*
the effects of chronic changes to the functioning of the nervous system due to interference to neurotransmitter function, as illustrated by the role of dopamine in Parkinson's disease	**Question 3** The lack of the neurotransmitter _____ is thought to be primarily responsible for the _____ symptoms of Parkinson's disease. **A.** dopamine; non-motor **B.** dopamine; motor **C.** melatonin; non-motor **D.** melatonin; motor	*B* *The motor (movement) symptoms of Parkinson's disease are thought to be due to the degradation of dopamine-producing neurons in the substantia nigra.*

Use the following information to answer Questions 4-7.

Jessie and Henry are sitting the final Psychology exam in a few weeks' time. Both students have not completed any revision in preparation for the exam. Jessie knows that she needs to dedicate a lot more time and effort to revise effectively for the exam and has begun to put together a study timetable. On the other hand, Henry does not think he needs to change his behaviour at all.

models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse.

Question 4

Which stage of the transtheoretical model of behaviour change are the two students likely in?

	Jessie	Henry
A.	pre-contemplation	action
B.	action	relapse
C.	relapse	preparation
D.	preparation	pre-contemplation

D *Jessie is likely to be in the preparation stage as she shows the early stirrings of change (e.g., putting together a study timetable), whereas Henry is likely to be in the pre-contemplation stage as he does not believe there is any reason to change his behaviour.*

models of stress as a psychological process, with reference to Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping (stages of primary and secondary appraisal)

Question 5

Both students complete a trial exam at school. Although Jessie found the trial exam stressful, she reviewed the questions she made mistakes on to focus her revision, so that she could improve her understanding of the course. On the other hand, Henry was anxious about how his poor result might reflect badly on his school report which he hoped to show to future employers. Which of the following primary appraisals regarding the trial exam are likely for the two students?

	Jessie	Henry
A.	stressful; alarm	stressful; resistance
B.	stressful; threat	stressful; harm/loss
C.	stressful; harm/loss	stressful; challenge
D.	stressful; challenge	stressful; threat

D *Jessie likely appraises the trial exam as a challenge, whereas Henry likely appraises the trial exam as a threat.*

models of stress as a psychological process, with reference to Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping (stages of primary and secondary appraisal)

Question 6

Although Jessie put together a study timetable, she had barely begun to revise and did not feel sufficiently prepared for the trial exam. Henry completed no preparation for the trial exam. Which of the following secondary appraisals regarding the trial exam are likely for the two students?

	Jessie	Henry
A.	adequate coping resources	adequate coping resources
B.	inadequate coping resources	inadequate coping resources
C.	inadequate coping resources	adequate coping resources
D.	adequate coping resources	inadequate coping resources

B *Given that both students did not sufficiently prepare for the trial exam, it is likely that they both have (varying degrees of) inadequate coping resources, leading to an experience of stress for both students.*

models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse.

Question 7

After completing the trial exam, Jessie puts in lots of time and effort to revise the course, and due to a poor result, Henry realises that he needs to start revising the course but has not yet begun to put a study plan in place. Which stage of the transtheoretical model of behaviour change are the two students likely in?

	Jessie	Henry
A.	maintenance	pre-contemplation
B.	action	contemplation
C.	pre-contemplation	relapse
D.	preparation	maintenance

B *Jessie is likely to be in the action stage, as she continues to put in effort to revise. Henry is likely to be in the contemplation stage, as he realises he has an issue with revising but has not prepared for any action to study.*

Use the following information to answer Questions 8-18.

It has been reported than over 20 million people suffer from a fear of flying. Take-offs, landings, and every noise and bump in the air can make people anxious while traveling.

However, there is one trick that can help you stay calm when turbulence hits; when those shakes and bumps start, just grab a pen and paper and write your name over and over. The trick is to do it with your non-dominant hand.

The act of using your non-dominant hand to write tries to pull your focus away from your current environment and disrupting your normal thinking patterns. That way, you're more focused on writing your name legibly than on your fear. If you still have some trouble on a turbulent flight, researchers also suggest breathing through a drinking straw in order to avoid hyperventilating.

Source: https://www.travelandleisure.com/travel-tips/trick-for-dealing-with-turbulence

sources of stress (eustress and distress) including daily pressures, life events, acculturative stress, major stress and catastrophes that disrupt whole communities

Question 8

For most people, encountering mild turbulence is likely to be considered

A. a life event.
B. a catastrophe.
C. acculturative stress.
D. none of the above.

D *Given that mild turbulence is a common occurrence that does not typically require significant adjustment, it is not considered a life event nor catastrophe. Acculturative stress refers to the stress arising from having to adapt to a new culture.*

sources of stress (eustress and distress) including daily pressures, life events, acculturative stress, major stress and catastrophes that disrupt whole communities

Question 9

When people who suffer from a fear of flying encounter turbulence, they are likely experiencing

A. eustress.
B. distress.
C. emotion-focused coping.
D. problem-focused coping.

B *Encountering a fearful stimulus is likely to be distressful.*

models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol

Question 10

Severe turbulence is likely to lead to

A. the fight-flight response.
B. coping flexibility.
C. context-specific effectiveness.
D. secondary appraisal.

A *The fight-flight response is typically activated when encountering a stressor such as turbulence.*

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the roles of different divisions of the nervous system (central and peripheral nervous systems and their associated sub-divisions) in responding to, and integrating and coordinating with, sensory stimuli received by the body

Question 11

The _____ is likely to be activated by severe turbulence.

A. sympathetic division of the central nervous system
B. somatic division of the central nervous system
C. parasympathetic division of the somatic nervous system
D. sympathetic division of the autonomic nervous system

D *The sympathetic nervous system is a part of the autonomic nervous system which is likely to be activated by the stressor of turbulence.*

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the distinction between conscious and unconscious responses by the nervous system to sensory stimuli, including the role of the spinal reflex

Question 12

Sweating and an increased heart rate due to turbulence is likely to be

A. a conscious response.
B. an unconscious response.
C. a spinal reflex.
D. catastrophic.

B *The physiological changes due to turbulence are likely to be unconscious responses.*

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changes in a person's psychological state due to levels of awareness, controlled and automatic processes, content limitations, perceptual and cognitive distortions, emotional awareness, self-control and time orientation

Question 13

Writing your name with your non-dominant hand is likely to be

A. an automatic process that requires selective attention.
B. an automatic process that enables divided attention.
C. a controlled process that requires selective attention.
D. a controlled process that enables divided attention.

C *A controlled process requires significant cognitive effort, such as writing with your non-dominant hand.*

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context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress.

