

# psyched

## Units 3&4 Trial Exam 2023 (Trial 1) – Assessment Guide

### Section A

VCAA Key Knowledge

Question

Answer Guide

Use the following information to answer Questions 1 and 2.  
Samara and Sandy are cooking dinner on their camping stove after a long day hiking.

*the roles of different subdivisions of the central and peripheral nervous systems in responding to, and processing and coordinating with, sensory stimuli received by the body to enable conscious and unconscious responses, including spinal reflexes*

#### Question 1

Sandy accidentally leans over the boiling water and the steam burns his hand. He drops the tongs and pulls his hand back suddenly. Which of the following is not true about Sandy's reflex response?

- A. it involves the central and peripheral nervous systems
- B. it involves the spinal cord
- C. it involves the autonomic nervous system
- D. it is an unconscious response

**C** *The spinal reflex is an unconscious response involving the somatic nervous system and the spinal cord. It does not involve the autonomic nervous system.*

*the roles of different subdivisions of the central and peripheral nervous systems in responding to, and processing and coordinating with, sensory stimuli received by the body to enable conscious and unconscious responses, including spinal reflexes*

#### Question 2

Earlier in the day, Samara saw a snake ahead on the path and was alarmed. Which of the following responses were likely to have occurred when she was alarmed by the snake?

- A. bronchioles contract, the bladder relaxes, and sweating increases
- B. stomach contractions decrease, breathing rate increases, and pupils dilate
- C. gall bladder inhibits the release of bile, adrenal glands inhibit hormone release, and sweating decreases
- D. heart rate increases, salivation decreases, and bladder contracts

**B** *All the responses in B will occur during sympathetic nervous system activation. A is incorrect as the bronchioles will not contract; C is incorrect as the adrenal glands will not inhibit hormone release and sweating will not decrease; D is incorrect as the bladder relaxes and does not contract.*

*the gut-brain axis (GBA) as an area of emerging research, with reference to the interaction of gut microbiota with stress and the nervous system in the control of psychological processes and behaviour*

#### Question 3

Which of the following is not true about gut microbiota?

- A. microbiota includes bacteria, viruses, and fungi
- B. its composition can be affected by external factors
- C. infections can affect microbiota
- D. microbiota in the gut tends to become more diverse as we age

**D** *Gut microbial diversity generally decreases when people age.*

*internal and external stressors causing psychological and physiological stress responses, including the flight-or-fight-or-freeze response in acute stress and the role of cortisol in chronic stress*

#### Question 4

Mei is home alone when she hears something in the front yard. She freezes, not moving at all for a few moments, but then realises it is just the delivery that she was expecting.

Which of the following is true about Mei's freeze response?

- A. her sympathetic nervous system becomes dominant
- B. her parasympathetic nervous system becomes dominant
- C. her somatic nervous system becomes dominant
- D. her response involves high levels of mobility and arousal

**B** *The parasympathetic nervous system becomes dominant during freeze.*

*Use the following information to answer Questions 5 – 8.*

Dominic has been having a stressful time over the past six months. He has been working long hours at work and coming home to care for his family. To leave work early, he has been skipping meal breaks and often has stomach pain and discomfort. In the last month, he has been very unwell and unable to complete his work effectively; he had a cold that developed into a chest infection and then pneumonia.

*the explanatory power of Hans Selye's General Adaptation Syndrome as a biological model of stress, including alarm reaction (shock/counter shock), resistance and exhaustion*

#### Question 5

Which stage of Selye's General Adaptation Syndrome is Dominic likely to be in when he had pneumonia?

- A. alarm
- B. shock
- C. resistance
- D. exhaustion

**D** *Dominic has had prolonged exposure to stress and has been very unwell and unable to complete his work effectively, indicating the exhaustion stage.*

*the explanatory power of Hans Selye's General Adaptation Syndrome as a biological model of stress, including alarm reaction (shock/counter shock), resistance and exhaustion*

#### Question 6

Which of the following does not explain why Dominic was likely to become ill in his experience of stress?

