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Units 3&4 Trial Exam 2021 – Assessment Guide

Section A

VCAA Key Knowledge	Question	Answer guide
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 1** The autonomic nervous system is composed of the _____ nervous system and the _____ nervous system. **A.** sympathetic; parasympathetic **B.** somatic; central **C.** somatic; sympathetic **D.** sympathetic; peripheral	***A*** *The two divisions of the autonomic nervous system are the sympathetic and parasympathetic nervous systems.*

Use the following information to answer Questions 2 - 4.

Veronica was about to give a speech at her best friend's 21st birthday party. She wants to give the speech, but as she is always nervous with public speaking, Veronica has written some key points on cue cards to help her with the stories that she wants to tell in her speech.

VCAA Key Knowledge	Question	Answer guide
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 2** Identify the division of Veronica's nervous system that would be most active just before giving the speech and one physiological change associated with this division of the nervous system.	***C*** *Due to feeling nervous, Veronica would be in a state of physiological arousal. The division of the nervous system dominant during increased arousal is the sympathetic nervous system. Physiological changes associated with increased arousal include an increased heart rate and the slowing of digestion.*

	Division of the nervous system	Physiological change
A.	central nervous system	dilated pupils
B.	sympathetic nervous system	decreased heart rate
C.	sympathetic nervous system	slowing of digestion
D.	parasympathetic nervous system	increased heart rate

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 3

Veronica has had a few glasses of wine before giving the speech. Which of the following best describes a possible impact on Veronica's cognitive functioning?

A. Veronica could become more emotional than expected while giving the speech
B. Veronica could have trouble focussing her eyes while reading the speech
C. Veronica could have trouble maintaining her balance while giving the speech
D. Veronica could have trouble remembering the stories that are part of her speech

D *While all options are possible impairments, only D describes an impact on cognitive functioning. A describes an affective impact, B describes a physiological impact, and C describes a behavioural impact of the consumption of alcohol.*

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 4

Veronica could be considered to be in an altered state of consciousness. Which of the following changes to her psychological state would be expected in an altered state of consciousness?

A. having difficulty judging how long she had been speaking for
B. sticking to her speech with the use of her cue cards
C. focussing on the faces of the people standing around her
D. remembering how to turn the microphone on

A *Veronica could have difficulty judging how much time has passed due to a change in time orientation, which is an indicator of an altered state of consciousness.*

the characteristics of scientific research methodologies and techniques of primary qualitative and quantitative data collection relevant to the selected investigation: experiments, self-reports, questionnaires, interviews and/ or use of rating scales; reliability and validity of data; and minimisation of experimental bias and confounding and extraneous variables

Question 5

Mitchell was conducting research on the effects of meditation on stress. Participants were asked to assess their stress level on a grading system from 1 (indicating that they were not at all stressed) to 10 (indicating that they were extremely stressed). Which data collection method was used and what type of data was collected?

	Data collection method	Type of data
A.	interview	quantitative
B.	rating scale	quantitative
C.	questionnaire	qualitative
D.	rating scale	qualitative

B *A 'grading system' is another way to describe a rating scale. As the data collected is numerical, Mitchell collected quantitative data.*

sources of stress (eustress and distress) including daily pressures, life events, acculturative stress, major stress and catastrophes that disrupt whole communities	**Question 6** Peter moved from London when he was twelve years old to live in Australia. He had a heavy accent and was teased by many of his peers. He found it very hard to adapt to Australian culture and any attempts to forge new friendships were snubbed by his peers. Which type of stress did Peter primarily experience? **A.** catastrophe **B.** major stress **C.** acculturative stress **D.** eustress	*C*	*The source of Peter's stress comes from the fact that his culture does not match with the host culture. Hence, he experienced acculturative stress.*

Use the following information to answer Questions 7 and 8.
Dylan has a stressful job as an air traffic controller. He finds working night shifts to be very challenging. He has found that going on a daily 5km jog greatly reduces his stress levels.

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 7** Weeks of night shifts for Dylan can result in **A.** a circadian phase disorder. **B.** an ultradian phase disorder. **C.** sleep walking. **D.** parasomnia.	*A*	*Circadian phase disorders occur when your sleep-wake cycle is not properly aligned with your environment.*

context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress.	**Question 8** Dylan's choice of exercise to reduce the stress associated with his work as an air traffic controller would be considered **A.** an avoidance strategy, as Dylan cannot reduce his stress in any other way. **B.** an avoidance strategy, as Dylan aims to reduce his stress by distancing himself from the work-related stress. **C.** an approach strategy, as Dylan aims to reduce his work-related stress by dealing with the problem directly. **D.** an approach strategy, as Dylan aims to reduce his stress by distancing himself from the work-related stress.	*B*	*Avoidance coping strategies aim to reduce stress by moving away from the source of the stress. When he jogs, Dylan is not focussing on the stress of work; he is directing his focus away from his work-related stress.*

Use the following information to answer Questions 9 - 14.

Chanthou loves to go mountain bike riding and she has enjoyed competing in a race event for the past five years. A couple of years ago, Chanthou broke her arm during a competition and had to be taken to hospital by ambulance. She recalls that the ambulance driver was named Homer and that it was only a six minute drive from Blores Hill to the hospital in Heyfield. Once she arrived at the hospital, Chanthou was given a mild anaesthetic so that the doctors could attend to her injury. Apart from flinching when she received the injection, Chanthou could not feel anything as the doctors worked on her injury.

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 9

Which of the following best identifies the state of consciousness Chanthou experiences?

	While mountain bike riding	While the doctors worked on her injury
A.	normal waking consciousness	a naturally occurring altered state of consciousness
B.	a naturally occurring altered state of consciousness	normal waking consciousness
C.	a naturally occurring altered state of consciousness	an induced altered state of consciousness
D.	normal waking consciousness	an induced altered state of consciousness

D *Normal waking consciousness includes an awareness of internal and external environments which accounts for Chanthou's ability to ride in a race. An altered state of consciousness varies from normal waking consciousness in terms of awareness and experience. The use of anaesthetic means that Chanthou was no longer aware of the painful sensations from her injury.*

the measurement of physiological responses to indicate different states of consciousness, including electroencephalograph (EEG), electromyograph (EMG), electro-oculograph (EOG)

Question 10

Chanthou's state of consciousness could be measured using

A. an EMG, to measure the electrical activity of the muscles surrounding Chanthou's eyes.
B. an ECG, to measure Chanthou's brainwave activity.
C. an EEG, to measure Chanthou's brainwave activity.
D. an EOG, to measure the electrical activity of the muscles in Chanthou's arm.

