Psychology 2021 – Assessment Guide

Section A

VCAA Key Knowledge	Question	Answer guide
independent and dependent variables and operationalisation of variables	*Use the following information to answer Questions 1-14.* Dr Pain wants to test whether or not her new medication will help to relieve the motor symptoms of Parkinson's disease. She recruits 50 participants with a diagnosis of Parkinson's disease via convenience sampling, and randomly allocates participants into two groups. Group 1 receives the new medication in a pill which they take each day over a week. Group 2 receives a placebo pill that they take each day over a week. Each day, Dr Pain asks participants to rate the severity of their symptoms on a scale from 1 (no symptoms) to 10 (extremely severe symptoms). A double blind procedure is used to reduce extraneous variables. **Question 1** Which of the following correctly operationalises the independent and dependent variables?	***B*** *Operationalising variables means to specify how the variables will be administered/measured.*

	Independent variable	Dependent variable
A.	receiving a pill	Parkinson's disease
B.	either receiving the pill or placebo, taken each day for a week	the severity of motor symptoms of Parkinson's disease experienced, measured on a scale from 1 to 10
C.	Parkinson's disease	receiving a pill
D.	the severity of motor symptoms of Parkinson's disease experienced, measured on a scale from 1 to 10	either receiving the pill or placebo, taken each day for a week

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 2

What type of data did Dr Pain collect?

A. objective and quantitative data
B. objective and qualitative data
C. subjective and quantitative data
D. subjective and qualitative data

C *Using the rating scale, Dr Pain collected numerical (quantitative) data that was based on participants' opinions, making it a subjective measure.*

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

Question 3

Which experimental research design did Dr Pain utilise?

A. an independent participants design
B. a cross-sectional study
C. a matched participants design
D. an independent groups design

D *Dr Pain utilised an independent groups design as there were two separate, unmatched groups in the experiment.*

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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 4

Which of the following describes how Dr Pain could use a double-blind procedure?

A. not telling participants if they are given a placebo
B. not telling participants if they are given the medication
C. utilising a research assistant to administer the medication or placebo to the relevant groups
D. all of the above

D *A double-blind procedure involves both participants and administrators of the experiment to not be aware of which experimental condition they are undertaking.*

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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 5

Which of the following does a double-blind procedure aim to reduce?

A. the placebo
B. the placebo effect and experimenter effect
C. individual participant differences
D. non-standardised instructions and procedures

B *A double-blind procedure reduces the likelihood that the placebo effect and the experimenter effect will become confounding variables.*

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

Question 6

Which of the following ethical considerations would Dr Pain need to implement, given the use of a placebo treatment?

A. ensure that all participants are aware that they may either receive the medication or a placebo, particularly given that they may need to stop their current medication to determine the effects of Dr Pain's new medication
B. ensure that participants are paid for their time
C. ensure that all participants have an equal chance of being allocated to Group 1 or Group 2
D. ensure that a single-blind procedure is used

A *All participants must be given informed consent, including knowledge that they may or may not receive Dr Pain's experimental treatment, particularly given that they may need to stop their current medication during the trial.*

generalisability of statistics from samples to the populations from which the sample was derived	**Question 7** Which of the following prevents Dr Pain from generalising the conclusions that she forms from her sample? **A.** using a control group **B.** using a convenience sample **C.** using a double-blind procedure **D.** only using participants with a diagnosis of Parkinson's disease	*B*	*A convenience sample is unlikely to be representative of the population of people with Parkinson's disease, meaning that generalisations to the broader population cannot occur.*

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 8** Parkinson's disease is a type of **A.** Alzheimer's disease. **B.** retrograde amnesia. **C.** anterograde amnesia. **D.** neurodegenerative disease.	*D*	*Neurodegenerative diseases involve the degradation of neurons, causing a range of functional difficulties. Alzheimer's disease and Parkinson's disease are both forms of neurodegenerative diseases.*

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 9** Which of the following is a motor symptom of Parkinson's disease? **A.** anosmia **B.** insomnia **C.** bradykinesia **D.** stable gait	*C*	*Bradykinesia refers to slowness of movement, and it is one of the primary motor (movement) symptoms of Parkinson's disease.*

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 10** How will Dr Pain's new pill likely work to relieve the motor symptoms of Parkinson's disease? **A.** it may create glutamate in areas it has been depleted, allowing for greater control of involuntary movements **B.** it may target and replace inefficient glutamate neurotransmitters **C.** it may reduce dopamine in the brain, inhibiting harmful symptoms **D.** it may mimic the effects of dopamine, allowing for greater control of voluntary movements	*D*	*A lack of dopamine is thought to be responsible for the motor symptoms of Parkinson's disease, and so medication used to relieve these symptoms often aim to boost dopamine levels or mimic its effects.*

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 11

Dr Pain's new medication also aims to enhance the lock-and-key process of key neurotransmitters that are dysfunctional in Parkinson's disease. Which of the following best represents the lock-and-key analogy?

	Lock	Key
A.	dendrite	axon terminal
B.	axon terminal	dendrite
C.	neurotransmitter	receptor site
D.	receptor site	neurotransmitter

D *Neurotransmitters that have a complementary chemical shape are like a key that bind to a receptor site (like a lock) on the dendrite of a post-synaptic neuron.*

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 12

People with Parkinson's disease have problems arising in multiple divisions of the nervous system. The death of neurons in the substantia nigra, and the consequent motor signals which are relayed from the brain to skeletal muscles are part of which nervous systems?

	Death of neurons in the substantia nigra	Motor signals relayed from the brain to skeletal muscles
A.	central nervous system	somatic nervous system
B.	autonomic nervous system	peripheral nervous system
C.	sympathetic nervous system	parasympathetic nervous system
D.	peripheral nervous system	central nervous system

A *The substantia nigra is in the brain, which is part of the central nervous system, whereas the signals that are relayed from the brain to the skeletal muscles are the function of the somatic nervous system.*

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

Question 13

Resting tremor is a common symptom of Parkinson's disease. This is most likely a/n _____ response by the nervous system.