- A. Dominic has depleted his cortisol due to his ongoing stress
- B. prolonged exposure to stress has depleted his immune system functioning
- C. ongoing stress has put pressure on his organs
- D. exposure to stress over time has depleted the body's resources

**A** *Prolonged exposure to cortisol reduces the effectiveness of the immune system; it is not a depletion in cortisol that increases one's susceptibility to illness.*

*the gut-brain axis (GBA) as an area of emerging research, with reference to the interaction of gut microbiota with stress and the nervous system in the control of psychological processes and behaviour*

#### Question 7

Dominic has been skipping meals and experiencing stomach pains. This may be most relevant to his experience of stress as

- A. the enteric nervous system operates entirely independently of the central nervous system.
- B. the vagus nerve connects the gastrointestinal tract to the enteric nervous system.
- C. there is a unidirectional relationship between the enteric and central nervous systems.
- D. stress can influence gut microbiota and the microbiota may influence stress.

**D** *The bidirectional relationship between the gastrointestinal tract and the brain means that stress can influence one's gut microbiota and one's gut microbiota can influence stress.*

*internal and external stressors causing psychological and physiological stress responses, including the flight-or-fight-or-freeze response in acute stress and the role of cortisol in chronic stress*

### Question 8

In Dominic's case, the sources and types of stress most evident are

- A. external stressors causing chronic stress.
- B. internal and external stressors causing acute stress.
- C. internal and external stressors causing chronic stress.
- D. internal stressors causing acute stress.

**C** *Work and family pressures are external sources of stress, while stomach pains are an internal source of stress. The stress is over an extended period of time and is, therefore, chronic stress.*

*the role of neurotransmitters in the transmission of neural information across a neural synapse to produce excitatory effects (as with glutamate) or inhibitory effects (as with gamma-aminobutyric acid [GABA]) as compared to neuromodulators (such as dopamine and serotonin) that have a range of effects on brain activity*

### Question 9

Which of the following is false?

- A. a lack of dopamine is associated with issues with motor control
- B. dopamine plays an important role in reward pathways in the brain
- C. dopamine acts only in an excitatory manner on cells in the brain
- D. dopamine plays an important role in reinforcement learning

**C** *Dopamine can have both excitatory and inhibitory effects.*

*Use the following information to answer Questions 10 and 11.*

Mimi is learning a new dive. Her coach asks a more experienced diver to demonstrate the dive and instructs Mimi to watch before she attempts the dive herself. Although Mimi is keen to learn from the experienced diver, she feels cold on the side of the pool and is distracted by trying to keep herself warm; she finds that she cannot remember the diving technique at all when she tries to visualise the dive.

*social-cognitive approaches to learning, as illustrated by observational learning as a process involving attention, retention, reproduction, motivation and reinforcement*

### Question 10

Being distracted in keeping herself warm is most likely to affect the stage of \_\_\_\_\_ in observational learning.

- A. reproduction
- B. reinforcement
- C. motivation
- D. attention

**D** *Mimi has had trouble concentrating on watching the diver and has, therefore, not paid close attention to the dive requirements.*

*social-cognitive approaches to learning, as illustrated by observational learning as a process involving attention, retention, reproduction, motivation and reinforcement*

### Question 11

Feeling disappointed, Mimi goes home and watches videos of the dive being performed until she can remember the steps clearly. Forming this mental representation demonstrates the stage of \_\_\_\_\_ in observational learning.

- A. attention
- B. reproduction
- C. retention
- D. motivation

**C** *Remembering the steps indicates that Mimi has formed a mental representation of the dive, which is what the retention stage involves.*

approaches to learning that situate the learner within a system, as illustrated by Aboriginal and Torres Strait Islander ways of knowing where learning is viewed as being embedded in relationships where the learner is part of a multimodal system of knowledge patterned on Country

### Question 12

In Aboriginal and Torres Strait Islander ways of knowing, knowledge may be expressed through language, stories, song, dance and art by human and more-than-human entities. This is a \_\_\_\_\_ system.

- A. unimodal
- B. multimodal
- C. individualist
- D. observational

**B** *In Aboriginal and Torres Strait Islander ways of knowing, where learning is viewed as being embedded in relationships, the learner is part of a multimodal system of knowledge patterned on Country.*

Use the following information to answer Questions 13 – 16.

Antony's Year 12 Psychology class conducts a demonstration of memory as they want to see how well VCE students remember a list of words under different conditions.

All of the students in the class learn a list of 20 words on Tuesday morning and are allocated to one of three conditions:

- (1) writing down as many words as they can remember immediately;
- (2) writing down as many words as they can remember after two minutes; or
- (3) writing down as many words as they can remember after one day.