C *An EEG will detect, amplify and record electrical activity of the brain in the form of brainwaves, which may indicate different states of consciousness (e.g., how much awareness Chanthou has of her broken arm before and after the anaesthetic). The other measurements do not match the monitoring device.*

long-term memories, including implicit and explicit memories	**Question 11** Chanthou's recall of the name of the ambulance driver is an **A.** explicit memory as it is information that can be intentionally retrieved. **B.** implicit memory as it is information that can be intentionally retrieved. **C.** explicit memory as it is information that does not require conscious retrieval. **D.** implicit memory as it is information that does not require conscious retrieval.	*A*	*Explicit memory can be consciously retrieved and stated. The name of the ambulance driver can be intentionally accessed and stated by Chanthou.*

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 12** Chanthou's memory of how to ride a mountain bike is a(n) **A.** semantic memory. **B.** procedural memory. **C.** episodic memory. **D.** declarative memory.	*B*	*The memory for actions/skills is referred to as procedural memory. Riding a bike is an action and is therefore a procedural memory.*

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 13** According to the Atkinson-Shiffrin multi-store model of memory, Chanthou's memory of the time it took to get from Blores Hill to the hospital in Heyfield is a **A.** short-term memory because six minutes is a short period of time. **B.** long-term memory because it is information that Chanthou accessed at a later time. **C.** sensory memory because Chanthou heard the ambulance driver say that the ride would only be six minutes. **D.** sensory memory because six minutes is the duration of this store of memory.	*B*	*Long-term memories hold a potentially unlimited amount of information for a very long time. Short-term memories have a duration of up to 30 seconds. The length of time between Blores Hill and Heyfield is irrelevant.*

the distinction between conscious and unconscious responses by the nervous system to sensory stimuli, including the role of the spinal reflex	**Question 14** Bike riding would be considered a/n _____ response, whereas flinching from the injection would be considered a/n _____ response. **A.** conscious; unconscious **B.** conscious; conscious **C.** unconscious; unconscious **D.** unconscious; conscious	*A*	*A conscious response is an action that involves awareness, is voluntary and intentional. Riding a bike is an action that Chanthou chose to do. An unconscious response is a reaction that does not involve awareness (at least initially). It is involuntary and generally, we cannot control it. Chanthou would not be able to control the reflexive flinching response when she received the injection.*

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 15** Which of the following statements about memory is incorrect? **A.** the duration of short-term memory can be increased by maintenance rehearsal **B.** the duration of long-term memory is relatively permanent **C.** the duration of echoic sensory memory is approximately 0.2-0.4 seconds **D.** the capacity of long-term memory is potentially unlimited	*C*	*The duration of echoic sensory memory is approximately 3-4 seconds, whereas the duration of iconic sensory memory is approximately 0.2-0.4 seconds.*

Use the following information to answer Questions 16 and 17.

Grace and Elliot are best friends that attend the same primary school. As they were walking home from school, Grace witnessed her friend Elliot being swooped multiple times by black birds. Elliot panicked and ran away, and has since developed a fear of black birds. Grace also sees the birds as dangerous creatures, and avoids black birds wherever possible.

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement	**Question 16** Which principle of observational learning is being demonstrated when Grace witnessed her friend Elliot being swooped by black birds? **A.** reproduction **B.** reinforcement **C.** motivation **D.** attention	*D*	*When Grace was actively focusing on Elliot being swooped by black birds, she was demonstrating the process of attention.*

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 17** Classical conditioning could be used to extinguish Elliot's fear by **A.** repeatedly presenting the conditioned stimulus without the unconditioned stimulus. **B.** repeatedly presenting the conditioned stimulus without the conditioned response. **C.** repeatedly presenting the unconditioned stimulus without the conditioned response. **D.** repeatedly presenting the unconditioned stimulus without the unconditioned response.	*A*	*Extinction is caused by repeatedly pairing the CS, black birds, without the UCS, swooping (which naturally causes fear) so that eventually the link between black birds and fear will be extinguished.*

Use the following information to answer Questions 18 and 19.

Khee witnessed two assaults at the local train station over a couple of nights on his way home from work, which appeared to be by the same perpetrator on both occasions. Khee was quite traumatised, and was interviewed by the police following the assault.

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 18

Which one of the following questions from the police is an example of a leading question?

A. Where were you when the assaults occurred?
B. What colour hoodie was the man who committed the assaults wearing?
C. What was the person who committed the assaults wearing?
D. What time was it when the assaults took place?

B *This question contains the presupposition that the person committing the assaults was a man who was wearing a hoodie.*

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 19

Khee was so shaken by the experience that he began to fear going to the train station; he could feel his heart racing whenever he was at the station at night. Which of the following identifies the type of memory demonstrated by Khee's fear response and the brain region that is responsible for encoding these types of memories?

	Type of memory	Brain region
A.	explicit	amygdala
B.	implicit	amygdala
C.	episodic	hippocampus
D.	procedural	hippocampus

B *The amygdala is involved in processing and regulating emotions, particularly fear. The amygdala is vital for the formation of Khee's classically conditioned fear response, which is a form of implicit memory.*

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 20

Which of the following occurs in long-term potentiation?

A. a decrease in the release of glutamate, a key inhibitory neurotransmitter
B. a decrease in the release of GABA, a key excitatory neurotransmitter
C. an increase in the release of GABA, a key inhibitory neurotransmitter
D. an increase in the release of glutamate, a key excitatory neurotransmitter

D *Glutamate (a key excitatory neurotransmitter) is important for the long-lasting strengthening of neural connections (long-term potentiation).*

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 21

Barbara was watching television when her mother walked in and said, "Barbara, it's your turn to take the rubbish bins out." Barbara wasn't paying attention and was about to ask her mother to repeat what she had said, but did not need to, because the information had likely been held in her

A. iconic memory.
B. implicit memory.
C. echoic memory.
D. procedural memory.

C *Echoic memory is the brief sensory memory for incoming auditory information. It has a duration of just a few seconds, and information can be encoded into short-term memory if attention is paid to the information within this duration.*

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

Question 22

Patrick's maths teacher gave his class a test. The first three questions of the test were as follows:

• Question 1 – Name the type of triangle starting with 'i'.
• Question 2 – Choose the triangle that has sides of equal length from the following options: A. right-angled; B. equilateral.
• Question 3 – Name another type of triangle that is not an answer to Question 1 or Question 2.

Which of the following best identifies the method of retrieval that Patrick was expected to use for each question?

	Question 1	Question 2	Question 3
A.	relearning	recognition	free recall
B.	cued recall	cued recall	relearning
C.	cued recall	recognition	free recall
D.	recognition	free recall	cued recall

C *Cued recall uses prompts, like the first letter of the type of triangle, to aid recall. Recognition involves accessing correct information from amongst incorrect alternatives, like the multiple choice question in Question 2. Free recall involves accessing information from memory with little to no cues.*

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 23

Mobile phone numbers often involve three sets of numbers (e.g., 0400 111 222). The process of grouping these ten digits together in larger units is known as _____. This helps to increase the functional capacity of _____.

A. elaborative rehearsal; sensory memory
B. chunking; short-term memory
C. chunking; long-term memory
D. elaborative rehearsal; short-term memory

B *Chunking involves grouping individual pieces of information together to increase the functional capacity of short-term memory.*

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 24

Tenke is learning Danish as a second language in preparation for a trip that she is taking to Denmark next year. Which of the following identifies where Tenke encodes and stores the new Danish words in her long-term memory?

	Where words are encoded	Where words are stored in the long term
A.	hippocampus	cerebral cortex
B.	cerebral cortex	hippocampus
C.	amygdala	hippocampus
D.	cerebellum	cerebral cortex

A

The hippocampus is responsible for the encoding/consolidation of long-term memories, but they are not held here for an extended period; the cerebral cortex is the likely location of the long-term storage of this explicit information.

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 25

While on yard duty, Ms Canty overhears some students listing a group of classmates who had skipped a maths lesson to play a game of football on the oval.

The names she heard were: Mark, Lawrence, Dimitris, Jean-Francois, Mohamed, Tom, Tyson, Louis, Nathaniel, Matt, Steven, Paul, Slobodan, Joe, and Richard.