Question 14

Writing your name with your non-dominant hand as a coping strategy for turbulence is likely to be

A. an approach strategy.
B. an avoidance strategy.
C. eustressful.
D. distressful.

B *Because this strategy focuses attention away from the stressor, this is considered an avoidance strategy.*

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evidence-based interventions and their use for specific phobia with reference to: the use of short-acting anti-anxiety benzodiazepine agents (gamma-amino butyric acid [GABA] agonists) in the management of phobic anxiety and relaxation techniques including breathing retraining and exercise (biological); the use of cognitive behavioural therapy (CBT) and systematic desensitisation as psychotherapeutic treatments of phobia (psychological); psychoeducation for families/supporters with reference to challenging unrealistic or anxious thoughts and not encouraging avoidance behaviours (social).

Question 15

Breathing through a drinking straw to avoid hyperventilation may be considered a form of _____ which is primarily a _____ intervention.

A. breathing retraining; biological
B. exercise; psychological
C. systematic desensitisation; social
D. breathing retraining; psychological

A *The regulation of breathing by breathing through a drinking straw is a form of breathing retraining, which is primarily a biological intervention.*

the relative influences of contributing factors to the development of specific phobia with reference to: gamma- amino butyric acid (GABA) dysfunction, the role of stress response and long-term potentiation (biological); behavioural models involving precipitation by classical conditioning and perpetuation by operant conditioning, cognitive bias including memory bias and catastrophic thinking (psychological); specific environmental triggers and stigma around seeking treatment (social)

Question 16

People with a phobia of flying may be more likely to have a _____ dysfunction compared to the general population.

A. GABA
B. glutamate
C. dopamine
D. melatonin

A *GABA dysfunction is a potential predisposing factor for the development of a phobia.*

the relative influences of contributing factors to the development of specific phobia with reference to: gamma- amino butyric acid (GABA) dysfunction, the role of stress response and long-term potentiation (biological); behavioural models involving precipitation by classical conditioning and perpetuation by operant conditioning, cognitive bias including memory bias and catastrophic thinking (psychological); specific environmental triggers and stigma around seeking treatment (social)

Question 17

If severe turbulence leads to the development of a phobia of flying, this is likely to be considered

A. a stigma and a perpetuating factor.
B. a lack of self-efficacy and a protective factor.
C. rumination and a predisposing factor.
D. a specific environmental trigger and a precipitating factor.

D *Turbulence is an external factor which may 'trigger' or precipitate the onset of the phobia.*

resilience as a positive adaption to adversity including the relative influence of protective factors with reference to: adequate diet and sleep (biological); cognitive behavioural strategies (psychological); support from family, friends and community (social)

Question 18

The biopsychosocial model considers a variety of protective factors that may enhance adaptation to adversity, such as to severe turbulence. Which of the following best describes some of these factors?

	Biological	Psychological	Social
A.	resilience	adequate diet and sleep	cognitive behavioural strategies
B.	GABA dysfunction	rumination	stigma
C.	the role of the stress response	memory bias	psychoeducation
D.	adequate diet and sleep	cognitive behavioural strategies	support from family, friends and community

D *Option D best describes the biological, psychological or social protective factors that may enhance resilience to a stressor.*

Use the following information to answer Questions 19-21.

Dr Ong decided to observe the brain wave patterns of people who suffer from a fear of flying while undergoing turbulence in a flight simulator.

the measurement of physiological responses to indicate different states of consciousness, including electroencephalograph (EEG), electromyograph (EMG), electro-oculograph (EOG) and other techniques to investigate consciousness (measurement of speed and accuracy on cognitive tasks, subjective reporting of consciousness, including sleep diaries, and video monitoring)

Question 19

The device he could use is an

A. electrocardiograph.
B. electro-oculograph.
C. electromyograph.
D. electroencephalograph.

D *An electroencephalograph detects, amplifies, and records electrical activity of the brain in the form of brainwaves.*

independent and dependent variables and operationalisation of variables

Question 20

Dr Ong hypothesised that people who have a fear of flying would likely experience different brain wave patterns when undergoing turbulence compared to a smooth flight. Which of the following would best describe the variables in Dr Ong's study?

	Independent variable	Dependent variable
A.	brain wave patterns	turbulence
B.	brain wave patterns	fear of flying
C.	fear of flying	brain wave patterns
D.	turbulence	brain wave patterns

D *Changes to brain wave patterns is being measured as the dependent variable, as a result of the effect of a turbulent or smooth flight which is the independent variable.*

changes in levels of alertness as indicated by brain waves patterns (beta, alpha, theta, delta) due to drug- induced altered states of consciousness (stimulants and depressants)

Question 21

The kinds of brain waves that Dr Ong would be most likely to find during the simulated turbulence is

A. alpha waves.
B. beta waves.
C. delta waves.
D. theta waves.

B *The participants are likely to be highly alert during the turbulence, which is likely to be shown by beta waves.*

the 'Little Albert' experiment as illustrating how classical conditioning can be used to condition an emotional response, including ethical implications of the experiment

Question 22

One major ethical issue of the Little Albert experiment was that

A. Little Albert was able to withdraw from the study at any time.
B. Little Albert maintained confidentiality.
C. attempts to reverse any harm was not carried out.
D. attempts to seek informed consent from Little Albert was overridden by his mother.

C *Little Albert had a fear response conditioned by Watson and Rayner, but no attempt to reverse the fear was documented.*

the 'Little Albert' experiment as illustrating how classical conditioning can be used to condition an emotional response, including ethical implications of the experiment

Question 23

Little Albert's fear response was conditioned via

A. classical conditioning.
B. operant conditioning.
C. observational learning.
D. both classical conditioning and observational learning.

A *Little Albert's fear response was conditioned via classical conditioning, which paired an NS (white rat) with a UCS (loud noise).*

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classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, extinction and spontaneous recovery

Question 24

After conditioning, when Little Albert showed a fear response to other furry objects such as a fur coat, he demonstrated

A. stimulus generalisation.
B. stimulus discrimination.
C. spontaneous recovery.
D. extinction.

A *Stimulus generalisation is demonstrated when a conditioned response is shown to stimuli similar to the original conditioned stimulus.*

---

classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, extinction and spontaneous recovery

Question 25

If Little Albert had only demonstrated the fear of rats after conditioning and no other stimulus, it would have demonstrated

A. stimulus generalisation.
B. stimulus discrimination.
C. spontaneous recovery.
D. extinction.

B *Stimulus discrimination is demonstrated when a conditioned response is only shown to a specific conditioned stimulus.*

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classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, extinction and spontaneous recovery

Question 26

After the experiment, if Little Albert's mother continued to expose him to rats without the loud noise until Little Albert no longer showed fear, this would demonstrate

A. stimulus generalisation.
B. stimulus discrimination.
C. spontaneous recovery.
D. extinction.

D *Extinction is demonstrated when a conditioned stimulus no longer elicits a conditioned response.*

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classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, extinction and spontaneous recovery

Question 27

If Little Albert's fear of rats reappeared after a period of time that he did not show any fear to rats, then this would demonstrate

A. stimulus generalisation.
B. stimulus discrimination.
C. spontaneous recovery.
D. extinction.

C *Spontaneous recovery is demonstrated when a conditioned response reappears after apparent extinction.*

the multi-store model of memory (Atkinson-Shiffrin) with reference to the function, capacity and duration of sensory, short-term and long-term memory

Question 28

Which of the following indicates the capacity of the stores of memory according to the Atkinson-Shiffrin multi-store model?