The results are as follows:

Condition	Mean number of words remembered (out of 20)	Standard deviation
(1) Immediately	15	2.1
(2) After two minutes	10	2.6
(3) After one day	7	4

the explanatory power of the Atkinson-Shiffrin multi-store model of memory in the encoding, storage and retrieval of stored information in sensory, short-term and long-term memory stores

### Question 13

Which of the following may explain the significant decrease in the mean number of words that were remembered between conditions 1 and 2?

- A. items held in short-term memory decayed
- B. items held in long-term memory have a duration of fewer than two minutes
- C. information that entered sensory memory is no longer available
- D. the capacity of long-term memory has been exceeded

**A** *Items in short-term memory decay from 12 – 30 seconds after they enter short-term memory.*

design and conduct investigations; select and use methods appropriate to the investigation, including consideration of sampling technique (random and stratified) and size to achieve representativeness, and consideration of equipment and procedures, taking into account potential sources of error and uncertainty; determine the type and amount of qualitative and/or quantitative data to be generated or collated

### Question 14

Which of the following is the most accurate in describing the type of sample that Antony and his class used?

- A. a representative sample achieved through stratified sampling
- B. an appropriate sample size given the population
- C. a random sample due to the selection of participants
- D. a biased sample due to using the class

**D** *The class is a biased sample as they are all Psychology students and are unlikely to represent the characteristics of the entire population of VCE students.*

process quantitative data using appropriate mathematical relationships and units, including calculations of percentages, percentage change and measures of central tendencies (mean, median, mode), and demonstrate an understanding of standard deviation as a measure of variability

### Question 15

What do the standard deviations suggest about the data in each condition?

- A. as the amount of time that passed increased, the variability declined
- B. as the amount of time that passed increased, the variability in the number of words that were remembered increased
- C. as the number of words that were remembered increased, so did the variability in the data
- D. as the amount of data that was gathered increased, the reproducibility increased

**B** *The standard deviations increased as the time that passed increased. This suggests that there was greater variability in the data as the time since learning increased.*

process quantitative data using appropriate mathematical relationships and units, including calculations of percentages, percentage change and measures of central tendencies (mean, median, mode), and demonstrate an understanding of standard deviation as a measure of variability

### Question 16

Antony decides that he should review the raw data and calculate the median. The median score is useful as it

- A. indicates the most commonly occurring score.
- B. provides an indication of variability.
- C. is not as affected by extreme scores.
- D. leads to greater uncertainty.

**C** *The median is the middle score in the data set and, therefore, is not as affected by outliers or extreme scores as the mean.*

*Use the following information to answer Questions 17 and 18.*

Amisha is revising for her nervous system test and wants to remember that the sympathetic nervous system stimulates the adrenal medulla.

The use of mnemonics (acronyms, acrostics and the method of loci) by written cultures to increase the encoding, storage and retrieval of information as compared with the use of mnemonics such as sung narrative used by oral cultures, including Aboriginal peoples' use of songlines

### Question 17

An acronym that Amisha could use to help her remember this is

- A. Sandy Ants Meditate.
- B. SAM.
- C. associating the sympathetic nervous system and adrenal medulla with familiar locations around her neighbourhood.
- D. creating a song about the adrenal medulla.

**B** *SAM is a pronounceable word that includes the first letters of 'sympathetic' and 'adrenal medulla.'*

the use of mnemonics (acronyms, acrostics and the method of loci) by written cultures to increase the encoding, storage and retrieval of information as compared with the use of mnemonics such as sung narrative used by oral cultures, including Aboriginal peoples' use of songlines

### Question 18

Which of the following is not true about mnemonics?

- A. they simplify information
- B. they create links between the information to be remembered and other information
- C. they may involve organising information into a cohesive whole
- D. they may use information that is already held in a person's long-term memory

**A** *Mnemonics make the information more elaborate, not simpler; the additional information makes it easier to locate and retrieve.*

the use of mnemonics (acronyms, acrostics and the method of loci) by written cultures to increase the encoding, storage and retrieval of information as compared with the use of mnemonics such as sung narrative used by oral cultures, including Aboriginal peoples' use of songlines

### Question 19

Which of the following is not true about Aboriginal peoples' use of Songlines?

- A. Songlines transmit knowledge across generations
- B. Songlines were created by individuals for personal use
- C. Songlines have a narrative structure linked to place
- D. Songlines are deeply tied to the land

**B** *Songlines were created by communities for shared use within that community.*

the explanatory power of the Atkinson-Shiffrin multi-store model of memory in the encoding, storage and retrieval of stored information in sensory, short-term and long-term memory stores

### Question 20

Which of the following is correct about sensory and short-term memory?