Ms Canty finds a piece of paper to record the names of the students as soon as she finishes secretly listening to the list. According to the serial position effect, the names Ms Canty is least likely to write down are

A. Mark, Lawrence, and Dimitris.
B. Slobodan, Joe, and Richard.
C. Tyson, Louis, and Nathaniel.
D. Mark, Tom, and Richard.

C

The serial position effect refers to the superior recall for items at the beginning and end of a list over items in the middle of the list.

Use the following information to answer Questions 26 - 29.

35-year-old Trent has just returned to Australia after living in India for a year. He was so excited to return to Australia that he did not sleep for the entire flight home.

Dahni went to the airport to pick Trent up and has organised a 'welcome home' party for Trent and their friends at a bar in the city. By the end of the evening, Dahni had consumed several alcoholic beverages. When the party ends, she does not want to leave because she feels like she has only just arrived at the bar. Her friends are able to convince her to leave, but they need to assist her to walk to the car because she is having difficulty with her balance.

Trent has not consumed any alcohol, so he drives Dahni home. On the way home, Trent is breath-tested, and returns a zero reading, but is driving home after a long flight. He has now been awake for 17 hours.

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 26

Dahni's feeling of only having just arrived at the bar can best be explained by

A. having a distorted time orientation.
B. experiencing a loss of self-control.
C. a lack of emotional awareness.
D. the presence of perceptual distortions.

A *The experience of time passing is often distorted in an altered state of consciousness. Dahni is intoxicated and is unable to accurately judge the passage of time at the party.*

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 27

Which of the following would be the most likely effect of Trent being awake for 17 hours?

A. Trent's ability to drive would be negatively affected, as much as having a blood-alcohol concentration below the legal limit for driving
B. Trent's ability to drive would be negatively affected, as much as having a blood-alcohol concentration at the legal limit for driving
C. Trent's ability to drive would be negatively affected, as much as having a blood-alcohol concentration above the legal limit for driving
D. Trent is likely to perform better on cognitive tasks that measure speed and accuracy

B *17 hours without sleep is approximately equivalent to the functioning of someone with a BAC of 0.05%, which is the legal limit for driving. Trent has been awake for 17 hours so there will be a significant impact to his cognitive functioning that enables him to drive.*

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 28

Dahni wakes after a nap and has a BAC level of 0.05%. Trent has still not slept and has now been awake for 24 hours. Which of the following would be most likely when comparing Dahni and Trent?

A. Dahni will perform better on measures of speed and accuracy on cognitive tasks than Trent
B. Trent will perform better on measures of speed and accuracy on cognitive tasks than Dahni
C. there would be no difference in the measures of speed and accuracy on cognitive tasks between Dahni and Trent
D. Dahni will perform better on measures of speed, but not accuracy on cognitive tasks than Trent

A *24 hours without sleep is approximately equivalent to the functioning of someone with a BAC of 0.10%. Trent has been awake for 24 hours so his level of functioning would likely be worse than Dahni who has a BAC of 0.05%.*

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

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 29

Trent is starting a new job in Melbourne in a few days. After changing time zones, Trent is suffering from a circadian phase disorder. He needs to realign his body clock so that he can return to work. Which of the following best identifies the circadian phase disorder Trent is experiencing, and the most suitable intervention for his circadian phase disorder?

	Circadian phase disorder	Intervention
A.	sleep-onset insomnia	bright light therapy
B.	sleep-wake shift in adolescence	cognitive behavioural therapy
C.	jetlag	cognitive behavioural therapy
D.	jetlag	bright light therapy

D *Jetlag is a circadian phase disorder that occurs when changing time zones faster than your body can adapt to. This results in a mismatch between our internal circadian rhythm and the destination time. Bright light therapy involves exposure to intense but safe levels of light to help resynchronise Trent's sleep-wake cycle.*

Use the following information to answer Questions 30 and 31.

Hayley and Lachlan often spend the weekend at their grandmother Maureen's, house. Hayley is 5-years-old, Lachlan is 15-years-old, and Maureen is 82-years-old.

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 30

Compared to Hayley, Maureen would likely experience

A. less sleep each night.
B. a higher proportion of REM sleep each night.
C. a lower proportion of NREM sleep each night.
D. more hours of NREM sleep each night.

A *As we age, the proportion of REM sleep decreases and the total number of hours spent sleeping also decreases. Maureen is much older than Hayley, so she would experience a lower proportion of REM sleep and consequently a higher proportion of NREM sleep, but in total, fewer hours of NREM sleep.*

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 31

Typically, how many hours of sleep would Lachlan need each night?

A. 6 hours
B. 9 hours
C. 12 hours
D. 5 hours

B *Lachlan is an adolescent and so he would require approximately 9-10 hours of sleep per night.*

Use the following information to answer Questions 32 and 33.

When Zach was a young child, he tried to dress himself and he got his head stuck in his shirt. He felt like he had no way to get out and that he could not breathe. As a result of this traumatic event, he developed a specific phobia of buttons, and avoids them wherever possible.

the distinction between predisposing risk factors (increase susceptibility), precipitating risk factors (increase susceptibility and contribute to occurrence), perpetuating risk factors (inhibit recovery) and protective factors (prevent occurrence or re-occurrence)

Question 32

Avoidance of buttons reinforced through operant conditioning is likely to be a _____ factor that may inhibit the recovery of Zach's specific phobia of buttons.

A. predisposing
B. precipitating
C. perpetuating
D. protective

C *A perpetuating factor is one that prolongs a disorder and prevents recovery. Operant conditioning is an example of a factor that may perpetuate a phobia.*

the distinction between predisposing risk factors (increase susceptibility), precipitating risk factors (increase susceptibility and contribute to occurrence), perpetuating risk factors (inhibit recovery) and protective factors (prevent occurrence or re-occurrence)	Question 33 The traumatic event of getting his head stuck and feeling like he was unable to breathe is likely to be considered a _____ factor in the development of Zach's phobia. A. predisposing B. precipitating C. perpetuating D. protective	*B* *This traumatic event appears to have been the trigger for the onset of Zach's phobia, which is why it would be considered a precipitating factor.*

Use the following information to answer Questions 34 and 35.

Isabelle is in Grade 1 and her teacher has asked her to read aloud to her parents each night. Her teacher has given her a record book and some gold star stickers to take home to her parents. Every time Isabelle completes her reading, her parents have been asked to put a gold star in Isabelle's record book. Isabelle loves the stickers and wants to collect a gold star every night.

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, including stimulus generalisation, stimulus discrimination and spontaneous recovery (excluding schedules of reinforcement)	Question 34 In terms of operant conditioning for Isabelle, her parents putting gold stars in her record book would be considered A. the antecedent. B. the behaviour. C. positive reinforcement. D. negative reinforcement.	*C* *The consequence of Isabelle completing her nightly reading is that her parents place a gold star in her record book. This is a desirable consequence being added for Isabelle and is therefore positive reinforcement.*

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, including stimulus generalisation, stimulus discrimination and spontaneous recovery (excluding schedules of reinforcement)

Question 35

Isabelle is very excited to do her reading every night and she nags her parents to come to her room and listen to her reading. Her parents come to her room to stop Isabelle's nagging. The parents are likely to come to Isabelle's room to listen to her reading because they are being

A. positively reinforced as they love to give out gold stars.
B. punished by Isabelle's poor reading.
C. negatively reinforced as this will help Isabelle's reading.
D. negatively reinforced as this will stop Isabelle's nagging.