	Sensory memory	Short-term memory	Long-term memory
A.	20 seconds	3 - 4 seconds	2 hours
B.	0.2 - 4 seconds	approximately 20 seconds	potentially permanent
C.	5 - 9 bits of information	potentially unlimited	20 - 30 chunks of information
D.	unlimited	7 ± 2 bits of information	potentially unlimited

D *Option D describes the capacity (i.e., how much each store can hold) of each of the stores of memory, according to the Atkinson-Shiffrin multi-store model.*

the multi-store model of memory (Atkinson-Shiffrin) with reference to the function, capacity and duration of sensory, short-term and long-term memory

Question 29

Which of the following indicates the duration of the stores of memory according to the Atkinson-Shiffrin multi-store model?

	Sensory memory	Short-term memory	Long-term memory
A.	20 seconds	3 - 4 seconds	2 hours
B.	0.2 - 4 seconds	approximately 20 seconds	potentially permanent
C.	5 - 9 bits of information	potentially unlimited	20 - 30 chunks of information
D.	unlimited	7 ± 2 bits of information	potentially unlimited

B *Option B describes the duration (i.e., how long information can be held for) of each of the stores of memory, according to the Atkinson-Shiffrin multi-store model.*

Methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction

Question 30

Which of the following methods of retrieval can demonstrate the existence of an explicit memory?

A. recall
B. recognition
C. relearning
D. all of the above

D *All of these methods of retrieval can access explicit memory, such as semantic or episodic memory.*

Methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction

Question 31

Which of the following methods of retrieval can demonstrate the existence of an implicit memory?

A. recall
B. recognition
C. relearning
D. all of the above

C *Only relearning as a method of retrieval can access implicit memory; recall and recognition are methods of retrieval that can only access explicit memory.*

Methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction

Question 32

A researcher wanted to test memory by first asking participants to memorise a particular configuration of holiday photos. The researcher then shuffled the order of the photos and asked participants to place them back into their original order. The researcher was testing participants using

A. recall.
B. recognition.
C. relearning.
D. reconstruction.

D *Reconstruction as a method of retrieval involves rearranging a stimulus to its original form.*

Use the following information to answer Questions 33-45.

Professor Snoop wanted to investigate the effect of temporarily disabling different areas of the brain on the recall of specific details of a car crash scene. She did this by using powerful magnets to temporarily prevent brain activity in certain areas of the brain. She described the study to her Psychology class then called for volunteers. Professor Snoop said that anyone who volunteered to participate would receive a bonus 20% to their final score.

apply ethical principles when undertaking and reporting investigations, including consideration of the role of the experimenter, protection and security of participants' information, confidentiality, voluntary participation, withdrawal rights, informed consent procedures, use of deception in research, debriefing and use of animals in research

Question 33

Which of the following ethical principles has Professor Snoop most clearly breached?

A. voluntary participation
B. informed consent
C. debriefing
D. withdrawal rights

A *Because participants have been selected from her class and she has offered a bonus to their marks, this may have coerced participants to volunteer, which breaches the principle of voluntary participation.*

select appropriate sampling procedures for selection and allocation of participants including random sampling, stratified sampling, convenience sampling and random allocation of participants to groups

Question 34

What type of sampling method did Professor Snoop employ?

A. random sampling
B. stratified sampling
C. random stratified sampling
D. convenience sampling

D *Because Professor Snoop recruited participants based on their availability, this is a form of convenience sampling.*

determine appropriate type of investigation: experiments (including use of control and experimental groups); case studies; observational studies; self-reports; questionnaires; interviews; rating scales; access secondary data, including data sourced through the internet that would otherwise be difficult to source as raw or primary data through fieldwork, a laboratory or a classroom

Question 35

Professor Snoop managed to recruit 20 participants for her study. She decided that she would give all participants a memory test to establish a baseline, before giving them the treatments targeting various areas of the brain. The memory test involved showing participants a car crash scene, then asking them 20 yes/no questions about the scene (e.g., 'Was there any broken glass on the ground?'). This baseline test acts as a

A. control condition.
B. controlled variable.
C. experimental condition.
D. experimental variable.

A *The memory test prior to any (experimental) treatment provides a baseline, which acts as a control condition.*

use an appropriate experimental research design including independent groups, matched participants, repeated measures and cross-sectional studies

Question 36

If Professor Snoop decides to have all 20 participants take part in every treatment of her experiment, this would best be described as

A. an independent groups design.
B. a repeated measures design.
C. a counterbalanced design.
D. a matched participants design.

B *A repeated measures design tests the same participants across a variety of conditions.*

Once the baseline testing was over (with results in Table 1, below), Professor Snoop temporarily disabled a specific brain region of the participants, then showed them a new car crash scene, and asked them 20 yes/no questions about the scene. She did this procedure with four different brain areas, with four different car crash scenes. She collected the following results.

Table 1

Average number of details correctly recalled before any brain procedure	Standard deviation
16.3	0.2

Table 2

Brain area disabled	Average number of details correctly recalled after brain area disabled	Standard deviation
Area A	1.5	0.1
Area B	15.5	1.1
Area C	15.9	1.5
Area D	9.2	1.2

independent and dependent variables and operationalisation of variables

Question 37

Which of the following operationalises the independent and dependent variables of Professor Snoop's study?

	Independent variable	Dependent variable
A.	car crash scenes	area of the brain that is temporarily disabled
B.	brain procedure	performance on a memory task
C.	average number of details correctly recalled after brain area disabled	temporary disabling brain area A, B, C, or D
D.	temporary disabling brain area A, B, C, or D, or no treatment	the number of details correctly recalled from a car crash scene

D *Professor Snoop systematically manipulated brain areas A/B/C/D that were temporarily disabled or not disabled (the independent variable), to see its effects on the number of details correctly recalled from a car crash scene (the dependent variable).*

draw conclusions consistent with evidence and relevant to the question under investigation

Question 38

Which of the following conclusions would be most reasonable to draw from the data above?