A. conscious
B. unconscious
C. voluntary
D. intentional

B *Resting tremor is most likely an unconscious response, because it occurs involuntarily, automatically, and while resting (i.e., while the patient does not intend to move).*

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 14

If Dr Pain's pill is able to relieve the symptoms of Parkinson's disease, participants will be motivated to continue taking the pill in future. Which of the following consequences best describes Dr Pain's pill?

A. positive reinforcement
B. negative reinforcement
C. punishment
D. response cost

B *By taking away an aversive stimulus (the symptoms of Parkinson's disease), participants will strengthen the behaviour of taking the pill in future, meaning this is a form of negative reinforcement.*

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 15

Which part of the neuron is involved in the release of neurotransmitters across the synapse?

A. axon terminals
B. axon
C. myelin
D. dendrites

A *Axon terminals release neurotransmitters into the synaptic gap.*

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

Question 16

Distress is a _____ response to a stressor that likely initiates the _____ nervous system.

A. neutral physiological; sympathetic
B. positive physiological; parasympathetic
C. negative psychological; sympathetic
D. positive psychological; parasympathetic

C *Distress is a negative psychological response which activates the sympathetic nervous system.*

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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 17

Which of the following best describes Selye's General Adaptation Syndrome?

	Alarm reaction	Resistance	Exhaustion
A.	the body's resistance to a stressor initially falls below normal, then recovers	the body's resistance to a stressor is sustained at below-normal levels	cortisol is released
B.	the body's resistance to a stressor initially falls below normal, then recovers	the body's resistance to a stressor is sustained at above-normal levels	the body's resistance to a stressor falls below normal levels
C.	includes the sub-stages of shock and countershock	the body's resistance to a stressor is sustained at above-normal levels	the body's resistance to a stressor returns to normal levels
D.	includes the sub-stages of shock and countershock	the body's resistance to a stressor is sustained at below-normal levels	cortisol is released

B *The alarm reaction stage involves the stages of shock (where the body's resistance to a stressor initially falls below normal) and countershock (where the body's resistance to a stressor returns to normal). The resistance stage involves the body tackling the stressor at an above-normal level, whereas the exhaustion stage is where the body's resistance falls below normal levels.*

Use the following information to answer Questions 18-25.

Jack and Jill are Units 3&4 Psychology students, and are stressed about the upcoming end-of-year exam.

Jack had not done much to study throughout the year; to reduce his anxiety, he liked to play baseball with his mates and preferred not to think about Psychology homework or revision. His SACs scores were consistently poor throughout the year. He was very worried about the exam and his study score; he was aiming to get into a physiotherapy course at university.

Jill initially spent lots of time doing online shopping and watching TV, but was disappointed by her SAC results. After a second poor SAC result, she decided that she needed to focus on her VCE and spend more time revising, so she made cue cards, completed lots of practice exams, focused her revision on her weaknesses, and attended several online revision seminars. Her SAC results improved, and by October, she felt confident about doing well on the exam, despite feeling a little anxious. Jill believed that no matter her result, she would be able to learn from the experience and refine her study strategies for university.

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

Question 18

Jack and Jill's stress of preparing for the end-of-year Psychology exam would be best described as

A. a catastrophe.
B. a daily pressure.
C. acculturative stress.
D. major stress.

B *Preparing for the end-of-year exam is an ongoing daily stressor that requires frequent changes to behaviour. It is not a large-scale event that disrupts whole communities, nor something that is the result of adjusting to a new culture, nor overwhelmingly distressful for all people.*

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 19

Which of the following are likely primary appraisals regarding the end-of-year Psychology exam for Jack and Jill?

	Jack	Jill
A.	stressful	stressful
B.	irrelevant	irrelevant
C.	benign-positive	irrelevant
D.	irrelevant	benign-positive

A *Both Jack and Jill are stressed about the upcoming exam, and so would likely appraise the situation as relevant to them and stressful.*

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 20

Jill seeing the end-of-year exam as an opportunity for future growth in refining her study strategies for university suggests that she has framed the end-of-year exam as a

A. threat.
B. challenge.
C. harm.
D. loss.

B *Jill is likely to see the exam as a challenge given that she sees the opportunity for future growth in refining her study strategies for university.*

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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 21

Which of the following secondary appraisals are likely for Jack and Jill regarding the end-of-year exam?

	Jack	Jill
A.	little to no stress	eustress
B.	significant stress	distress
C.	adequate coping resources	inadequate coping resources
D.	inadequate coping resources	adequate coping resources

D *Jack is likely to have inadequate coping resources given that he did not do much revision, whereas Jill is likely to have adequate coping resources (reducing her experience of stress) given that she did a lot of revision in the lead up to the exam.*

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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 22

Which of the following best describes the coping strategies of Jack and Jill with regards to the stressor of the end-of-year exam?

	Jack's exercise	Jill's revision
A.	avoidance strategy and a problem-focused coping strategy	avoidance strategy and an emotion-focused coping strategy
B.	approach strategy and a problem-focused coping strategy	approach strategy and an emotion-focused coping strategy
C.	avoidance strategy and an emotion-focused coping strategy	approach strategy and a problem-focused coping strategy
D.	approach strategy and an emotion-focused coping strategy	avoidance strategy and a problem-focused coping strategy

C *Jack's exercise helped him to reduce his anxiety (and so is an emotion-focused coping strategy), however, it was also an avoidance strategy for dealing with the stressor of the end-of-year exam; he turned his thoughts/feelings/behaviours away from the exam by doing this. On the other hand, Jill used an approach and problem-focused coping strategy by revising for the end-of-year exam, which deals directly with the stressor.*

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

Question 23

Which of the following best describes Jack and Jill's coping strategies for the end-of-year exam in terms of context-specific effectiveness?

	Jack's exercise	Jill's revision
A.	low levels of context-specific effectiveness	high levels of context-specific effectiveness
B.	low levels of context-specific effectiveness	low levels of context-specific effectiveness
C.	high levels of context-specific effectiveness	high levels of context-specific effectiveness
D.	high levels of context-specific effectiveness	low levels of context-specific effectiveness

A *Jack did not demonstrate that he had a good match between his coping strategy of avoiding revision and the end-of-year exam, whereas Jill's deliberate revision activities are likely useful tasks for tackling the stressor, and therefore are strategies which have high levels of context-specific effectiveness.*

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

Question 24

Which of the following best describes Jack and Jill in terms of their coping flexibility throughout the year?