	Sensory Memory	Short-Term Memory
A.	the duration is unlimited	the duration is 5 – 9 seconds
B.	the capacity is unlimited	the capacity is 12 – 30 items
C.	the duration is 0.2 – 4 seconds	the duration is 12 – 30 seconds
D.	the capacity is 3 – 4 items	the capacity is unlimited

**C** *Sensory memory has a duration of 0.2 – 4 seconds (depending on the sensory register that is concerned), while short-term memory has a duration of 12 – 30 seconds.*

the role of episodic and semantic memory in retrieving autobiographical events and in constructing possible imagined futures, including evidence from brain imaging and post-mortem studies of brain lesions in people with Alzheimer's disease and aphantasia as an example of individual differences in the experience of mental imagery

### Question 21

Jamilah is having trouble with her creative writing task. Her tutor suggested that she visualises the setting of her story in her mind and describe it in her writing, but Jamilah responded that, although she closes her eyes and tries, she has great difficulty in generating mental imagery. Jamilah's experience is known as

- A. Alzheimer's disease.
- B. aphantasia.
- C. damage to the amygdala.
- D. aphasia.

**B** *Aphantasia is the inability to generate mental imagery.*

the roles of the hippocampus, amygdala, neocortex, basal ganglia and cerebellum in long-term implicit and explicit memories

**Question 22**

Edwin is practising basketball shooting techniques. Which brain areas are most directly involved in the formation of the memories of basketball shooting?

- A. the hippocampus and neocortex
- B. the amygdala and frontal lobe
- C. the basal ganglia and cerebellum
- D. the neocortex and suprachiasmatic nucleus

**C** *The basal ganglia are involved in the formation and encoding of memory for motor skills; the cerebellum contributes to the formation and execution of motor movements and temporarily stores these memories.*

behaviourist approaches to learning, as illustrated by 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, and operant conditioning as a three-phase process (antecedent, behaviour and consequence) involving reinforcement (positive and negative) and punishment (positive and negative)

**Question 23**

An important distinction between classical and operant conditioning is that

- A. in operant conditioning, the learner is passive, whereas, in classical conditioning, the learner is active.
- B. in classical conditioning, the behaviour is involuntary, whereas, in operant conditioning, the behaviour is voluntary.
- C. in classical conditioning, the behaviour is dependent on consequences, whereas, in operant conditioning, it involves an association with a novel stimulus.
- D. in classical conditioning, the response precedes the stimulus, whereas, in operant conditioning, the response follows the stimulus.

**B** *Classical conditioning involves involuntary behaviours; operant conditioning involves voluntary behaviours. All other options are incorrect.*

improving sleep hygiene and adaptation to zeitgebers to improve sleep-wake patterns and mental wellbeing, with reference to daylight and blue light, temperature, and eating and drinking patterns

**Question 24**

Which of the following is correct about zeitgebers?

	Definition	Examples
A.	internal or external time cues	the suprachiasmatic nucleus and social media
B.	environmental time cues	clocks and light
C.	personal time cues	body temperature and hormones
D.	cognitive time cues	concentration and mood

**B** *A zeitgeber is an external time cue; clocks and light are two examples.*

regulation of sleep-wake patterns by internal biological mechanisms, with reference to circadian rhythm, ultradian rhythms of REM and NREM Stages 1–3, the suprachiasmatic nucleus and melatonin

**Question 25**

Which of the following does not accurately compare activity between NREM stage 3 and REM for an adult?

	Characteristic	NREM stage 3	REM
A.	Eye movement	low levels of movement	high levels of movement
B.	Skeletal muscle activity	low activity	high activity
C.	When it occurs	mostly earlier in a sleep episode	mostly later in a sleep episode
D.	Brain waves	low frequency	high frequency

**B** *Whilst there are low levels of skeletal muscle activity in NREM 3, skeletal muscle movement in REM sleep is even lower.*

Use the following information to answer Questions 26 – 28.

Zandi has a young baby named Tom; one afternoon, Zandi and Tom both fall asleep on the couch. Grandma Hannah comes over to drop off some groceries and sees them both sleeping. Zandi does not wake up when her mother arrives, even though Hannah makes a bit of noise putting things away in the kitchen.

When they wake later, Hannah tells Zandi that the baby’s eyes were flickering beneath his eyelids, but Zandi was very still. Zandi complains to her mum that she rarely gets a good night’s sleep, while Hannah complains to her daughter that she wakes up very early and that she wishes that she could sleep for longer.