D *Negative reinforcement will increase the likelihood of a behaviour (coming to hear Isabelle read) due to the removal of an undesirable stimulus (the nagging, which is an undesirable stimulus, will stop).*

Use the following information to answer Questions 36 - 38.

In Watson and Rayner's experiment, they intentionally classically conditioned 'Little Albert' to produce a fear response.

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

Question 36

The conditioned stimulus was

A. the loud noise.
B. the rat.
C. fear of the loud noise.
D. fear of the rat.

B *The rat did not originally produce a fear response, but after repeated pairing with the loud noise (unconditioned stimulus), the rat alone (conditioned stimulus) produced a fear response (conditioned response).*

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

Question 37

Little Albert also produced a fear response to a fur coat and a Santa Claus mask. This was a demonstration of

A. stimulus generalisation, as these items were different to the rat and produced a different response.
B. stimulus discrimination, as these items were similar to the rat and produced a similar response.
C. stimulus generalisation, as these items were similar to the rat and produced a similar response.
D. stimulus discrimination, as these items were different to the rat and produced a different response.

C *Stimulus generalisation as the fur coat and the Santa Claus mask were similar to the rat and produced a similar fear response.*

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

Question 38

Experiments that used human participants in this way would not be permitted anymore. This is because of the ethical consideration of

A. withdrawal rights, which were not upheld. Little Albert was not permitted to leave even though he was clearly distressed and attempted to crawl away.
B. informed consent, which was not upheld. Little Albert's mother did not appear to be given clear information about the nature of the research involving her son.
C. debriefing, which was not upheld. Little Albert appeared to leave the experiment without the extinction of the conditioned response.
D. all of the above

D *Many ethical considerations were breached in this research.*

ethical implications in the study of, and research into, mental health, including informed consent and use of placebo treatments

Question 39

Ashley is conducting research using a type of medication for a mental disorder. As a researcher using placebo treatments, one of the additional ethical considerations for this type of research is that

A. debriefing will be necessary.
B. the use of a placebo by the control group may alleviate some of the symptoms of the mental disorder.
C. for participants in the control group, her research may involve withholding medication from some participants who need it.
D. it will be necessary to obtain informed consent.

C *While it is necessary to obtain informed consent from all participants, the use of a placebo raises the concern that some participants will be going without potentially necessary medication for the duration of the research trials.*

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 40

Which of the following is not considered a protective factor that increases resilience?

A. benzodiazepines
B. adequate diet
C. cognitive behavioural strategies
D. adequate sleep

A *Benzodiazepines are a biological intervention for the treatment of phobias, rather than a protective factor.*

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

Question 41

There are many situations in which we experience anxiety as a normal part of everyday living; however, some people have anxiety disorders which are a specific group of mental disorders. Which of the following statements is most likely indicative of someone suffering from an anxiety disorder?

A. there is significant interference with daily living
B. there is a feeling of worry or apprehension that something wrong or unpleasant is about to happen
C. the sympathetic nervous system has been activated causing an increase in physiological arousal
D. you are walking down a dark street late at night and you are worried for your safety

A *While a feeling of worry or apprehension does describe anxiety, this might be in response to something like being asked to speak in front of a large crowd, which might be considered normal in this situation. It would only be considered an anxiety disorder if the anxiety started to interfere with everyday life.*

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 42

Which of the following are biological factors that may play a role in the development, progression, and maintenance of a particular phobia?

A. classical conditioning and GABA dysfunction
B. specific environmental trigger and long-term potentiation
C. catastrophic thinking and classical conditioning
D. GABA dysfunction and long-term potentiation

D *GABA dysfunction and long-term potentiation are the only pair of biological contributing factors listed; other options include psychological and/or social contributing factors.*

the concept of cumulative risk

Question 43

The exposure to, and accumulation of, multiple risk factors that increase the susceptibility of a person to developing a mental disorder is known as

A. positive risk.
B. perpetuating risk.
C. cumulative risk.
D. cultural risk.

C *Cumulative risk refers to the exposure to, and accumulation of, multiple risk factors that increase susceptibility to developing a mental disorder or perpetuates an existing mental disorder.*

Use the following information to answer Questions 44 - 46.

Oba has been experiencing episodes of depression. It appears that his poor sleep and substance abuse has contributed to his condition. Lately, he has become increasingly isolated from his closest friends, and has been unable to hold a steady job for more than three months over the last couple of years. He constantly worries about the impact that this substance abuse is having on his future; he thinks about this problem for many hours each day, but does not change his behaviour. He wants to stop his substance abuse but is unsure as to how to start the process.

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

Question 44

Given that Oba is unsure as to how to begin to change his substance abuse behaviours, which stage of the transtheoretical model is he in?

A. maintenance
B. contemplation
C. preparation
D. pre-contemplation

B *In the contemplation stage, people start to weigh up the pros and cons of making a change to their behaviour. They might intend to change their behaviour, but they have not yet formulated a plan to do so.*

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

Question 45

Oba, with the help of some social support, has made plans to stop his substance abuse and has started taking small steps towards this process. He feels that he can make some really significant changes in the next 30 days. In terms of the transtheoretical model, which stage has Oba reached?

A. maintenance
B. contemplation
C. preparation
D. precontemplation

C *Oba has made a commitment to change his behaviour in the next 30 days and has started to take small steps. This puts Oba in the preparation stage.*

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
the influence of psychological risk factors including rumination, impaired reasoning and memory, stress and poor self-efficacy
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 46

Which of the following correctly categorises the biological, psychological, and social risk factors that may have contributed to Oba's mental condition?

	Biological factor	Psychological factor	Social factor
A.	poor sleep	isolation from close friends	constant worry
B.	substance abuse	poor diet	isolation from close friends
C.	poor sleep	not holding a steady job	constant worry
D.	substance abuse	constant worry	isolation from close friends

D *Biological risk factors include poor sleep and substance use. Both of these are referred to in the scenario. Psychological risk factors include rumination. This is referred to as constant worry in this scenario. Social risk factors include the loss of a significant relationship, such as being isolated from his closest friends.*

Use the following information to answer Questions 47 - 50.

Research was conducted to investigate the relationship between alcohol consumption and the speed and accuracy of cognitive tasks. 20 first-year psychology students from a Victorian university volunteered to take part in the research.

Participants were paired according to similarities in age and gender, and the members of each pair were randomly allocated to either the Group A or Group B.

Group A were given the cognitive tests while they were sober, while Group B were given the cognitive tests once they had consumed enough alcohol to feel drunk. During the tests, electroencephalograph (EEG) recordings were taken, as well as measures of speed and accuracy on the cognitive tasks.

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 47

For Group A, the EEG would most likely record _____ waves. For Group B, while under the influence of the depressant of alcohol, the EEG would most likely record _____ waves.