	Jack	Jill
A.	demonstrates low levels of coping flexibility	demonstrates high levels of coping flexibility
B.	demonstrates low levels of coping flexibility	demonstrates low levels of coping flexibility
C.	demonstrates high levels of coping flexibility	demonstrates high levels of coping flexibility
D.	demonstrates high levels of coping flexibility	demonstrates low levels of coping flexibility

A *Jill's poor SAC results help her to evaluate the usefulness of online shopping and watching TV as ineffective strategies, which she then replaces with revision activities, indicating high levels of coping flexibility. On the other hand, Jack appears to only use an avoidance strategy, without replacing the strategy with more effective ones.*

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

Question 25

When Jack plays baseball, his body releases _____ which can help him to reduce his stress, increase a sense of relaxation, and elevate his mood.

A. acetylcholine
B. endorphins
C. melatonin
D. cortisol

B *Endorphins that are released with exercise can help to create a sense of wellbeing and relaxation.*

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 26

Which of the following is not a limitation of Lazarus and Folkman's Transactional Model of Stress and Coping?

A. it does not consider physiological responses to stress
B. it cannot account for different people responding differently to the same stressor
C. the model is difficult to test experimentally due to the subjective nature of individual responses to stress
D. primary and secondary appraisals can interact with one another and may be undertaken simultaneously

B *One of the advantages of the model is that it can explain why individuals respond in different ways to the same sorts of stressors; something that the General Adaptation Syndrome does not attempt to account for.*

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 27

Which of the following options accurately outlines the role of the hippocampus, amygdala, and cerebral cortex in the process of memory?

	Hippocampus	Amygdala	Cerebral cortex
A.	responsible for the encoding of short term memory into long term memory	assists with the consolidation of emotionally arousing memories	stores explicit memory
B.	stores explicit memory, and some implicit memories	responsible for the encoding of short term memory into long term memory	encodes and stores all implicit memories
C.	assists with the consolidation of emotionally arousing memories	encodes and stores all implicit memories	responsible for the encoding of short term memory into long term memory
D.	responsible for the encoding of short term memory into long term memory	encodes and stores all implicit memories	stores explicit memory, and some implicit memories

A *The hippocampus encodes explicit memory into long-term memory, the amygdala is involved in encoding emotional information into memory, and the cerebral cortex is the long-term storehouse of (primarily explicit) 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 28

Which of the following brain regions is primarily involved in the encoding of procedural memory?

A. cerebral cortex
B. hippocampus
C. cerebellum
D. amygdala

C *The cerebellum is involved in the encoding of procedural and classical conditioned memories, which are two forms 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 29

Which of the following is incorrect?

A. neural plasticity refers to the brain's ability to change due to experience
B. long-term depression involves a reduction in the amount of neurotransmitters released by pre-synaptic neurons
C. both long-term potentiation and long-term depression are fundamental biological mechanisms of memory
D. long-term potentiation is a form of neural plasticity, whereas long-term depression is not

D *Both LTP and LTD are forms of neural plasticity.*

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 30

Which neurotransmitter plays a key role in synaptic plasticity?

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

D *Glutamate plays a key role in synaptic plasticity/long-term potentiation.*

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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 31

Which of the following is involved in the consolidation of emotionally arousing experiences?

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

C *Adrenaline plays a key role in the consolidation of emotionally arousing experiences.*

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

Question 32

Which of the following does not accurately name and explain how an ethical principle was breached in the 'Little Albert' experiment?

A. withdrawal rights, because Little Albert tried to crawl away from the experimental situation but was not allowed to leave
B. the 'no harm' principle, because Little Albert suffered psychological damage
C. debriefing, because Little Albert's conditioned fear response was not extinguished
D. informed consent, because Little Albert's mother was present at the start of the experiment

D *Informed consent involves being told the true nature, purpose and risks of an experiment, and documenting this in a signed consent form. Little Albert's mother being present at the start of the experiment does not constitute informed consent, and therefore, option D does not explain how informed consent was breached.*

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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 33

Sleep is mostly considered a/n

A. naturally occurring state of normal waking consciousness.
B. naturally occurring altered state of consciousness.
C. induced state of normal waking consciousness.
D. induced altered state of consciousness.

B *Sleep is an altered state of consciousness and mostly occurs without the use of an aid, and is therefore naturally occurring.*

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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 34

Which of the following best describes the types of data that these techniques gather?

	Electroencephalograph (EEG)	Sleep diaries	Video monitoring
A.	objective	quantitative	subjective
B.	subjective	qualitative	objective
C.	qualitative	objective	quantitative
D.	quantitative	subjective	qualitative

D *The EEG collects quantitative and objective data; sleep diaries can collect subjective, qualitative data (e.g., descriptions of dreams) as well as quantitative data (e.g., times awake/asleep); and video monitoring collects qualitative data.*

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 35

Content limitations

A. allow a person to enter into Stage 4 NREM sleep.
B. significantly change between earlier and later periods of REM sleep.
C. allow a person to filter what enters their consciousness.
D. are lowered during activities that require selective attention.

C *Content limitations refer to the degree that someone can restrict what enters their consciousness.*

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 36

At a dinner party, Jemimah consumed three cups of coffee and Taylor consumed three glasses of wine. Which of the following brain waves are most likely to be found if they were to be monitored by an electroencephalograph?

	Jemimah	Taylor
A.	beta	theta
B.	alpha	beta
C.	theta	delta
D.	delta	alpha

A *Beta waves are associated with an intake of stimulants such as coffee, whereas depressants such as alcohol are likely to increase levels of alpha, theta, and delta waves.*

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 37

Which of the following is considered a circadian rhythm?

A. the sleep cycle
B. the 90-minute cycles of NREM and REM sleep
C. the increasing periods of REM sleep that occur as sleep progresses
D. the sleep-wake cycle

D *A circadian rhythm is a biological cycle that lasts for approximately 24 hours, such as the sleep-wake cycle.*

Use the following information to answer Questions 38 and 39.