*regulation of sleep-wake patterns by internal biological mechanisms, with reference to circadian rhythm, ultradian rhythms of REM and NREM Stages 1–3, the suprachiasmatic nucleus and melatonin*

**Question 26**

Which of the following shows the stages of sleep that Zandi and her baby were likely to have been in when Hannah observed them?

	Zandi	Baby Tom
A.	Stage 2 NREM	Stage 3 NREM
B.	Stage 1 NREM	Stage 2 NREM
C.	Stage 3 NREM	REM
D.	REM	Stage 1 NREM

**C** *The baby was in REM sleep as indicated by his flickering eyes. Zandi was very still and hard to wake up, making Stage 3 NREM likely.*

*differences in, and explanations for, the demands for sleep across the life span, with reference to total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM)*

**Question 27**

Which of the following is not true about the differences between Grandma Hannah’s sleep and Zandi’s sleep on a normal night?

- A. Zandi will have more total sleep than Hannah
- B. Zandi will experience more NREM 3 sleep than Hannah
- C. Zandi will experience a significantly greater percentage of REM sleep than Hannah
- D. when on a work trip without Tom, Zandi is likely to have less night-time waking than Hannah

**C** *The percentage of sleep that is REM sleep is relatively stable throughout adulthood.*

*differences in, and explanations for, the demands for sleep across the life span, with reference to total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM)*

**Question 28**

Which of the following best describes Zandi’s and Tom’s sleep patterns?

- A. both Zandi and Tom will sleep for several hours before experiencing REM
- B. Tom will experience around 50% REM sleep, while Zandi will experience around 20% REM sleep
- C. Zandi and Tom will both sleep for around 12 hours
- D. Zandi will sleep throughout the day and night, but Tom will sleep during the night in one long episode

**B** *These are the correct percentages of REM sleep for newborn infants and adults. All other options are incorrect.*



*cultural determinants, including cultural continuity and self-determination, as integral for the maintenance of wellbeing in Aboriginal and Torres Strait Islander peoples*

### Question 29

'The right to freely determine or control one's political status and pursue one's cultural, social and economic development' is described by the term

- A. self-esteem.
- B. self-determination.
- C. self-continuity.
- D. self-stigma.

**B** *This is a definition of self-determination.*

*Use the following information to answer Questions 30 and 31.*

Watson and Rayner classically conditioned 'Little Albert' to fear a white rat through repeated pairing with a loud noise; the boy was 11 months old at the time. There is no evidence that the conditioning was reversed at the end of the study, so his fear of white rats may have persisted.

*demonstrate ethical conduct and apply ethical guidelines when undertaking and reporting investigations*

### Question 30

The concern that Little Albert left the study without his conditioning being reversed relates most directly to which of the following ethical principles?

- A. confidentiality
- B. integrity
- C. deception
- D. non-maleficence

**D** *Non-maleficence involves avoiding and minimising harm.*

*analyse and evaluate psychological issues using relevant ethical concepts and guidelines, including the influence of social, economic, legal and political factors relevant to the selected issue*

### Question 31

A debriefing procedure for Little Albert should have involved

- A. an explanation of the true nature of the study before commencing.
- B. an explanation that he was able to be withdrawn from the study at any point.
- C. the removal of Little Albert's learnt fear response and an explanation of the findings to a parent/guardian.
- D. the opportunity for a parent/guardian to provide written permission to participate.

**C** *Debriefing occurs after the study and should ensure that support is provided to prevent lasting harm from participating in the study.*

Use the following information to answer Questions 32 – 34.

Finn is completing the first year of his apprenticeship and has found the job to be very busy and tiring. Despite this, he has been enjoying it and mostly managing well. His friends, Maurice and Clara, are completing their first year of university.

Maurice feels very worried and has trouble sleeping during exam week, but soon recovers. Clara is struggling with her fear of thunder; the winter has been very stormy and she failed to attend university for most of the final four weeks of the semester due to not being able to leave her house when there is a chance of rain.

*mental wellbeing as a continuum, with an individual's mental wellbeing influenced by the interaction of internal and external factors and fluctuating over time, as illustrated by variations for individuals experiencing stress, anxiety and phobia*

**Question 32**

Which of the following summarises each of the three friends' current experiences of mental wellbeing?