A. alpha; beta
B. beta; delta
C. alpha; delta
D. beta; alpha

D

Beta waves indicate that a person is alert and likely in normal waking consciousness. Alpha waves are present when a person feels more relaxed. Alcohol is a depressant, so alpha waves are more likely to be detected while the participants are under the influence of alcohol.

techniques to investigate consciousness (measurement of speed and accuracy on cognitive tasks, subjective reporting of consciousness, including sleep diaries, and video monitoring)

Question 48

Participants in Group B were asked to consume alcohol until they felt drunk. This would be considered to be

A. a subjective measure of their state of consciousness as it is based on each participant's personal judgement.
B. an objective measure of their state of consciousness as it is based on each participant's personal judgement.
C. a quantitative measure of their state of consciousness as it is based on each participant's personal judgement.
D. an objective measure of their state of consciousness as it is the most valid way to measure feeling drunk.

A

A subjective measure of state of consciousness is one that is based on personal judgements or one's own perspective.

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

Question 49

Which experimental research design was used?

A. a repeated measures design, to eliminate participant characteristics as extraneous variables
B. an independent groups design, to eliminate order effects
C. a random allocation design, to eliminate placebo effects
D. a matched participants design, to minimise participant characteristics as extraneous variables

D

All participants were paired based on similar characteristics, and then allocated to one of the experimental conditions. This is known as a matched participants design.

generalisability of statistics from samples to the populations from which the sample was derived	Question 50 It would not be possible to generalise the findings about the impact of alcohol on memory to all university students because A. alcohol is not a valid way to influence the speed and accuracy of cognitive tasks. B. alcohol can have an impact on speed more than the accuracy of cognitive tasks. C. unless the research was repeated, the researchers cannot claim that their research was reliable. D. the small sample of 20 first-year psychology students means that this research is likely to lack external validity.	*D* *A generalisation can be made if the sample adequately represents the population. A small sample means that the results might only apply to the sample and not the population. As there were only 20 students in this research, and all of them study psychology, this would not be sufficient to apply to all university students.*

Section B

VCAA Key Knowledge	Question	Answer guide
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 1** (4 marks) Parkinson's disease is a chronic neurodegenerative disease. Explain what is meant by this statement with reference to the specific neurons and neurotransmitter involved in Parkinson's disease.	**Answer:** • *Parkinson's disease is a chronic disease because it persists over a long period of time.* • *It is neurodegenerative because there is a progressive and irreversible breakdown in neurons in the brain.* • *Dopamine is the neurotransmitter that is involved in Parkinson's disease.* • *There is a loss/degeneration of dopamine-producing neurons (in the substantia nigra) over a long period of time, resulting in decreases in the amount of dopamine that is available (leading to insufficient neural messages being sent to areas of the brain that coordinate movement/leading to the motor symptoms of Parkinson's Disease).* **Marking protocol:** One mark for each of the above points.

Nathan is a semi-professional cricket player. One day he forgot to take off his gold necklace and played a cricket match with it on. He batted confidently and brought his team to victory. Nathan then decides to wear his necklace every time he plays because he believes he will bat well if he is wearing the necklace.

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, including stimulus generalisation, stimulus discrimination and spontaneous recovery (excluding schedules of reinforcement)	**Question 2a** (4 marks) Using key terms, explain Nathan's behaviour in terms of the three-phase model of operant conditioning.	**Answer:** • *The antecedent is Nathan going out to play cricket.* • *The behaviour is Nathan wearing the necklace.* • *The consequence is Nathan batting well/batting confidently/winning a cricket match.* • *This consequence is an appropriate form of positive reinforcement for Nathan, as his success will increase the likelihood that Nathan will wear the necklace again when playing cricket.* **Marking protocol:** One mark for each of the above points.

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, including stimulus generalisation, stimulus discrimination and spontaneous recovery (excluding schedules of reinforcement)	**Question 2b** (4 marks) Nathan also plays golf and considers wearing his necklace. Explain the difference between stimulus generalisation and stimulus discrimination in operant conditioning, and relate this to Nathan's situation.	**Answer:** • *In operant conditioning, stimulus generalisation occurs when a learned response is made to an antecedent that is similar to the antecedent that was present when the behaviour was originally learned.* • *On the other hand, stimulus discrimination occurs when the learned response is only made to the original antecedent, but not to any other similar stimulus/antecedent.* • *If Nathan wears the necklace while playing golf ([a new antecedent] in anticipation that the necklace will also lead to success in golf as it appeared to in cricket [the original antecedent]), then this is an example of stimulus generalisation.* • *However, if Nathan only wears the necklace while playing cricket, but not while playing golf, this is an example of stimulus discrimination.* **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 *the 'Little Albert' experiment as illustrating how classical conditioning can be used to condition an emotional response, including ethical implications of the experiment.*	**Question 3** (3 marks) Describe the role of long-term depression as a form of neural plasticity in the hypothetical extinction of Little Albert's conditioned emotional response to a white rat.	**Answer:** • *Long-term depression is the long-lasting weakening of synaptic connections, due to repeated weak stimulation between the pre- and post-synaptic neurons.* • *If the conditioned stimulus (the rat) was repeatedly presented without the unconditioned stimulus (the loud noise), the neural connections/pathway representing these stimuli would be weakened.* • *This repeated weak stimulation/lack of potentiated neural connections would result in the gradual extinction of the conditioned emotional response (i.e., Little Albert no longer fearing the rat)* **Marking protocol:** One mark for each of the above points.

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 4** (6 marks) Tina was in line at the canteen with $5 to buy a bottle of water. Her friend, Josh, tells her that a bottle of water costs $3. Tina calculates that she should receive $2 change. Apply the Atkinson-Shiffrin multi-store model of memory to this scenario, with reference to the key terms associated with the transfer and storage of information.	**Answer:** ● *The auditory information from Josh telling Tina that a bottle of water costs $3 was initially received in Tina's echoic sensory memory, and stored in its raw form.* ● *By paying attention to what Josh was saying, this encodes/transfers this information to short-term memory.* ● *Tina's short-term memory temporarily stores a limited amount of information that she is conscious of, for up to 30 seconds. This could include holding information about the price of the bottle of water.* ● *With further rehearsal (such as elaborative rehearsal; for example, considering how much the bottle of water costs relative to other items at the canteen), this information could be encoded/transferred into Tina's long-term memory.* ● *Long-term memory stores vast amounts of information for use at later times. This could include information such as knowing the value of $5, $3, etc., or knowing how to complete subtraction.* ● *This information was retrieved from Tina's long-term memory into short-term memory for use when calculating the amount of change.* **Marking protocol:** One mark for each of the above points. Note: All three memory stores – sensory memory, short-term memory and long-term memory – should be addressed. All three processes – encoding, storage, and retrieval – should also be included. The explanations must include explicit links to the scenario for each memory store.