Mandy, a five-year-old girl, is watching her great-grandad Poppa, who is 80-years-old, sleep on the couch.

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 38

Poppa would have

A. more hours of sleep per night compared to Mandy.
B. fewer hours of sleep per night compared to Mandy.
C. a higher proportion of REM sleep compared to Mandy.
D. a lower proportion of NREM sleep compared to Mandy.

B *The elderly sleep fewer hours compared to younger age groups.*

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 39

Mandy would have

A. more REM sleep and more stages 3 and 4 NREM sleep per night compared to Poppa.
B. more REM sleep and less stages 3 and 4 NREM sleep per night compared to Poppa.
C. less REM sleep and more stages 3 and 4 NREM sleep per night compared to Poppa.
D. less REM sleep and less stages 3 and 4 NREM sleep per night compared to Poppa.

A *Children receive more hours of sleep per night, and have more deep sleep, compared to the elderly.*

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 40** Which of the following would not be considered a circadian phase disorder? **A.** sleep-wake shifts in adolescence **B.** shift work **C.** jet lag **D.** sleep walking	*D*	*Sleep walking is a parasomnia and is not considered a circadian phase disorder, as it does not disrupt the circadian rhythm.*

methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction	**Question 41** Dr Hua presented a half-played chess game board to participants to memorise. She then removed the pieces and asked the participants to replace all of the chess pieces back to their original positions. What method of retrieval did Dr Hua's participants use? **A.** recall **B.** recognition **C.** relearning **D.** reconstruction	*D*	*Reconstruction as a method of retrieval involves putting back together an original stimulus, such as a half-played chess board.*

Use the following information to answer Questions 42-50.

Latisha is an accountant struggling with her mental health. While her peers seem to cope well with everyday stressors such as meetings, complex spreadsheets, and paperwork, Latisha finds these tasks overwhelming. She finds it difficult to manage her time well to get the tasks done, and when they are overdue, her boss often yells at her. This makes her feel like she cannot do well at work, and she often falls into a cycle of repetitive negative thinking. Latisha tries to distract herself from her negative feelings by turning to substance use. Sometimes, she is unable to find the motivation to get up from bed to go to work. She is also fearful of approaching her friends and colleagues to ask for help, as she thinks that they will think less of her ability to do her job.

Although Latisha was initially reluctant to seek help from a psychologist because she thought her friends and colleagues would think poorly of her need to access treatment, Latisha booked an appointment with a psychologist who introduced her to cognitive behavioural strategies.

the typical characteristics of a mentally healthy person, including high levels of functioning, social and emotional well-being and resilience to life stressors	**Question 42** Which of the following would not be a characteristic of a mentally healthy person? **A.** a person who has high levels of functioning **B.** a person who responds to stressors in a maladaptive way **C.** a person who has high levels of social and emotional wellbeing **D.** a person who is resilient	*B*	*A person who responds to life stressors in a maladaptive way, rather than a positive, adaptive, and resilient manner, is likely to not be considered a mentally healthy person.*

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

Question 43

Which of the following demonstrates rumination?

A. Latisha's cycle of repetitive negative thinking
B. Latisha feeling overwhelmed by work
C. Latisha being unable to find the motivation to go to work
D. Latisha approaching a psychologist

A *Rumination refers to continuously thinking about the same thoughts, without acting to solve the issue.*

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

Question 44

Latisha's belief that she cannot do well at work demonstrates

A. high levels of self-efficacy.
B. poor self-efficacy.
C. high levels of disorganised attachment.
D. low levels of disorganised attachment.

B *Poor self-efficacy can be demonstrated by Latisha's lack of belief in her ability to successfully perform at work.*

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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 45

Latisha's belief that her friends and colleagues would think poorly of her need to access treatment is likely an example of

A. impaired reasoning and memory.
B. poor self-efficacy.
C. a loss of a significant relationship.
D. stigma.

D *Stigma is a negative stereotype that can prevent people from accessing treatment.*

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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 concept of cumulative risk

Question 46

Latisha's substance use is a _____ factor that is likely to lead to a greater _____ of developing a mental disorder.

A. social; cultural risk
B. social; cumulative risk
C. biological; cultural risk
D. biological; cumulative risk

D *Substance use is a biological risk factor that can contribute to a greater cumulative risk alongside other risk factors for developing a mental disorder.*

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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 47

Which of the following would most likely be recommended by Latisha's psychologist who uses cognitive behavioural strategies?

A. asking Latisha to reframe her thinking around work, and implement time management strategies
B. asking Latisha to quit her job
C. asking Latisha to take medication for her condition
D. asking Latisha to analyse her disorganised attachment

A *Cognitive behavioural strategies involve changing maladaptive thoughts and behaviours to become more realistic and adaptive. This could involve cognitive restructuring (e.g., asking Latisha to change her thoughts about work) and behavioural strategies (e.g., asking Latisha to implement time management strategies).*

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 48** The use of cognitive behavioural strategies is likely to be a A. predisposing factor. B. precipitating factor. C. perpetuating factor. D. protective factor.	*D*	*Cognitive behavioural strategies are a psychological protective factor for the prevention of a mental disorder.*

models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse	**Question 49** Latisha initially seeing a psychologist to help her with her mental health indicates that she is likely in the _____ stage of the transtheoretical model. A. pre-contemplation B. preparation C. maintenance D. relapse	*B*	*Preparation is the best answer, as it is the first stage that combines intention (such as Latisha considering seeing a psychologist) with behaviour (such as actually seeing the psychologist for strategies to implement).*

models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse	**Question 50** If Latisha is able to tackle her issues at work through engaging in cognitive behavioural strategies for a week, this would indicate that she is likely in the _____ stage of the transtheoretical model. A. pre-contemplation B. contemplation C. action D. maintenance	*C*	*Action is the best answer, as it is the stage in which individuals modify their behaviour (such as engaging in cognitive behavioural strategies) in order to overcome their problems. Latisha would move into the maintenance stage only when she has successfully altered her behaviour for more than six months.*

Section B

VCAA Key Knowledge	Question	Answer guide

Seven-year-old Jasmine pesters her mother to teach her how to bake a cake, which is her favourite treat. Most recently, Jasmine's mother came first in the local Country Women's Association baking competition.