	Finn	Maurice	Clara
A.	stress	anxiety	phobia
B.	anxiety	stress	phobia
C.	phobia	stress	anxiety
D.	anxiety	phobia	stress

**A** *Finn's experience is a response to a situation that challenges his ability to cope (stress); Maurice's experience is worry or concern about an event in the future (anxiety); Clara's experience is an extreme fear of a specific object or event that severely affects her functioning (a phobia).*

*mental wellbeing as a continuum, with an individual's mental wellbeing influenced by the interaction of internal and external factors and fluctuating over time, as illustrated by variations for individuals experiencing stress, anxiety and phobia*

**Question 33**

For Maurice, which of the below accurately describes external factors that may affect his mental wellbeing?

- A. study pressure, worries about failing
- B. not sleeping, not eating well
- C. exams, needing to work
- D. mindfulness meditation, arguments with housemates

**C** *Exams and pressure to work are both external to the individual. All other options contain either biological (sleep, diet) or psychological (worries, mindfulness) factors that are internal to the individual.*

*mental wellbeing as a continuum, with an individual's mental wellbeing influenced by the interaction of internal and external factors and fluctuating over time, as illustrated by variations for individuals experiencing stress, anxiety and phobia*

**Question 34**

Which of the following is not true in relation to the friends and their experiences of mental wellbeing?

- A. Clara's functioning is more affected than Finn's
- B. Finn's and Maurice's responses may be adaptive in small amounts
- C. Clara is anticipating danger, whereas Finn and Maurice are only worrying about things as they happen
- D. all of the friends may experience physiological changes like those found in the fight-flight-freeze response

**C** *Maurice is experiencing worry about performing well in his upcoming exams, which is a future concern.*

Use the following information to answer Questions 35 – 37.

A university is investigating the effect of mindfulness meditation on the quality of sleep. Before beginning, the nature and risks of the study are explained and all participants complete a written participation agreement. Participants then complete a baseline sleep measurement over one night in a sleep laboratory; EEG, EOG and EMG readings are taken.

Half the participants are then taught mindfulness techniques and asked to use these before sleeping each night, while the other group are asked to not make any changes to their routine. After two weeks, all participants then return and complete another sleep measurement in the laboratory.

*identify independent, dependent and controlled variables in controlled experiments*

**Question 35**

The independent variable in this study is

- A. whether or not mindfulness meditation is completed before sleep.
- B. the quality of sleep as measured by the EEG, EOG and EMG tests.
- C. the relationship between mindfulness meditation and sleep.
- D. an increase in the quality of sleep due to mindfulness meditation.

**A** *The variable being manipulated in the experiment (the IV) is the completion of mindfulness meditation before sleep.*

*evaluate investigation methods and possible sources of error or uncertainty, and suggest improvements to increase validity and to reduce uncertainty*

**Question 36**

The university discovers a problem in the sleep laboratory; the EEG machine is malfunctioning and giving inaccurate readings of activity by consistently increasing the amplitude of brain waves by 10% across all participants. What type of error would this be?

- A. personal error
- B. systematic error
- C. random error
- D. stratified error

**B** *A consistent error across all participants is best described as a systematic error.*

*analyse and evaluate psychological issues using relevant ethical concepts and guidelines, including the influence of social, economic, legal and political factors relevant to the selected issue*

**Question 37**

The participants were third-year university students who were instructed to participate in the study as part of their coursework requirements. The ethical concern that this relates to is

- A. debriefing.
- B. informed consent.
- C. voluntary participation.
- D. deception.

**C** *As the participants are instructed to complete the study as part of their coursework, they may not be given the opportunity to refuse to participate and, therefore, may not be participating of their own free will.*

Use the following information to answer Questions 38 and 39.  
Akira has a fear of flying but needs to fly to an important family wedding next week. His doctor prescribes him benzodiazepines to help him during the flight but advises him to return for further treatment after he returns home.

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

**Question 38**

Which of the following would not explain why the doctor advised Akira to return for further treatment?

- A. the benzodiazepines are only suitable for short-term relief
- B. the benzodiazepines deal with the cause, not the symptoms
- C. benzodiazepines are addictive; therefore, long-term use is unlikely to be recommended
- D. other methods will help with the long-term management of the phobia

**B** *The reverse of option B is true; benzodiazepines deal with the symptoms but do not change the underlying association between flying and danger/fear.*

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

**Question 39**

Which of the following is true about benzodiazepines?