Many students feel overwhelmed by the demands of juggling paid work and their study commitments. Psychologists suggest that students should assess all of their responsibilities and see if there is anything that they can offload or delegate. If students cannot find any responsibilities that they can let go of, going for a walk outside may help to become more mentally refreshed. Studies have shown that spending time in nature can improve cognitive functioning. Though it may be difficult to find the time, a 50-minute outdoor walk has been shown to improve one's memory and decrease anxiety.

context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress	**Question 5a** (3 marks) Differentiate between coping flexibility and context-specific effectiveness, and explain how a decision to go for a walk outside (where reducing responsibilities is no longer possible) may demonstrate both coping flexibility and context-specific effectiveness.	**Answer:** • *Coping flexibility refers to an individual's ability to evaluate and adjust coping strategies to meet the demands of stressors, whereas high levels of context-specific effectiveness occur when there is a good match between the coping strategy and the stressful situation.* • *If reducing responsibilities is no longer possible, then changing the coping strategy to going for a walk outside demonstrates coping flexibility.* • *This increases the likelihood of context-specific effectiveness in that going for a walk outside may be a suitable strategy for students who are feeling overwhelmed (but cannot reduce responsibilities any further; that is, there may be a good fit between the strategy of going for a walk and reducing the stress associated with feeling overwhelmed if responsibilities can no longer be reduced).* **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 5b** (4 marks) Students can try to reduce the stress of having too many commitments by using an approach strategy or an avoidance strategy. Use examples from the stimulus to explain the difference between these two strategies.	**Answer:** • *An approach strategy aims to reduce stress by orienting thoughts, feelings and behaviours toward the stressor.* • *Reducing responsibilities (e.g., thinking about which ones can be let go, and which ones cannot) is an approach strategy, as it involves a psychological orientation toward the source of the stress (i.e., considering how to alleviate the stressor of having too many work and study commitments).* • *On the other hand, an avoidance strategy aims to reduce stress by evading the stressor/orienting thoughts, feelings and behaviours away from the stressor.* • *Going for a walk outside can create some distance between the person and their commitments, thereby reducing their stress, which is an avoidance strategy, as it does not deal with the stressor directly.* **Marking protocol:** One mark for each of the above points.

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 5c** (3 marks) Students experiencing chronic stress may develop illnesses such as colds and flu. This may then lead them to being unable to cope with any of their work or study commitments. Identify the stage of Selye's General Adaptation Syndrome when someone is unable to cope after a period of tackling a stressor well, and explain the link between stress and disease.	**Answer:** • *Exhaustion stage.* • *Cortisol has been released to provide sustained energy to resist the stressors (of juggling work and study commitments).* • *Unfortunately, cortisol also supresses the activity of the immune system, which leads to a greater susceptibility to illnesses such as colds and flu.* **Marking protocol:** One mark for each of the above points.

Researchers wanted to investigate the effect of adrenaline on memory.

Participants were given an injection of adrenaline, then given a list of 20 nonsense syllables (such as wyk, tof, nuz, rew) to study for ten minutes, then were asked to write down the syllables from memory in any order. The same participants were asked to wait for two hours before being given a placebo injection and a second list of nonsense syllables to study for ten minutes. They were asked to write down as many syllables as they could from memory, in any order.

The researchers found that the increased level of adrenaline resulted in improved memory, because more nonsense syllables were written down when participants were given the injection of adrenaline when compared to the placebo.

methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction	**Question 6a** (1 mark) Identify the method of retrieval used in this research.	**Answer:** • *Free recall.* • *Recall.* **Marking protocol:** One mark for either of the above points.

independent and dependent variables and operationalisation of variables	**Question 6b** (2 marks) Operationalise the independent and dependent variables.	**Answer:** • *Independent variable: being given an injection of adrenaline or a placebo injection.* • *Dependent variable: the number of nonsense syllables correctly written down/recalled.* **Marking protocol:** One mark for each of the above points.

use an appropriate experimental research design including independent groups, matched participants, repeated measures and cross-sectional studies	**Question 6c** (2 marks) Identify the experimental research design used in this study, and an advantage of using this design.	**Answer:** • *Repeated measures design.* • *A strength is that it seeks to eliminate possible extraneous variables that are due to participant characteristics/individual participant differences. (For example, the memory ability between conditions will be identical, as the same participants take part in each condition, with and without adrenaline.)* **Marking protocol:** One mark for each of the above points.

minimise confounding and extraneous variables by considering type of sampling procedures, type of experiment, counterbalancing, single and double blind procedures, placebos, and standardised instructions and procedures	**Question 6d** (2 marks) Name and explain a technique regarding the experimental research design that the researchers could use to minimise order effects.	**Answer:** • *Counterbalancing.* • *(This involves systematically changing the order of treatments to account for order effects); one half of the participants receive the adrenaline injection and then the placebo injection, and the other half receive the placebo then the adrenaline (and complete recall tests after each injection).* **Marking protocol:** One mark for each of the above points.

minimise confounding and extraneous variables by considering type of sampling procedures, type of experiment, counterbalancing, single and double blind procedures, placebos, and standardised instructions and procedures	**Question 6e** (1 mark) What is a benefit of using nonsense syllables in a memory task over normal words in a dictionary?	**Answer:** • *Nonsense syllables would likely prevent elaborative rehearsal from occurring (due to the lack of meaning of these syllables), meaning that the participants' vocabulary/ability to perform elaborative rehearsal is no longer a confounding variable.* • *Normal words in a dictionary may have special meanings associated with them (e.g., pizza, if this is your favourite food) which you are more likely to remember from a list, unlike nonsense syllables which have no inherent meaning.* **Marking protocol:** One mark for either 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 6f** (2 marks) Adrenaline is a neurohormone. Identify one similarity and one difference between a neurohormone and a neurotransmitter.	**Answer:** Similarities include: • *Both are chemical messengers.* • *Both are released from axon terminals.* • *Both are manufactured by a neuron.* • *Both have their function determined by their chemical structure.* • *Both may be produced in the central nervous system.* Differences include: • *Neurotransmitters are transmitted across the synaptic gap, whereas neurohormones are transmitted through the bloodstream.* • *Neurotransmitters affect adjacent neurons, whereas neurohormones affect distant cells/sites.* • *The effects of neurotransmitters are immediate, whereas effects of neurohormones may take time.* **Marking protocol:** One mark for any of the above points to a maximum of two (one for a similarity and one for a difference).

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 7** (4 marks) Using examples, explain the difference between a dyssomnia and a parasomnia.	**Answer:** • *A dyssomnia is a sleep disorder that results in problems with falling asleep, staying asleep, or excessive sleepiness.* • *An example is sleep-onset insomnia (where people experience difficulty falling asleep).* • *On the other hand, a parasomnia is a sleep disorder that is characterised by abnormal behaviour or physiological activity during sleep.* • *An example of a parasomnia is sleep walking/somnambulism.* **Marking protocol:** One mark for each of the above points. Note: any legitimate example of a dyssomnia or parasomnia should be awarded marks.

Over the past couple of weeks, Alison's friends notice that she has become increasingly irritable, has begun to eat unhealthily, and has difficulty concentrating in conversations. She appears to ruminate over past failures in her SACs. However, she still attends school, enjoys hanging out with close friends, works two jobs, and plays soccer.

mental health as a continuum (mentally healthy, mental health problems, mental disorders) influenced by internal and external factors that can fluctuate over time	**Question 8a** (4 marks) Why is it more likely that Alison is suffering from a mental health problem and not a mental disorder?	**Answer:** • *A mental health problem negatively affects the way that a person feels, thinks, and behaves, but typically to a lesser extent and for a shorter duration than a mental disorder.* • *While there are some negative impacts on affect (irritability), behaviour (eating unhealthily), and cognitive functioning (difficulty concentrating), these are relatively minor and short-term signs that are indicative of a mental health problem rather than a mental disorder.* • *A key aspect of a mental disorder is that it impairs functioning in everyday life.* • *Alison is still functioning well at school, works two jobs, and plays soccer (which is not indicative of significant impairment in everyday functioning as seen in mental disorder).* **Marking protocol:** One mark for each of the above points. Note: any legitimate difference between a mental health problem and mental disorder that is linked to Alison should be awarded two marks. For example, Alison does not appear to be experiencing significant distress as she still enjoys hanging out with close friends; experiencing significant distress is a characteristic of a mental disorder more so than a mental health problem.

mental health as a continuum (mentally healthy, mental health problems, mental disorders) influenced by internal and external factors that can fluctuate over time	**Question 8b** (2 marks) Name one internal and one external factor from the scenario which may contribute to Alison's state of mental health.	**Answer:** • *An internal factor (influences on mental health that originate from within the individual) could include Alison's rumination on past failures/Alison's poor diet.* • *External factors (influences on mental health that originate from outside of the person) could include Alison playing soccer/having supportive friends/being employed in two jobs.* **Marking protocol:** One mark for any of the above points, to a maximum of two (one internal factor and one external factor).