A. brain area A is the most important of the four brain areas for the memory of details relating to a car crash scene
B. brain area B is the least important of the four brain areas for the memory of details relating to a car crash scene
C. brain area C is the most important of the four brain areas for the memory of details relating to a car crash scene
D. brain area D is not involved in the memory of details relating to a car crash scene

A *Because brain area A has shown the greatest change in the number of details correctly recalled (from 16.3 details on average to 1.5 details on average), it can be concluded that this area is the most important for the formation/retrieval of a memory of details relating to a car crash scene.*

systematically generate, collect, record and summarise both qualitative and quantitative data

Question 39

What type of data did Professor Snoop collect?

A. primary, quantitative data
B. primary, qualitative data
C. secondary, quantitative data
D. secondary, qualitative data

A *The numerical (quantitative) data in the table is taken directly from experimentation, which is a way to gain primary data.*

organise, present and interpret data using tables, bar charts, line graphs, percentages, calculations of mean as a measure of central tendency and understanding of standard deviation as a measure of variation around the mean

Question 40

What do the standard deviations suggest about the data?

A. the relatively high standard deviations indicate low variability in the data
B. the relatively low standard deviations indicate high variability in the data
C. the relatively low standard deviations means that the averages are likely to be an unreliable representation of all the participants' scores
D. the relatively low standard deviations means that the averages are likely to be a reliable representation of all the participants' scores

D *Because the standard deviations (which indicate the variability of the results around the mean) were relatively low, this means that the data were closely bunched towards the average, which means that this number is a relatively reliable representation of all the participants' scores.*

the effects of brain trauma on areas of the brain associated with memory and neurodegenerative diseases, including brain surgery, anterograde amnesia and Alzheimer's disease

Question 41

Disabling brain area A appears to have led to

A. temporary anterograde amnesia.
B. temporary retrograde amnesia.
C. permanent Alzheimer's disease.
D. permanent neurodegeneration.

A *Anterograde amnesia refers to the inability to encode new memories, such as the memory of a car crash scene.*

interactions between specific regions of the brain (cerebral cortex, hippocampus, amygdala and cerebellum) in the storage of long-term memories, including implicit and explicit memories.

Question 42

It is likely that brain area A is the

A. hippocampus, as this brain region is responsible for encoding long-term implicit memories.
B. hippocampus, as this brain region is responsible for encoding long-term explicit memories.
C. cerebellum, as this brain region is responsible for encoding long-term implicit memories.
D. cerebellum, as this brain region is responsible for encoding long-term explicit memories.

B *The hippocampus is crucial for the formation of new long-term explicit memories, such as details related to a car crash scene.*

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interactions between specific regions of the brain (cerebral cortex, hippocampus, amygdala and cerebellum) in the storage of long-term memories, including implicit and explicit memories.

Question 43

It is likely that brain area C is the

A. hippocampus, as this brain region is most important for the encoding of long-term implicit memories.
B. hippocampus, as this brain region is most important for the encoding of long-term explicit memories.
C. cerebellum, as this brain region is most important for the encoding of long-term implicit memories.
D. cerebellum, as this brain region is most important for the encoding of long-term explicit memories.

C *When brain area C was disabled, it did not appear to have much of an effect on the memory of details related to a car crash scene (when compared to the baseline), which indicates that it is more likely to be the cerebellum (responsible for encoding implicit memories) as opposed to the hippocampus.*

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the role of neurotransmitters and neurohormones in the neural basis of memory and learning (including the role of glutamate in synaptic plasticity and the role of adrenaline in the consolidation of emotionally arousing experiences).

Question 44

The amygdala may have been activated by the neurohormone _____ to help consolidate the memory of the car crash scenes, as these are likely to be emotionally arousing experiences.

A. GABA
B. dopamine
C. adrenaline
D. glutamate

C *Adrenaline plays a role in the consolidation of emotionally arousing memories, alongside the amygdala.*

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the reconstruction of memories as evidence for the fallibility of memory, with reference to Loftus' research into the effect of leading questions on eye-witness testimonies.

Question 45

After the experiment was over, Professor Snoop asked participants, 'How fast do you think the cars were going when they smashed into each other?'. According to Loftus' research, this _____ may affect the participants' _____ of the event.

A. context dependent cue; recognition
B. state dependent cue; reconstruction
C. presupposition; relearning
D. leading question; reconstruction

D *The presupposition (that the cars were going very fast) contained within the leading question may have altered both the officer's retrieval and reconsolidation of the event.*

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect

Question 46

The serial position effect is made up of

A. the primacy effect.
B. the recency effect.
C. both the primary and secondary effect.
D. both the primacy and recency effect.

D *The serial position effect describes superior recall at the beginning (primacy) and end (recency) of a list, when compared to the middle.*

sleep as a regular and naturally occurring altered state of consciousness that follows a circadian rhythm and involves the ultradian rhythms of REM and NREM Stages 1–4 sleep excluding corresponding brain wave patterns and physiological responses for each stage

Question 47

Sleep consists of

A. multiple circadian rhythms.
B. multiple ultradian rhythms.
C. a single circadian rhythm.
D. a single ultradian rhythm.

B *An ultradian rhythm is a pattern that is repeated multiple times in a 24-hour period.*

theories of the purpose and function of sleep (REM and NREM) including restoration theory and evolutionary (circadian) theory

Question 48

The evidence that animals will sleep during the most dangerous part of the day to prevent being preyed upon is support for the

A. restoration theory.
B. evolutionary theory.
C. rejuvenation theory.
D. biopsychosocial theory.

B *Evolutionary theory suggests that organisms will sleep to enhance survival, including during the time where they may otherwise fall to predators.*

the typical characteristics of a mentally healthy person, including high levels of functioning, social and emotional well-being and resilience to life stressors

Question 49

Which of the following is not considered a characteristic of a mentally healthy person?

A. high levels of functioning
B. social and emotional well-being
C. resilience to life stressors
D. rumination on life stressors

D *Rumination refers to excessive and repetitive thought patterns that often interfere with daily life and make people feel more anxious – therefore, it is more likely to be a risk factor for the development or maintenance of a mental health issue, rather than a characteristic of being mentally healthy.*

the concept of cumulative risk.