- A. they are GABA antagonists
- B. they increase the effectiveness of an inhibitory neurotransmitter
- C. they increase the activity of the sympathetic nervous system
- D. they increase the effect of GABA on the pre-synaptic neuron

**B** *Benzodiazepines are GABA agonists, meaning that they will increase the effectiveness of GABA (an inhibitory neurotransmitter) on the post-synaptic neuron, which is likely to decrease the activity of the sympathetic nervous system.*

*determine appropriate investigation methodology: case study; classification and identification; controlled experiment (within subjects, between subjects, mixed design); correlational study; fieldwork; literature review; modelling; product, process or system development; simulation*

**Question 40**

Which of the following is true regarding case studies?

- A. it is possible to manipulate and control variables
- B. the external validity of conclusions is typically high
- C. case studies allow for a detailed investigation of a particular situation or circumstance
- D. case studies typically involve large sample sizes

**C** *Case studies allow for a detailed investigation of a particular situation or circumstance. All of the other options are not true.*

# Section B

VCAA Key  
Knowledge

Question

Answer Guide

Betty and Jai are both preparing for their job interviews. When they catch up for coffee, Betty is nervous but excited and chats away happily about how great the new job would be and how much she would learn. Jai is feeling really nervous and fears that he will not get the job; he confesses that he has hardly slept all week.

When Jai asks why Betty is so calm about it, she tells him that she has had two jobs before and knows how to answer interview questions well. Jai feels worried as he has no work experience to talk about and has never had a job interview.

*the explanatory power of Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping to explain stress as a psychological process (primary and secondary appraisal only)*

**Question 1a** (4 marks)  
With reference to Lazarus and Folkman's Transactional Model of Stress and Coping, compare the primary appraisals that both Betty and Jai have made.

**Answer:**

- *Betty has evaluated the interview as stressful...*
- *...and a challenge as she is seeing the opportunity for future growth through this new job.*
- *While Jai has also evaluated the interview as stressful...*
- *...he views the interview as a threat as he is feeling nervous about not getting the job in future.*

**Marking Protocol:**

One mark for each of the above points. Note: similarities and differences between Betty and Jai must be made, otherwise, a maximum of two marks should be awarded.

*the explanatory power of Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping to explain stress as a psychological process (primary and secondary appraisal only)*

**Question 1b** (3 marks)  
Who is likely to be more stressed? Justify your answer by describing the likely secondary appraisals of Betty and Jai.

**Answer:**

- *Jai is likely to feel more stressed than Betty because...*
- *...Jai likely does not think that he has the resources to cope as he does not have any work or interview experience to draw on, whereas...*
- *...Betty likely feels that she has the resources to cope as she has previous experience.*

**Marking Protocol:**

One mark for each of the above points.

*use of strategies (approach and avoidance) for coping with stress and improving mental wellbeing, including context-specific effectiveness and coping flexibility*

**Question 1c** (2 marks)  
Outline one suitable coping strategy that Jai could use to help him cope with the stressor of the job interview, and explain why the strategy may have high levels of context-specific effectiveness.

**Answer:**

- *Jai could ask Betty to help him practise for the job interview / Jai could watch YouTube clips of sample job interview questions and learn how to best respond / Jai could read through sample job interview questions on the internet and rehearse some answers.*
- *This would be well-suited to the stressor by helping him feel more confident in a real interview situation and, therefore, would have high levels of context-specific effectiveness.*

**Marking Protocol:**

One mark for each of the above points. Note: Any suitable suggestion that links to the scenario is acceptable for the first mark.

Adrian studied French at university and spoke it confidently; however, during an extended stay in Chile, he learnt to speak Spanish and became much stronger in speaking Spanish than French. When Adrian now attempts to speak French, he tends to think of Spanish words instead.

*synaptic plasticity – resulting from long-term potentiation and long-term depression, which together act to modify connections between neurons (sprouting, rerouting and pruning) – as the fundamental mechanism of memory formation that leads to learning*

**Question 2a** (2 marks)

Describe how sprouting occurs when Adrian learns a new French word.

**Answer:**

- *When Adrian learns a new French word, the neurons related to this word would create new extensions on dendrites and axon terminals, which is called sprouting.*
- *This sprouting would have allowed for new connections to form, enabling memory formation/learning of the French word.*

**Marking Protocol:**

One mark for each of the above points.