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement	**Question 1a** (5 marks) How could Jasmine learn to bake a cake through observational learning? Name and apply the steps of observational learning in your response.	**Answer:** • *Attention – Jasmine needs to actively watch her mother make a cake.* • *Retention – Jasmine needs to create and store a mental representation of the method of making a cake (e.g., how to mix the ingredients together).* • *Reproduction – Jasmine needs to have the physical capability to make the cake (e.g., hold/mix the ingredients, pour the mix into a baking tray, etc.)* • *Motivation – Jasmine needs to have the desire to make a cake, in the hope of reinforcement.* • *Reinforcement – Jasmine's mother recently won a baking competition, which (vicariously) reinforces Jasmine to learn to bake.* **Marking protocol:** One mark for each of the above points. Note: any legitimate response linked to the five stages should be awarded full marks.

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and 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 1b** (3 marks) Why is this an example of observational learning and not operant conditioning? Explain your answer with reference to the scenario.	**Answer:** • *This is a form of observational learning because Jasmine is watching a model's behaviour of baking and consequences of winning a baking competition and using this to guide her own behaviour, whereas operant conditioning involves the learner engaging in a behaviour themselves and receiving a consequence.* • *This is a form of observational learning because Jasmine is learning indirectly through her mother's behaviours baking and consequences of winning a baking competition, rather than operant conditioning where Jasmine would learn directly by operating on her environment.* • *This is a form of observational learning because Jasmine initially receives vicarious reinforcement through her mother winning a baking competition, rather than operant conditioning where Jasmine would receive consequences herself.* • *This is a form of observational learning because Jasmine's baking may remain latent (i.e., it may not be demonstrated or observed until there is sufficient motivation), rather than operant conditioning where Jasmine would need to demonstrate a behaviour in order for learning to occur.* • *This is a form of observational learning because this type of learning relies on cognitive processes, such as Jasmine storing a mental representation of the baking method, rather than operant conditioning where the role of cognition is not emphasised.* **Marking protocol:** Three marks for any of the above points, to a maximum of three; one mark for a characteristic of observational learning, one mark for linking this to the scenario, and one mark for contrasting this against operant conditioning.

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement *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 1c** (3 marks) Why is this an example of observational learning and not classical conditioning? Explain your answer with reference to the scenario.	**Answer:** • *This is a form of observational learning because baking a cake is a voluntary behaviour learnt through watching her mother's baking, rather than classical conditioning where the nature of the learnt response is reflexive (and generally not learnt through watching another's behaviour).* • *This is a form of observational learning because a stimulus/consequence can be presented after the behaviour (either to the learner or the model) which will influence the likelihood of the behaviour being repeated, in that a cake or winning a competition is a pleasant stimulus/consequence that is presented after baking; rather than classical conditioning where there is no stimulus that occurs after a response.* • *This is a form of observational learning because there can be a delay between the behaviour and the presentation of a stimulus/consequence which contributes to learning (either vicariously or directly), in that there can be a delay between baking and receiving a cake or winning a competition; rather than classical conditioning where there cannot be a lengthy delay between the presentation of the neutral stimulus followed by the unconditioned stimulus in order for learning to occur.* • *This is a form of observational learning because Jasmine needs to actively pay attention in order for learning to occur, such as actively watching her mother's baking method, rather than classical conditioning where the learner is passive in that they do not need to actively engage with the neutral stimulus and unconditioned stimulus in order for learning to occur.* **Marking protocol:** Three marks for any of the above points, to a maximum of three; one mark for a characteristic of observational learning, one mark for linking this to the scenario, and one mark for contrasting this against classical conditioning.

Forty-year-old Devi has experienced sleep-onset insomnia for two months, and it is affecting her ability to concentrate at work as a paediatric surgeon. As she tries to fall asleep in bed, she finds herself staring at the ceiling, stressing about the next day's work, watching the clock as time passes for hours, or watching horror movies on her phone. Devi feels like she cannot do anything about her poor sleep habits, so she seeks the advice of a sleep psychologist.

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 2a** (2 marks) Define sleep-onset insomnia, and categorise it as either a dyssomnia or parasomnia.	**Answer:** • *Sleep-onset insomnia refers to a difficulty in falling asleep when desired.* • *It is a form of dyssomnia.* **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 2b** (1 mark) How many hours of sleep should Devi aim for each night, to function at her best?	**Answer:** • *Approximately eight hours.* **Marking protocol:** One mark for the above point. Any number ranging from seven to nine hours of sleep should be accepted.

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 2c** (4 marks) What intervention would a sleep psychologist likely suggest for Devi? Explain some techniques that Devi could use to help manage her sleep-onset insomnia.	**Answer:** • *Cognitive behavioural therapy (for insomnia; CBT-I).* • *This could involve changing maladaptive/unhelpful thoughts, to become more positive, realistic, and adaptive ones, such as changing Devi's belief that she cannot do anything about her poor sleep habits.* • *Challenging such maladaptive thoughts can help Devi to develop more adaptive behaviours (and vice versa; changing maladaptive behaviours such as stopping napping or watching horror movies before bed can help Devi to develop more adaptive beliefs about sleep).* • *For example, Devi might be more motivated to improve her sleep hygiene by removing her phone from her bedroom (as a behavioural component of CBT-I) as a result of a change in her belief.* **Marking protocol:** One mark for each of the above points; one mark for identifying cognitive behavioural therapy (CBT), one mark for explaining a cognitive aspect of CBT for Devi, one mark for explaining a behavioural aspect of CBT for Devi, and one mark for demonstrating that the changes in thinking lead to changes in behaviour, or that changes in behaviour lead to changes in thinking. If a response does not fully explain CBT, then a maximum of two marks can be awarded for a useful intervention applied to Devi.