Question 50

If a person has multiple risk factors for the development of a mental disorder, this may lead to

A. lower cumulative risk.
B. greater cumulative risk.
C. lower stigma.
D. higher stigma.

B *Cumulative risk refers to the accumulation of multiple risk factors that may lead to the development of a mental disorder.*

Section B

VCAA Key Knowledge	Question	Answer guide

Janine bought some brand-new woollen shoes on her travels overseas. Every time she went to touch a metal door handle, she was zapped by the static electricity, which made her flinch. Now, Janine flinches involuntarily before touching any metal objects.

classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, extinction and spontaneous recovery	**Question 1a** (4 marks) Using the language of classical conditioning, describe what likely occurred before, during, and after conditioning for Janine in this situation.	**Answer:** • *Before conditioning, the metal door handles/metal objects were a neutral stimulus (NS) which led to no predictable response.* • *The static electricity was an unconditioned stimulus (UCS) which elicited flinching to the static electricity which was the unconditioned response (UCR).* • *During conditioning, the metal door handles/metal objects (NS) which was presented prior to the static electricity (UCS) were repeatedly paired, leading to flinching to the static electricity (UCR).* • *After conditioning, the metal door handles/metal objects alone became the conditioned stimulus (CS) which elicited the conditioned response (CR) of flinching to the metal door handles/metal objects.* **Marking protocol:** One mark for each of the above points. Note: UCS, UCR, NS, CS, and CR are acceptable abbreviations to use in VCAA exams.

neural plasticity and changes to connections between neurons (including long-term potentiation and long-term depression) as the fundamental mechanisms of memory formation that leads to learning	**Question 1b** (3 marks) Define and explain how long-term potentiation may have led to Janine's learnt response.	**Answer:** • *Long-term potentiation (LTP) refers to the long-lasting strengthening of neural connections due to repeated activation.* • *LTP causes the neural pathways/signals responsible for perceiving metal door handles/metal objects, and the neural pathways/signals responsible for perceiving electric shocks and a flinching response to the static electricity, to be associated through repeated pairings.* • *The repeated co-occurrence of these two neural pathways leads to their connection being potentiated/strengthened, which led to Janine's conditioned response.* **Marking protocol:** One mark for each of the above points.

the role of neurotransmitters and neurohormones in the neural basis of memory and learning (including the role of glutamate in synaptic plasticity and the role of adrenaline in the consolidation of emotionally arousing experiences).	**Question 1c** (2 marks) Which neurotransmitter is primarily involved in long-term potentiation, and what effect does it have on the post-synaptic neuron?	**Answer:** • *Glutamate.* • *Glutamate has an excitatory effect on the post-synaptic neuron (making it more likely to propagate an action potential).* **Marking protocol:** One mark for each of the above points.

the role of neurotransmitters in the transmission of neural information between neurons (lock-and-key process) to produce excitatory effects (as with glutamate) or inhibitory effects (as with gamma-amino butyric acid [GABA])	**Question 1d** (3 marks) Describe how neurotransmission occurs through the lock-and-key process from the moment that an action potential reaches the end of the presynaptic neuron.	**Answer:** • *The presynaptic neuron releases neurotransmitters into the synaptic cleft/gap.* • *Neurotransmitters act like a key which bind to complementarily shaped receptor sites which act like a lock.* • *Neurotransmitters which have a complementary molecular shape bind to receptor sites to exert their inhibitory or excitatory effects.* **Marking protocol:** One mark for each of the above points.

neural plasticity and changes to connections between neurons (including long-term potentiation and long-term depression) as the fundamental mechanisms of memory formation that leads to learning	**Question 1e** (3 marks) Janine eventually got fed up with being zapped, so she threw out her woollen shoes and began to wear a different pair of shoes which did not create any static electricity. Eventually, she no longer flinched to metal door handles. How might long-term depression contribute to the extinction of Janine's response?	**Answer:** • *Long-term depression (LTD) results in the long-lasting weakening of neural connections.* • *When metal door handles/metal objects no longer were presented with static electricity (an absence of the UCS), this resulted in weakened input (sub-threshold stimulation) to post-synaptic neurons.* • *This repeated weak stimulation results in the depotentiation/weakening of the neural pathways/signals that were responsible for the conditioned response (eventually leading to extinction of this learnt response).* **Marking protocol:** One mark for each of the above points.

Professor Twerk wanted to investigate the effects of different sleep therapies to improve the sleep quality and duration of teenagers with sleep disorders. She went to Summer Bay High School to recruit 50 teenagers who had been diagnosed with sleep-onset insomnia (Group A), and 50 teenagers who had been experiencing adolescent sleep-wake cycle shift (Group B). Professor Twerk decided to employ ten 30-minute sessions of either bright light therapy (BLT) or cognitive behavioural therapy (CBT) to improve the sleep of participants.

consciousness as a psychological construct that varies along a continuum, broadly categorised into normal waking consciousness and altered states of consciousness (naturally occurring and induced)	**Question 2a** (1 mark) Is sleep generally considered a naturally occurring or induced altered state of consciousness?	**Answer:** • *A naturally occurring altered state of consciousness.* **Marking protocol:** One mark for the above point.

the distinction between dyssomnias (including sleep-onset insomnia) and parasomnias (including sleep walking) with reference to the effects on a person's sleep-wake cycle	**Question 2b** (2 marks) Is sleep-onset insomnia categorised as a dyssomnia or parasomnia? Justify your response.	**Answer:** • *Dyssomnia.* • *Dyssomnias refer to sleep disorders that are characterised by an abnormality in the amount, quality, or timing of sleep – sleep-onset insomnia involves a problem with being able to induce sleep at a desired time.* **Marking protocol:** One mark for each of the above points.

the effects of partial sleep deprivation (inadequate sleep either in quantity or quality) on a person's affective (amplified emotional responses), behavioural and cognitive functioning	**Question 2c** (2 marks) An inadequate quantity or quality of sleep can lead to changes in a person's affective functioning. List two of these changes that may occur.	**Answer:** • *Amplified emotional responses.* • *Increased irritability.* • *Moodiness/mood swings.* • *Dulled/flat affect.* • *An inability to control/express feelings effectively/appropriately.* **Marking protocol:** One mark for any of the above points, to a maximum of two, or any other reasonable response.

the effects on consciousness (cognition, concentration and mood) of one night of full sleep deprivation as a comparison with effects of legal blood-alcohol concentrations.	**Question 2d** (2 marks) Studies show that insufficient sleep has a substantial effect on physical and mental functioning. Describe this effect as compared to blood-alcohol concentration (BAC) readings of 0.05% and 0.10%.	**Answer:** • *When a person is awake for approximately 17 hours, research has shown that the physical and mental effects of this deprivation is comparable to having a BAC of 0.05% (which is the legal limit for driving).* • *When a person is awake for approximately a 24-hour period, research has shown that the physical and mental effects of this deprivation is comparable to having a BAC of 0.10% (which is double the legal limit for driving).* **Marking protocol:** One mark for each of the above points.