Roku has started a new job as a nurse in an aged care facility. He has worked in a variety of nursing positions in hospitals, but this is his first experience in aged care. He has many new responsibilities, and while he is familiar with medicines and wound care, he now has to learn about chronic conditions related to the elderly and how to manage patients with cognitive impairment. Caring for the elderly is complex due to their increasing frailty and Roku is feeling stressed about his ability to properly support his patients, particularly those with Alzheimer's disease. Roku shared his concerns with his supervisor, Ruth, who recommended an Aged Care Clinical Nursing course. Ruth told Roku that it is an 11-hour course, and he could fit the course in around his shifts at the aged care facility.

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 9a** (2 marks) Explain Roku's primary appraisal of his new job at the aged care facility, according to Lazarus and Folkman's Transactional Model of Stress and Coping.	**Answer:** • *Roku's initial assessment of his new job is that it is stressful.* • *He perceives his lack of experience as a threat, as he is worried about his ability to properly support his future patients.* **Marking protocol:** One mark for each of the above points.

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 9b** (2 marks) Outline Roku's secondary appraisal of his new job at the aged care facility, before and after speaking to Ruth.	**Answer:** • *Initially, Roku does not appear to have adequate coping resources in that he does not have the required skills to work in aged care settings, so he is likely to experience stress.* • *After speaking to Ruth who suggests a training course that specialises in aged care, Roku's coping resources are likely to be adequate (once the course is completed) as he has sufficient knowledge/skill for working successfully in aged care settings; thus, will likely experience reduced stress.* **Marking protocol:** One mark for each of the above points.

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 9c** (2 marks) In the Aged Care Clinical Nursing course, Roku learns that Alzheimer's disease is linked to neurological factors. Identify two typical changes found in the brains of people with Alzheimer's disease.	**Answer:** • *The formation of amyloid plaques between/around the neurons in the brain (inhibiting neurotransmission).* • *Neurofibrillary tangles (twisted strands of insoluble proteins) may be found within neurons (leading to the death of neurons).* • *There may be a decrease in levels of the neurotransmitter acetylcholine.* • *Brain atrophy/shrinkage may occur due to the progressive deterioration of neurons in the brain.* **Marking protocol:** One mark for any of the above points, to a maximum of two.

theories of the purpose and function of sleep (REM and NREM) including restoration theory and evolutionary (circadian) theory	**Question 9d** (3 marks) Roku has noticed that some of the residents of the aged care facility have trouble sleeping. The patients who are otherwise healthy but experience poor sleep also seem to have more muscular aches and pains. Identify and explain which theory of the purpose and function of sleep best accounts for this observation.	**Answer:** ● *Restoration theory.* ● *This theory proposes that the purpose of sleep is to replenish the mind and body's resources that are used from the day's activities.* ● *Patients who experience difficulty sleeping may not be able to sleep for a sufficiently long period to physiologically recover from the activities of their day; thus, potentially leading to experiencing muscular aches and pains.* **Marking protocol:** One mark for each of the above points.

Two people share how their specific phobia has affected their lives and careers.

Dan, 38, Dentist – specific phobia of public speaking

"I was very shy as a child and had terrible stage fright, just like my father when he was a child. I'm still the same in interview situations – a gibbering wreck. Doing dentistry was my 'cure'. It helped me desensitise by talking to lots of different people all the time. I actually presented a university lecture this week, and didn't break down, even though I thought it would be a terrifyingly horrible experience – it's a huge step for me.

I am terrible at interviews. I was once told they only employed me because they knew me. My heart races, and so does my brain. I can't shut off my thoughts. I often remember all the times I became a mess when I've spoken in public. I get sweaty and start to muddle my words. I can't make eye contact and I get a stupid nose twitch that makes me look like a rabbit!

My advice would be to try CBT (cognitive behavioural therapy). I've learned that so much of my fear is the narrative I'm telling myself – that I'm going to make a fool of myself. I also practiced speaking on the phone, to patients and people I didn't know. I 'faked it' until it came naturally."

Kate, 56, Stage Manager - specific phobia of heights

"After multiple childhood accidents falling from a ladder, I developed a phobia of heights. In the late 1980s I was an assistant stage manager at a local theatre. Part of the job included general maintenance of the building and setting up. For me, the hardest part was when I had to climb a tallescope – which is like a ladder on wheels. I tried to climb the tallescope, but I couldn't do it – my hands would shake so much that I couldn't hold on.

Sadly, I have never overcome the phobia. My family has tried to encourage me to get help, but I felt silly seeking treatment for something that happened so long ago, and my friends would think I was weird if I were to tell them I was seeing a therapist for it. I tried to lie to myself – to trick my brain – but it just doesn't work that way. It meant I missed out on some fun holidays with my kids, such as going to the theme parks in Queensland. Any situation where I could fall, I would steer clear of. I always avoid situations I can't handle."

Source: https://www.jobsite.co.uk/worklife/fears-and-phobias/

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)

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).

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 10 (10 marks)
With reference to the biopsychosocial framework and the 4P model, discuss the onset, development and interventions for Dan and Kate's phobias.

Sample answer:

- *Many people have fears, like of needles and heights, but when these are persistent, intense, irrational, and impact on daily functioning, they are considered to be a phobia, which is a mental disorder.*
- *For both Dan and Kate, their fear is disproportionate to the risks, and it has impacted on their work and lives. Dan is a dentist and needs to be able to communicate with patients and colleagues, but he has a specific phobia of public speaking. Kate was a stage manager and needed to use a ladder as a part of theatre maintenance, but her specific phobia of heights made this task very challenging.*

- *As with any mental disorder, a specific phobia is influenced by a combination of internal (biological and psychological) and external (social) factors. The biopsychosocial framework considers the contributions of these factors, as well as the interactions between them, in the diagnosis and treatment of a disorder.*

- *The biological aspect of this framework considers the role of factors such as genetic vulnerability, the role of the stress response, and long-term potentiation.*
- *A genetic vulnerability to a mental disorder means that a person has an increased risk of developing a disorder (like a phobia) due to genetically heritable factors. This is likely to be a predisposing risk factor, given the long-term prevalence of these genetic factors that increase susceptibility to developing a specific phobia. Dan states that his childhood shyness is just like his father's, indicating that he might have inherited this trait from his father. If Dan's father also had a specific phobia of public speaking (perhaps with an associated GABA dysfunction), then it is possible that Dan has an increased risk of developing the same specific phobia due to his genetic inheritance.*
- *Confronting the phobic stimulus will trigger the stress response; Dan reports that his heart races when he has to speak in public. This is an activation of the fight-flight response and is due to the dominance of the sympathetic division of the autonomic nervous system. The stress response is generally an adaptive response, but in the case of a phobia, the fight-flight response is triggered in the absence of any real threat. Speaking in public, or even to his patients, does not pose any real threat to Dan's survival, yet his racing heart is an indication that this nervous system response has been activated, nonetheless. This over-activity of the sympathetic nervous system may be a precipitating factor which increases one's susceptibility to, and contributes to the occurrence of, mental disorders like Dan's phobia. Dan's level of anxiety is inflated by his overly-active sympathetic nervous system which can heighten his feelings of fear when speaking publicly.*
- *Furthermore, the stress response may become a perpetuating factor (one that prolongs the disorder) if each time Dan speaks publicly, he inadvertently repeatedly strengthens the neural pathways that*

represent public speaking and fear through long-term potentiation. The strengthening of these neural pathways will likely make it easier for Dan to experience fear each time he engages in public speaking.