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 3** (2 marks) Explain how leading questions can affect the retrieval and storage of memories.	**Answer:** • *Leading questions can bias the retrieval process, by presupposing an answer to a question (which can bias retrieval to be consistent with misleading information).* • *Any misinformation presupposed by a leading question can also update the storage of original memories to include false information (which can then be difficult to distinguish from the information encoded at the time of learning).* **Marking protocol:** One mark for each of the above points.

Gemma, a research psychologist, was conducting an experiment on interventions for specific phobias. She sent out an advertisement at local doctors' clinics, searching for participants with a specific phobia of birds.

Once she had found 30 participants, she then randomly allocated them to three different groups.

Group 1 was taught a relaxation technique, and was asked to pair this technique with pictures of birds, then 3D printed models of birds, and then videos of birds. They were asked to practise the technique each day for a fortnight.

Group 2 was not given any psychological intervention; instead, they were given a benzodiazepine pill each day for a fortnight.

Group 3 was given a placebo pill to take each day for a fortnight.

At the end of the fortnight, all participants were taken to the zoo to directly face live birds by walking inside an aviary, which held a variety of Australian birds in a large enclosure. To measure phobic symptoms, the change in heart rate (in beats per minute) that occurred before and during the walk in the aviary was compared across the three groups.

	Average heart rate before the walk	Average heart rate during the walk	Average change in heart rate
Group 1	82 (standard deviation = 3)	92 (standard deviation = 4)	+10
Group 2	83 (standard deviation = 20)	110 (standard deviation = 40)	+27
Group 3	85 (standard deviation = 4)	150 (standard deviation = 3)	+65

evidence-based interventions and their use for specific phobia with reference to: the use of cognitive behavioural therapy (CBT) and systematic desensitisation as psychotherapeutic treatments of phobia (psychological)

Question 4a (1 mark)
Name the psychotherapeutic treatment that best describes the intervention Gemma used in Group 1.

Answer:
- *Systematic desensitisation.*

Marking protocol:
One mark for the above point.

independent and dependent variables and operationalisation of variables

Question 4b (2 marks)
Operationalise the independent variable in Gemma's experiment.

Answer:
- *The independent variable was an intervention for specific phobia, operationalised as either practising systematic desensitisation (a relaxation technique associated with approximations of the phobic stimulus), taking a benzodiazepine agent, or taking a placebo, each day for a fortnight.*

Marking protocol:
Two marks for the above point. One mark for identifying the independent variable, but not fully operationalising it. Full marks should be awarded if all three conditions (including the control) are described.

independent and dependent variables and operationalisation of variables	**Question 4c** (2 marks) Operationalise the dependent variable in Gemma's experiment.	**Answer:** • *The dependent variable was a measure of phobic symptoms, operationalised as a (comparison between the three groups' average) change in heart rate (in beats per minute) that occurred before and during a walk in an aviary.* **Marking protocol:** Two marks for the above point. One mark for identifying the dependent variable, but not fully operationalising it. Full marks should be awarded if the way that the dependent variable is measured is described.

use basic principles of reliability and validity in evaluating research investigations undertaken	**Question 4d** (2 marks) Evaluate the validity of the way that Gemma operationalised her dependent variable.	**Answer:** • *Although heart rate change (before and during the walk) is an objective/standardised measure, it does not account for the psychological (phobic) experience that the participants felt before and during the walk.* • *Although heart rate change is an objective measure, it does not account for all of the symptoms of phobia.* • *Although heart rate change is an objective measure, it does not compare participants' phobic responses prior to the treatment (and therefore, may not be a valid measure of any progress made through the interventions).* • *Although heart rate change is an objective measure, it does not compare participants' phobic responses in a real-life environment (therefore reducing external validity).* • *Although heart rate change is an objective measure, participants may have had a heightened heart rate immediately before the walk as a result of anticipatory anxiety.* • *Although heart rate change is an objective measure, it does not account for individual participant differences in the heart functioning of different participants that is independent of their specific phobia (e.g., an unfit participant may have an increased heart rate independent of phobic symptoms).* **Marking protocol:** Two marks for any of the above points, to a maximum of two. Note: any other legitimate evaluation should be awarded two marks.

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 4e** (1 mark) Name the sampling method that Gemma used.	**Answer:** • *Convenience sampling.* **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 4f** (1 mark) Name the experimental research design that Gemma used.	**Answer:** • *Independent groups design.* **Marking protocol:** One mark for the above point.

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 4g** (4 marks) Describe the differences in standard deviations between groups, and what this means for the averages reported in the table.	**Answer:** • *Groups 1 and 3 had relatively small standard deviations both before and during the walk.* • *This indicates that the variation around the means was relatively small (meaning that the heart rates less variable between participants), which suggests that the averages reported were likely to be a reliable representation of the whole group's heart rate at that point in time.* • *Group 2 had relatively large standard deviations both before and during the walk.* • *This indicates that the variation around the means was relatively large (meaning that the heart rates were much more variable between participants), which suggests that the averages reported were less of a reliable representation of the whole group's heart rate at that point in time.* **Marking protocol:** One mark for each of the above points.

draw conclusions consistent with evidence and relevant to the question under investigation	**Question 4h** (3 marks) Suggest a conclusion for Gemma's research.	**Answer:** • *The results showed that participants who undertook relaxation training/systematic desensitisation would show fewer phobic symptoms as measured through a lower heart rate increase, compared to participants who were administered benzodiazepines or a placebo.* **Marking protocol:** Three marks for the above point. One mark for a directional comparison between the groups (e.g., show more/fewer symptoms, higher/lower heart rate increases), one mark for the independent variable (i.e., systematic desensitisation, benzodiazepines or placebo conditions) and the dependent variable (i.e., heart rate), and one mark for the conclusion being related to Gemma's specific research (e.g., referring to all three groups as independent groups, and referring to the sample that Gemma tested rather than the broader population). Another acceptable full-mark response could argue that no conclusions can be drawn about the interventions reducing phobic symptoms due to a lack of statistical significance testing, or uncontrolled confounding variables.