changes to a person's sleep-wake cycle and susceptibility to experiencing a circadian phase disorder, including sleep-wake shifts in adolescence, shift work and jet lag	**Question 2e** (2 marks) Why might sleep-wake shifts in adolescence be considered a circadian phase disorder?	**Answer:** • *A circadian phase disorder refers to a significant problem with the sleep-wake cycle (i.e., there being a mismatch between the circadian sleep-wake pattern and the person's sleep-wake schedule required by school/work/their environment).* • *As adolescents experiencing sleep-wake shift disorder are likely to want to sleep later (due to the release of melatonin being delayed by 1-2 hours compared to adults), and consequently want to wake up later, this affects their sleep-wake cycle which is not compatible with their school schedule.* **Marking protocol:** One mark for each of the above points.

the differences in sleep across the lifespan and how these can be explained with reference to the total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM) .	**Question 2f** (2 marks) Describe the similarities and differences between adult and adolescent patterns of sleep.	**Answer:** • *An adult will have approximately 20% of their sleep as REM sleep and 80% of their sleep as NREM sleep, and require approximately 8 hours of sleep each night.* • *Adolescents also experience approximately 20% of their sleep as REM sleep and 80% of their sleep as NREM sleep, but require more hours of sleep than adults; approximately 9-10 hours of sleep.* **Marking protocol:** One mark for each of the above points.

the differences in sleep across the lifespan and how these can be explained with reference to the total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM) .	**Question 2g** (2 marks) If a sleeper is awoken an hour earlier than their normal duration of sleep, are they more likely to disrupt a NREM or REM sleep period? Justify your response.	**Answer:** • *If a sleeper has a shortened duration of their sleep period, this will likely disrupt (or reduce the amount and proportion of) REM sleep they experience.* • *This is because REM sleep periods are longer/more frequent as sleep duration increases.* **Marking protocol:** One mark for each of the above points.

the interventions to treat sleep disorders including cognitive behavioural therapy (with reference to insomnia) and bright light therapy (with reference to circadian phase disorders).	**Question 2h** (2 marks) Which intervention (BLT or CBT) would be most appropriate for Professor Twerk to apply to Group A and Group B?	**Answer:** • *Group A: CBT.* • *Group B: BLT.* **Marking protocol:** One mark for each of the above points.

the interventions to treat sleep disorders including cognitive behavioural therapy (with reference to insomnia) and bright light therapy (with reference to circadian phase disorders).	**Question 2i** (2 marks) Explain how CBT can be used to improve participants' sleep.	**Answer:** • *By challenging unrealistic/maladaptive thoughts/beliefs, CBT can help participants to think more adaptively about their sleep habits (such as avoiding worry about the number of hours that must be slept while trying to fall asleep), and hopefully induce a change in their behaviour.* • *CBT can also help to directly change maladaptive behaviours, such as drinking coffee late into the evening, to help promote sleep onset at the desired time.* **Marking protocol:** One mark for each of the above points, or for any valid response explaining both cognitive and behavioural changes that help to promote sleep.

the interventions to treat sleep disorders including cognitive behavioural therapy (with reference to insomnia) and bright light therapy (with reference to circadian phase disorders).	**Question 2j** (3 marks) Explain how BLT can be used to improve participants' sleep.	**Answer:** • *Melatonin is a hormone (secreted by the pineal gland) that induces sleepiness that is affected by light signals (processed by the suprachiasmatic nucleus).* • *Exposure to very bright light can alter the circadian rhythm by helping participants feel more awake at the desired time (e.g., during the morning when preparing for school) by suppressing melatonin levels (or increasing cortisol levels).* • *At night-time (or whenever sleep is desired), a dark bedroom environment is important to promote the release of melatonin (and hence, sleepiness).* **Marking protocol:** One mark for each of the above points.

the measurement of physiological responses to indicate different states of consciousness, including electroencephalograph (EEG), electromyograph (EMG), electro-oculograph (EOG) and other techniques to investigate consciousness (measurement of speed and accuracy on cognitive tasks, subjective reporting of consciousness, including sleep diaries, and video monitoring)	**Question 2ki** (2 marks) Provide two reasons why it may be advantageous for Professor Twerk to use video monitoring over a sleep diary to operationalise her dependent variable.	**Answer:** • *Video monitoring is not prone to bias (as it is an objective measure of a participant's sleep behaviour), unlike a sleep diary which may be prone to bias (as it is a subjective measure of a participant's sleep).* • *Video monitoring may be a more valid way to measure the quantity of sleep, as opposed to a sleep diary where participants may be inaccurate about their sleep duration.* • *Video monitoring is more likely to uncover sleep disturbances during sleep which may affect sleep quality (such as sleep walking, sleep talking, or other movements during sleep), as opposed to a sleep diary where a participant may not remember these events occurring.* **Marking protocol:** One mark for any of the above points, to a maximum of two, or any other reasonable response.

the measurement of physiological responses to indicate different states of consciousness, including electroencephalograph (EEG), electromyograph (EMG), electro-oculograph (EOG) and other techniques to investigate consciousness (measurement of speed and accuracy on cognitive tasks, subjective reporting of consciousness, including sleep diaries, and video monitoring)	**Question 2kii** (2 marks) Provide two reasons why it may be advantageous for Professor Twerk to use a sleep diary over video monitoring to operationalise her dependent variable.	**Answer:** • *Sleep diaries do not require any specialised equipment, unlike video monitoring.* • *Sleep diaries are able to uncover subjective experiences of the quality of sleep (such as how refreshed a participant feels upon awakening), which video monitoring cannot.* • *Sleep diaries can be completed at home which is likely to be better representative of a participant's real-world sleep environment, as opposed to video monitoring which is more likely to occur in a sleep lab (and lead to problems with the artificiality/external validity of the situation).* **Marking protocol:** One mark for any of the above points, to a maximum of two, or any other reasonable response.

Heat stress occurs when our body is unable to cool itself enough to maintain a healthy temperature. Normally, the body cools itself by sweating, but sometimes sweating isn't enough, and body temperature keeps rising. Exposure to radiant heat from bushfires can cause rapid dehydration and heat-related illness. If a person becomes dehydrated, they don't sweat as much, and their body temperature keeps rising.

Heatstroke occurs when the core body temperature rises above 40.5°C and the body's internal systems start to shut down. Many organs in the body suffer damage and body temperature must be reduced quickly. The person may stagger, appear confused, have a fit, or collapse and become unconscious. As well as effects on the nervous system, there can be liver, kidney, muscle, and heart damage.