- *Psychological factors include the impact of one's affects, behaviours, and cognitions on an individual's mental health. This can include precipitation of a phobia through classical conditioning, perpetuation through operant conditioning, rumination and cognitive behavioural therapy.*
- *When Kate repeatedly fell from a ladder as a child, she began to associate heights with danger. This is a form of classical conditioning which can explain the precipitation (triggering) of Kate's phobia of heights. Before conditioning, heights (such as being on a ladder) were a neutral stimulus (NS) and elicited no predictable response. Falling is an unconditioned stimulus (UCS) as it will naturally elicit the unconditioned response of fear. By repeatedly associating heights (the NS) with falling (the UCS), the heights themselves (like being on a ladder) become a conditioned stimulus and elicit a conditioned response of fear to the heights (even without falling).*
- *This phobia of heights has been further perpetuated by Kate's avoidance behaviour which can be explained by operant conditioning. Kate has been avoiding the phobic stimulus, heights, which removes the unpleasant feelings of fear. By doing this, Kate's avoidance behaviour is being negatively reinforced. The consequence of reducing fear makes it more likely that Kate will continue her avoidance behaviour in future. The avoidance of the phobic stimulus also prevents desensitisation (where Kate might learn that being on a ladder can be safe and not lead to falls), which perpetuates her phobia.*
- *Dan has also shown signs of a psychological perpetuating factor. Dan reported that he 'cannot shut off his thoughts' when faced with speaking in public. It appears that Dan is engaging in rumination, repeating undesirable thoughts, without acting to change them.*
- *Dan utilised cognitive behavioural therapy (CBT) to help him manage his phobia. This psychological intervention operates under the premise that maladaptive cognitions (such as his memory bias of the times he broke down during public speaking, and catastrophic thinking about how 'terrifyingly horrible' the university lecture would be) drive maladaptive behaviours, and that these behaviours, in turn, confirm the negative thoughts. CBT aims to disrupt this cycle by replacing such thoughts and behaviours with ones that support positive functioning. Dan learnt that much of his fear was about the narrative that he was telling himself and that his irrational thoughts were driving his phobia. This appeared to help him to engage with practising speaking to patients and people on the phone. As a result of CBT, Dan is better equipped to handle situations that involve public speaking.*

- *Social factors include specific environmental triggers, stigma, and support from family/friends/community, which influence mental health.*
- *People like Kate have had a direct, traumatic experience with the phobic stimulus. This is referred to as a specific environmental trigger. Her traumatic falls as a child likely precipitated Kate's phobia of heights.*
- *Kate has also expressed the stigma she has experienced around seeking treatment. Stigma is a negative evaluation by others that is associated with having a mental illness, and this can lead to feelings of shame, inadequacy and disgrace, which can prevent phobia sufferers from seeking help. This would serve to perpetuate Kate's phobia of heights as she is not getting the support that she needs.*
- *Her family have tried to encourage her to get help. This supportive family network could act as a protective factor to prevent the recurrence of Kate experiencing phobic symptoms. Kate's supportive family may be open to psychoeducation. While this is not a treatment in its own right, it involves teaching family and friends about phobias, discouraging Kate from engaging in her avoidance behaviours (to encourage desensitisation), and challenging her anxious and unrealistic thoughts about heights (for example, reassuring her about the safety of going on rollercoasters at theme parks). Instead of allowing Kate to miss family holidays, her family could help support her to take part in all aspects of family life.*

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 application of the biopsychosocial (BPS) framework and the 4P model to the explanation of Dan and Kate's phobias. • Precise and effective use of appropriate psychological terminology. Key terms/concepts could include: biological risk factors, such as genetic vulnerability; psychological risk factors, such as rumination; social risk factors, such as the role of stigma as a barrier to accessing treatment; the 4P model, including predisposing, precipitating, perpetuating and protective factors; contributing factors to a specific phobia, including the role of the stress response, classical conditioning (including UCS/UCR/NS/CS/CR), operant conditioning (including negative reinforcement), and specific environmental triggers; evidence based interventions, such as CBT, and psychoeducation.
7-8 High	• All elements of the question addressed to a high standard. • A thoughtful, detailed, and relevant application of the BPS framework and the 4P model to the explanation of Dan and Kate's phobias, as well as interventions. • Formal and appropriate psychological terminology is used throughout the response.
5-6 Medium	• All elements of the question addressed to a satisfactory standard. • A relevant application of the BPS framework and 4P model to the explanation of Dan and Kate's phobias, as well as interventions. • Formal and appropriate psychological terminology is mostly used.
3-4 Low	• Not all elements of the question are addressed or addressed correctly. For example, interventions for specific phobia are not outlined, or social factors are omitted. • A superficial application of the BPS framework and 4P model to the scenario. • 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 the BPS framework and 4P model to the scenario. • Little formal and appropriate psychological terminology is used throughout the response.
0 marks	• The question has not been meaningfully attempted.

Note: All extended responses in Psychology should be written in complete sentences and paragraphs.

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VCE PSYCHOLOGY
Written Examination
ANSWER SHEET – 2021

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	18	A	**B**	C	D	35	A	B	C	**D**
2	A	B	**C**	D	19	A	**B**	C	D	36	A	**B**	C	D
3	A	B	C	**D**	20	A	B	C	**D**	37	A	B	**C**	D
4	**A**	B	C	D	21	A	B	**C**	D	38	A	B	C	**D**
5	A	**B**	C	D	22	A	B	**C**	D	39	A	B	**C**	D
6	A	B	**C**	D	23	A	**B**	C	D	40	**A**	B	C	D
7	**A**	B	C	D	24	**A**	B	C	D	41	**A**	B	C	D
8	A	**B**	C	D	25	A	B	**C**	D	42	A	B	C	**D**
9	A	B	C	**D**	26	**A**	B	C	D	43	A	B	**C**	D
10	A	B	**C**	D	27	A	**B**	C	D	44	A	**B**	C	D
11	**A**	B	C	D	28	**A**	B	C	D	45	A	B	**C**	D
12	A	**B**	C	D	29	A	B	C	**D**	46	A	B	C	**D**
13	A	**B**	C	D	30	**A**	B	C	D	47	A	B	C	**D**
14	**A**	B	C	D	31	A	**B**	C	D	48	**A**	B	C	D
15	A	B	**C**	D	32	A	B	**C**	D	49	A	B	C	**D**
16	A	B	C	**D**	33	A	**B**	C	D	50	A	B	C	**D**
17	**A**	B	C	D	34	A	B	**C**	D					