the distinctions between stress, phobia and anxiety; variation for individuals with stress, phobia and anxiety on a mental health continuum	**Question 4i** (4 marks) Gemma had to exclude some participants from the study because they were found to be suffering from anxiety, rather than a specific phobia. Describe two differences that differentiate anxiety from a specific phobia.	**Answer:** • *Anxiety refers to the overall experience of worry or unease due to the feeling that something bad is about to happen, whereas a specific phobia is a persistent, intense, irrational fear of a specific object (such as birds).* • *Anxiety is not a mental disorder, whereas a specific phobia is a diagnosable mental disorder.* • *Anxiety may contribute to a mental disorder, whereas a specific phobia is a diagnosable mental disorder.* • *Anxiety may be a normal experience of life, whereas a specific phobia is abnormal (e.g., it is an out-of-proportion fear of the phobic stimulus).* • *Anxiety may be mild and thus less likely to affect daily functioning, whereas a specific phobia is more likely to affect daily functioning.* • *Anxiety may not have a known cause, whereas the cause of a specific phobia (and an associated phobic response) is likely known (such as a precipitating event, like being attacked by birds).* • *Anxiety may arise from multiple sources, whereas a phobic response from a specific phobia arises from a particular phobic stimulus.* **Marking protocol:** Two marks for any of the above points, to a maximum of four marks. Note: any other legitimate difference should be awarded two marks.

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 4j** (6 marks) Apply the three-phase process of classical conditioning to explain how Gemma's participants may have acquired their specific phobia due to being attacked by birds.	**Answer:** • *Before conditioning, the neutral stimulus of birds elicits no fear response. (The unconditioned stimulus of being attacked by birds elicits an unconditioned response of fear of being attacked by birds.)* • *During conditioning, repeated presentations of the neutral stimulus of birds immediately prior to the unconditioned stimulus of being attacked by birds elicits the unconditioned response of fear of being attacked by birds.* • *After conditioning, the conditioned stimulus alone, birds, elicits the conditioned response of fear of birds.* **Marking protocol:** One mark each for the correct identification of the UCS (being attacked by birds), UCR (fear of being attacked by birds), NS (birds), CS (birds), and CR (fear of birds). One mark for explaining the acquisition process (repeated associations of NS presented immediately prior to the UCS). Note that the unconditioned response and conditioned response are the same behaviour, so it is essential to state what stimulus is eliciting the behaviour.

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 4k** (4 marks) Some of Gemma's participants display phobic responses only to birds, whereas other participants have phobic responses to other flying objects, such as paper planes. Using the language of classical conditioning, describe how stimulus generalisation and stimulus discrimination may explain the phobic responses of these two groups.	**Answer:** ● *For the participants that display phobic responses to birds as well as other flying objects, stimulus generalisation may have occurred.* ● *This means that these participants may have associated the unconditioned stimulus (of being attacked) with other similar stimuli (e.g., paper planes) to the conditioned stimulus (birds).* ● *For the participants that display phobic responses only to birds and not to other flying objects, stimulus discrimination may have occurred.* ● *This means that the unconditioned stimulus (of being attacked) was not associated with other similar stimuli (e.g., paper planes), and therefore, no (similar) conditioned response is elicited by these similar stimuli.* **Marking protocol:** One mark for each of the above points.

the relative influences of contributing factors to the development of specific phobia with reference to: behavioural models involving precipitation by classical conditioning and perpetuation by operant conditioning, cognitive bias including memory bias and catastrophic thinking (psychological);	**Question 4l** (2 marks) Which of the risk factors from the 4P model and the biopsychosocial model best describe how classical conditioning contributes to a phobia?	**Answer:** ● *Precipitating risk factor.* ● *Psychological risk factor.* **Marking protocol:** One mark for each of the above points.

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); *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)*	**Question 4m** (4 marks) With reference to a biological predisposing factor for specific phobia, explain how benzodiazepines can reduce phobic symptoms.	**Answer:** • *People who experience specific phobias may have GABA (gamma-amino butyric acid) dysfunction / an overactive stress response, which is likely to be a biological predisposing factor for the development of the disorder.* • *Benzodiazepines are GABA agonists, meaning that they mimic the effects of GABA / make post-synaptic neurons more resistant to excitation.* • *GABA is a major inhibitory neurotransmitter, which decreases the likelihood of a post-synaptic neuron to fire.* • *This inhibitory effect (in countering the excitatory effects of neurotransmitters that contribute to the experience of anxiety) is thought to reduce the experience of phobic symptoms.* **Marking protocol:** One mark for each of the above points. Note: any legitimate biological predisposing factor for specific phobia (such as long-term potentiation described as a predisposing factor, or a genetic vulnerability) can be awarded a mark in lieu of the first dot point.

evidence-based interventions and their use for specific phobia with reference to: psychoeducation for families/supporters with reference to challenging unrealistic or anxious thoughts and not encouraging avoidance behaviours (social).	**Question 4n** (4 marks) Name and describe a social intervention that can be used for specific phobia.	**Answer:** • *Psychoeducation.* • *Psychoeducation involves the families/supporters of people suffering from specific phobia to learn about the psychological nature of the condition and possible treatments to help the person manage their symptoms.* • *Through this process, families/supporters can learn to challenge unrealistic/anxious thoughts about the phobic stimulus that may arise from the person, to help them think about the phobic stimulus in a more realistic and positive way.* • *Additionally, instead of protecting the individual from encountering their phobic stimulus, families/supporters can discourage avoidance behaviours so that this aids the process of desensitising to the phobic stimulus.* **Marking protocol:** One mark for each of the above points. Note: psychoeducation must be described in the context of the families/supporters of people suffering from specific phobia, not the patient themselves, in order to be described as a social intervention.

Nellie is a VCE student aspiring to study engineering at university, but has been finding Year 12 very challenging. Unfortunately, she has performed poorly on her SACs so far this year, and has a poor sense of self-efficacy. She does not seem to be able to remember key concepts very well, and is constantly sleep deprived, averaging five hours of sleep per night.

Nellie's approach to study involves reading the textbook and repeating key definitions aloud, but never revisiting these concepts. She is easily distracted by her phone, gets irritated by her inability to concentrate due to her lack of sleep, and finds it difficult to remember what she had learnt. For example, after reading a chapter of the textbook, she is often unable to recall anything she had just read.