Source: https://www.betterhealth.vic.gov.au/health/healthyliving/heat-stress-and-heat-related-illness

models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol	**Question 3a** (4 marks) Name and explain the sub-stages of 'alarm reaction' of Selye's General Adaptation Syndrome (GAS), and how this might apply to a firefighter who is exposed to extreme heat.	**Answer:** • *An organism experiences 'shock' when first encountering the stressor, where the body goes into a temporary stage of fright, and there is a drop in the level of resistance to the stressor.* • *A firefighter who experiences extreme heat (the stressor) may be unable to initially cope with the extreme heat (e.g., s/he may temporarily be unable to move towards the fire).* • *An organism then experiences 'countershock', where the fight-flight response is activated, increasing the body's resistance to the stressor.* • *A firefighter may then begin to sweat to cool her/his body to respond to the extreme heat.* **Marking protocol:** One mark for each of the above points. Note: any reasonable application to the scenario should be awarded marks, as long as the changed level of resistance to the extreme heat is clear.

models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol	**Question 3b** (2 marks) Explain the stage of 'resistance' of Selye's GAS, and how this might apply to a firefighter who is exposed to extreme heat.	**Answer:** • *An organism in the resistance stage is able to withstand the stressor at an above-normal level.* • *A firefighter may experience increased sweating to be able to deal with the stressor of the extreme heat.* **Marking protocol:** One mark for each of the above points. Note: any reasonable application to the scenario should be awarded marks, as long as the above-normal level of resistance to the extreme heat is clear.

models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol	**Question 3c** (2 marks) Explain the stage of 'exhaustion' of Selye's GAS, and how this might apply to a firefighter who is exposed to extreme heat for a prolonged period.	**Answer:** • *An organism in the exhaustion stage will respond to the stressor at a below-normal level, as physiological resources begin to break down.* • *A firefighter may experience the symptoms of heatstroke, where the body is unable to deal effectively with the extreme heat.* **Marking protocol:** One mark for each of the above points. Note: any reasonable application to the scenario should be awarded marks, as long as the below-normal level of resistance to the extreme heat is clear.

models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the 'fight-flight-freeze' response and the role of cortisol	**Question 3d** (2 marks) State one benefit and one disadvantage of cortisol being released for a firefighter who is regularly exposed to extreme heat.	**Answer:** • *A benefit of cortisol is that it may energise the body and increase energy supplies to deal with a stressor such as extreme heat.* • *A disadvantage of cortisol is that it has immunosuppressive effects, so the firefighter may have an increased vulnerability to illness such as the flu.* **Marking protocol:** One mark for each of the above points.

context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress.	**Question 3e** (3 marks) How could a firefighter exposed to extreme heat demonstrate high levels of coping flexibility, and how might this affect context-specific effectiveness?	**Answer:** • *A firefighter could demonstrate high levels of coping flexibility by evaluating the coping strategies used to deal with extreme heat and stopping the strategies that are not useful (e.g., stopping drinking hot coffee).* • *Further, to demonstrate high levels of coping flexibility, the firefighter could implement new strategies that are more adaptive (e.g., staying hydrated with cool water).* • *By demonstrating high levels of coping flexibility, the firefighter is likely to increase the context-specific effectiveness of the strategies used (e.g., staying hydrated with cool water is likely to have high levels of context-specific effectiveness for the stressor of extreme heat).* **Marking protocol:** One mark for each of the above points.

Shanti is a 17-year-old girl who is experiencing the symptoms of schizophrenia; she has disorganised speech, hallucinations, and delusions (unshakable beliefs in things that are untrue), and has been experiencing these symptoms for more than eight months. Shanti found these symptoms very unpleasant and upsetting to her and has begun to withdraw from her close group of friends after a series of emotional outbursts. Shanti has discontinued going to school because she was unable to focus in class.

mental health as a continuum (mentally healthy, mental health problems, mental disorders) influenced by internal and external factors that can fluctuate over time	**Question 4a** (3 marks) Where would Shanti likely be placed on the mental health continuum? Provide two reasons to support your response.	**Answer:** • *Shanti would likely be diagnosed as having a mental disorder.* • *This is because her symptoms are preventing her from normal functioning in day-to-day activities, such as going to school.* • *This is because she is experiencing significant distress, as indicated by her emotional outbursts.* • *This is because her symptoms are atypical for Shanti and the general population.* • *This is because her symptoms are prolonged (for more than eight months in Shanti's case), which is indicative of a mental disorder, rather than a mental health problem.* **Marking protocol:** One mark for stating that Shanti is likely to be experiencing a mental disorder, and two additional marks for two appropriate justifications in relation to the scenario.

the influence of social risk factors including disorganised attachment, loss of a significant relationship and the role of stigma as a barrier to accessing treatment	**Question 4b** (2 marks) Alongside a definition, describe how stigma could act as a barrier for Shanti to access treatment.	**Answer:** • *Stigma refers to a negative social attitude of a characteristic (such as the symptoms of schizophrenia) that may be regarded as a deficiency or mark of disgrace.* • *If Shanti feels ashamed about the symptoms she is experiencing, she may not wish to discuss her symptoms with a health professional who could otherwise help with the treatment of those symptoms.* **Marking protocol:** One mark for each of the above points.

the influence of biological risk factors including genetic vulnerability to specific disorders, poor response to medication due to genetic factors, poor sleep and substance use	**Question 4c** (2 marks) Research suggests that the child of parents who are both diagnosed with schizophrenia are up to forty times more likely to develop the condition compared to the rest of the population. In terms of the biopsychosocial framework, name and explain the type of risk factor that describes this phenomenon.	**Answer:** • *Genetic vulnerability…* • *…is a biological (predisposing) risk factor which may lead to an increased chance of developing a mental disorder as a result of the genes inherited from biological parents.* **Marking protocol:** One mark for each of the above points.

the influence of biological risk factors including genetic vulnerability to specific disorders, poor response to medication due to genetic factors, poor sleep and substance use	**Question 4d** (1 mark) Even if both parents are diagnosed with schizophrenia, this does not necessarily mean that their offspring will develop the condition. Explain why this may be the case.	**Answer:** • *Risk factors (such as a genetic vulnerability) only increase the chance of the development of a condition; it does not necessarily entail that the condition will develop (due to a variety of other factors, such as protective factors that the child may have).* **Marking protocol:** One mark for the above point.

Christine is the mother of 6-year-old Aisha who is anxious about receiving a vaccination. Their local community centre recently ran an information session for parents and carers on how to make vaccinations a calm and non-threatening experience for children, so that it reduces the likelihood of the development of a specific phobia of needles.

The information provided at the session included the similarities and differences between anxiety and specific phobias, how operant conditioning can be used to explain why people are offered lollypops to encourage vaccination, and how observational learning can be used to help children remain calm and positive while receiving a vaccine.

the distinctions between stress, phobia and anxiety; variation for individuals with stress, phobia and anxiety on a mental health continuum

operant conditioning as a three-phase model (antecedent, behaviour, consequence) involving reinforcers (positive and negative) and punishment (including response cost) that can be used to change voluntary behaviours

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement

Question 5 (10 marks)
Considering the above information, create a detailed and clearly organised set of notes that Christine may record from the session.