The night before each SAC, Nellie crams through the night and does not get any sleep. Even though she finds her study technique frustrating and ineffective, she continues to approach her study the same way throughout the year.

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

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

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

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

the factors influencing a person's ability and inability to remember information, including context and state

Question 5 (10 marks)
Provide some advice to improve Nellie's approach to studying, and explain why her current approach may be ineffective, referring to

- the effects of partial sleep deprivation,
- the effects of one night of full sleep deprivation as a comparison with effects of legal blood-alcohol concentrations,
- the restoration theory of sleep,
- the Atkinson-Shiffrin multi-store model of memory, and
- maintenance and elaborative rehearsal.

Sample answer:

- *With an average of five hours of sleep per night, Nellie can be considered to be partially sleep deprived, which refers to receiving an insufficient quality or quantity of sleep. On nights before each SAC, she is fully sleep deprived. As an adolescent, she should be sleeping for nine to ten hours per night, in order to be functioning at her best.*
- *Her sleep deprivation affects her affective, behavioural, and cognitive functioning. It is likely contributing to her irritability and frustration (indicating affective changes), her reduced ability to perform automatic and controlled processes such as copying down definitions or switching between tasks (indicating behavioural changes), and appears to easily lose concentration and has a decreased ability to successfully memorise information (indicating cognitive changes). All of this contributes to her study being ineffective, which likely fuels a poor sense of self-efficacy.*
- *When Nellie crams throughout the night before SACs, her full sleep deprivation leads to the cognitive deficits equivalent to that of a BAC of 0.10%, which is above the threshold for a legal BAC for driving. These cognitive deficits, such as a reduced ability to concentrate and process complex information, means that it is unlikely that her cramming through the night would be effective. In other words, Nellie's study would be impeded as much as it would be if she had consumed significant amounts of alcohol.*
- *The restoration theory of sleep suggests that sleep plays an important role in renewing our physiological and psychological resources. For example, REM sleep is associated with psychological restoration, and appears to play a role in memory consolidation. If Nellie is only receiving an average of five hours of sleep per night, she may be less likely to fall into the longer periods of REM sleep that are found in the later cycles of sleep. This means that her partial sleep deprivation may have a negative impact on her memory, as well as her broader physiological and psychological functioning. The rejuvenation of her physiological resources (such as being able to sit at her desk and take notes without fatigue) and psychological resources (such as not being irritated by her inability to concentrate) is key to enabling her to study effectively.*

dependent cues, maintenance and elaborative rehearsal and serial position effect

- *Instead, Nellie should aim to sleep for nine to ten hours per night in order to engage in longer periods of REM sleep, prevent the negative effects of sleep deprivation, and promote her concentration and memory consolidation of the things she needs to study.*

- *On top of her issues with sleep, it appears that Nellie is not effectively encoding, storing, and retrieving information. First, according to the Atkinson-Shiffrin multi-store model of memory, Nellie needs to pay attention to information held in sensory memory to be encoded into short-term memory before the information decays (given sensory memory's duration of up to a few seconds). This is hampered by her inability to concentrate and the distraction of her phone. This is demonstrated by her experience of reading a chapter of the textbook, but not being able to recall anything she had just read; a lack of attention preventing transfer into short-term memory is the most likely cause of this.*
- *Short-term memory has a limited capacity (7±2 items) and duration (up to 30 seconds), which means that any engagement with her phone or distracting thoughts/feelings while she studies may lead to the displacement (due to the limited capacity) and decay (due to the limited duration) of information from short-term memory, which means that the information will not have the chance to be encoded into long-term memory where potentially unlimited amounts of information can be stored relatively permanently.*
- *Furthermore, it appears that Nellie is not effectively engaging in elaborative rehearsal, which is the primary way that information from short-term memory is encoded into long-term memory. Elaborative rehearsal involves creating meaningful links between new information and existing information in memory. By repeating key definitions aloud, it appears that Nellie is engaging in maintenance rehearsal, which involves repeating information without creating meaningful links to other information. This process likely extends the duration of her short-term memory, but is unlikely to effectively encode the information into long-term memory.*
- *Due to her apparent lack of engagement in elaborative rehearsal, Nellie does not create meaningful links with other concepts, which reduces the likelihood that effective retrieval cues are being created. This means that the storage and retrieval of the information that she studies is unlikely to be successful.*
- *Instead, Nellie should sleep well and remove distractions while she is studying in order to increase the likelihood that she can pay attention to the information that she wants to commit to memory. Further, she should engage in activities that promote elaborative rehearsal, such as formulating examples of concepts that relate to her own experience, creating links between concepts in a mind map, or other mnemonics. This will help Nellie to create retrieval cues, which will enhance the encoding from short-term to long-term memory, and aid retrieval in her SACs.*

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 theories associated with sleep deprivation, the restorative effects of sleep, and memory processes (including all components/processes of the multi-store model) to the explanation of the ineffectiveness of Nellie's approach to studying. • Well-justified recommendations to improve Nellie's approach to studying. • Precise and effective use of appropriate psychological terminology. Key terms/concepts could include: full and partial sleep deprivation; affective, behavioural and cognitive functioning; adolescent need for sleep; comparisons of sleep deprivation with legal BACs for driving and its implications for studying; physiological and psychological restoration; encoding, storage and retrieval; sensory, short-term and long-term memory; capacity and duration; displace and decay; maintenance and elaborative rehearsal; retrieval cues.
7-8 High	• All elements of the question addressed to a high standard. • A thoughtful, detailed, and relevant application of theories (including all components/processes of the multi-store model) to explain Nellie's approach to studying, and recommendations. • 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 theories (including most components/processes of the multi-store model) to explain Nellie's approach to studying, and recommendations. • Formal and appropriate psychological terminology is mostly used.
3-4 Low	• Not all elements of the question are addressed or addressed correctly. For example, elaborative rehearsal is not outlined, or recommendations to improve Nellie's approach to studying are omitted. • A superficial application of theories (including some components/processes of the multi-store model) to explain Nellie's studying technique, and recommendations. • 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 theories to explain Nellie's approach to studying, and recommendations. • 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.

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**					