Sample answer:

- *Anxiety is a normal and appropriate response to certain situations, particularly those which are unfamiliar or risky. It may be an adaptive response that can make us more alert or help us avoid dangerous situations. For a child, vaccination anxiety may present as a feeling of worry, unease, or apprehension.*
- *Anxiety differs from an anxiety disorder in that the latter is a mental disorder characterised by such overwhelming and intense anxiety that it interferes with daily functioning, is highly distressing, and is maladaptive (as opposed to anxiety which may be an adaptive response).*
- *Specific phobia is a form of anxiety disorder. A phobia involves a persistent, intense, and irrational fear of a specific stimulus that leads to avoidance behaviour. In terms a vaccination, a phobia may present as a level of fear that is excessively out of proportion to the danger posed. It would likely lead to the child actively trying to avoid vaccinations (e.g., becoming extremely upset at the prospect, or refusing to go).*
- *Both anxiety and specific phobias are influenced by a range of biological, psychological, and social factors, and both typically involve the activation of the stress response leading to a range of physiological changes that are governed by the sympathetic nervous system, such as increased heart rate and perspiration, and decreased digestive functioning. However, specific phobias would likely lead to a more intense activation of these physiological changes compared to everyday anxiety.*
- *While anxiety is considered a normal part of everyday life, a specific phobia leads to changes in behaviour, is highly distressing, and limits functioning. For example, a person with anxiety might be a bit nervous about receiving a vaccination, whereas a person with a specific phobia may be unable to sleep or eat normally prior to a vaccination appointment.*
- *Further, anxiety may be non-specific in that it may be triggered by a range of stimuli (which also may be unknown), whereas a specific phobia is an intense fear of a particular stimulus that is usually known to the person suffering from a specific phobia.*

- *Operant conditioning is a form of learning where the consequences of a behaviour determine the likelihood of future behaviour. For example, if a behaviour is followed by pleasant consequences, it is more likely to be repeated.*

- *In relation to receiving a vaccination, the antecedent would be going to the vaccination clinic.*
- *The behaviour would be receiving the vaccine.*
- *The consequence would be receiving a lollypop. Presuming this is an appropriate form of positive reinforcement, this should increase the likelihood of future vaccination behaviour. Any pleasant consequence (such as receiving immunisation from a disease) should strengthen the behaviour that precedes it. (If a person dislikes lollypops or develops adverse side-effects from a vaccine, this may decrease the likelihood of future vaccination behaviour.)*

- *Observational learning is method of social learning. It occurs when a learner watches a model's behaviour, and the consequences of this behaviour, to guide their own behaviour.*
- *A child can be vicariously reinforced through watching someone else (such as their parents) getting a vaccination and receiving positive reinforcement (such as a lollypop). It is important that the model is someone they respect or are close to, in order to increase the likelihood of learning from the model's behaviour.*
- *(If the model does not have a pleasant experience of their vaccination (e.g., Christine begins screaming in fear of a vaccine in front of Aisha), this may further increase the child's anxiety, so it is important that the model is confident about setting a positive example in this situation.)*
- *To help teach Aisha to remain calm and positive while receiving a vaccination, the following stages of observational learning may be completed:*
    - *Attention – Aisha actively watching a friend/family member/TV character receive a vaccine and remaining calm and positive.*
    - *Retention – Aisha storing a mental representation of the model's calm behaviour while receiving a vaccine.*
    - *Reproduction – Aisha having the ability to/belief that she can also remain calm and positive in this situation.*
    - *Motivation – Aisha having the desire to remain calm and positive while receiving a vaccine (for example, to feel proud of herself or get a reward).*
    - *Reinforcement – Aisha feeling proud of herself (a type of self-reinforcement)/receiving a reward/lollypop (a type of external reinforcement) for her behaviour, which increases the likelihood that she will produce the same calm and positive behaviour in future.*

Marking protocol:

This answer is globally marked (i.e., an overall mark is awarded for the entire answer). The following criteria could be used to assess a response:

9-10 Outstanding	• All elements of the question addressed to an outstanding standard. • An insightful, well-structured, and comprehensive discussion of the similarities and differences between anxiety and specific phobia, and an application of operant conditioning and observational learning, in relation to a child having a vaccination and remaining calm and positive. • Thorough discussion of multiple similarities and differences between anxiety and specific phobia in relation to a child having a vaccination. • Accurate and detailed description of operant conditioning and observational learning including psychological terminology and a highly detailed and thorough discussion of stages applied to the scenario. • Formal and appropriate psychological terminology is used throughout the response.
7-8 High	• All elements of the question addressed to a high standard. • Thorough discussion of some similarities and differences between anxiety and specific phobia in relation to a child having a vaccination. • Accurate description of operant conditioning and observational learning including psychological terminology and a thorough discussion of stages applied to the scenario. • Formal and appropriate psychological terminology is used throughout the response.
5-6 Medium	• All elements of the question addressed to a satisfactory standard. • Some discussion of the similarities and differences between anxiety and specific phobia in relation to a child having a vaccination. • A relevant application of both learning theories with application to the scenario. • Formal and appropriate psychological terminology is mostly used.
3-4 Low	• Not all elements of the question are addressed or addressed correctly. For example, there are no clear differences between anxiety and specific phobias. • A superficial application of both learning theories or only one learning theory discussed. • Limited formal and appropriate psychological terminology is used throughout the response. • Few links are made between psychological theory and the scenario.
1-2 Very low	• A superficial attempt at the question. • Incomplete or inaccurate application of one or both learning theories and similarities and differences between anxiety and specific phobia. • Little formal and appropriate psychological terminology is used throughout the response.
0 marks	• The question has not been meaningfully attempted.

VCE PSYCHOLOGY
Written Examination
ANSWER SHEET – 2022

Student name:	

Use a **PENCIL** for **ALL** entries. For each question, shade the box which indicates your answer.

Marks will **NOT** be deducted for incorrect answers.

NO MARK will be given if more than **ONE** answer is completed for any question.

If you make a mistake, **ERASE** the incorrect answer – **DO NOT** cross it out.

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
26	A	B	C	**D**
27	A	B	**C**	D
28	A	B	C	**D**
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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**
41	**A**	B	C	D
42	A	**B**	C	D
43	A	B	**C**	D
44	A	B	**C**	D
45	A	B	C	**D**
46	A	B	C	**D**
47	A	**B**	C	D
48	A	**B**	C	D
49	A	B	C	**D**
50	A	**B**	C	D