*the role of neurotransmitters in the transmission of neural information across a neural synapse to produce excitatory effects (as with glutamate) or inhibitory effects (as with gamma-aminobutyric acid [GABA]) as compared to neuromodulators (such as dopamine and serotonin) that have a range of effects on brain activity*

**Question 2b** (3 marks)

Identify the main excitatory neurotransmitter in the central nervous system and describe its role in Adrian's neuronal activity and his language learning.

**Answer:**

- *Glutamate.*
- *Glutamate's excitatory effect makes post-synaptic neurons more likely to fire/generate an action potential...*
- *...which plays a key role in long-term potentiation/strengthening of the neural pathways responsible for the languages in Adrian's brain.*

**Marking Protocol:**

One mark for each of the above points.

*synaptic plasticity – resulting from long-term potentiation and long-term depression, which together act to modify connections between neurons (sprouting, rerouting and pruning) – as the fundamental mechanism of memory formation that leads to learning*

**Question 2c** (4 marks)

With reference to long-term potentiation and long-term depression, explain what is occurring when Adrian becomes more fluent in Spanish and less fluent in French.

**Answer:**

- *When Adrian practises Spanish, the neural pathways relating to Spanish are repeatedly stimulated/co-activated...*
- *...which strengthens these neural pathways in a process of long-term potentiation, leading to greater fluency in Spanish.*
- *Adrian is not using his knowledge of French as much, and so these neural pathways are likely to experience a low intensity/sub-threshold stimulation of post-synaptic neurons...*
- *...which weakens these neural pathways in the process of long-term depression, leading to decreased fluency in French.*

**Marking Protocol:**

One mark for each of the above points.

the roles of different subdivisions of the central and peripheral nervous systems in responding to, and processing and coordinating with, sensory stimuli received by the body to enable conscious and unconscious responses, including spinal reflexes the role of neurotransmitters in the transmission of neural

**Question 2d** (3 marks)

The day Adrian is due to fly home, he misplaces his passport for a short time. When this happens, he can feel his heart racing and he feels sick. With reference to the subdivisions of the nervous system involved, explain the type of response that occurs to prompt the change in heart rate.

**Answer:**

- *Adrian's sympathetic division of the autonomic nervous system (part of the peripheral nervous system) is responsible for the response.*
- *The response that is activated is a fight-or-flight-or-freeze response / an unconscious response.*
- *When facing a threat, the sympathetic nervous system prompts an increase in heart rate to pump blood more quickly around the body, enabling a person to respond to a physical threat.*

**Marking Protocol:**

One mark for each of the above points.

Harushi's family recently adopted a new cat, Meowbert. The cat food is stored in a cupboard in the laundry and they feed the cat each evening. After two weeks, Harushi notices that Meowbert gets very excited whenever someone in the family opens the laundry door, regardless of the time of day.

Meowbert has also caused some damage by scratching the couch; because of this, Harushi buys a scratching post and puts it next to the couch and, whenever someone sees Meowbert using the scratching post, they pat and praise him. Over the next week, they notice that Meowbert is scratching the post more and the couch less.

Behaviourist approaches to learning, as illustrated by 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, and operant conditioning as a three-phase process (antecedent, behaviour and consequence) involving reinforcement (positive and negative) and punishment (positive and negative)

**Question 3a** (6 marks)

Use the language of classical conditioning to explain how Meowbert learnt one of his behaviours.

**Answer:**

- *Before conditioning, the sight of the laundry door was a neutral stimulus that did not produce any predictable response.*
- *During conditioning, the repeated association of the sight of the laundry door being opened (NS)...*
- *...immediately followed by the presentation of the food which was the UCS...*
- *...leads to excitement due to the food which is the UCR.*
- *After conditioning with several presentations of the NS and UCS, the sight of the laundry door has become a CS...*
- *...that elicits excitement which is the CR.*

**Marking Protocol:**

One mark for each of the above points. Note: No marks should be awarded for a description of the post-scratching behaviour, as this is a voluntary behaviour that is conditioned through operant conditioning. Also note that the abbreviations of NS/UCS/UCR/CS/CR are acceptable in exam responses, as stated by the 2023 VCAA FAQs document.

behaviourist approaches to learning, as illustrated by 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, and operant conditioning as a three-phase process (antecedent, behaviour and consequence) involving reinforcement (positive and negative) and punishment (positive and negative)

**Question 3b** (4 marks)

Use the language of operant conditioning to explain how Meowbert learnt one of his behaviours.

**Answer:**

- *The antecedent is being near the couch/scratching post.*
- *The behaviour that is being conditioned through operant conditioning is Meowbert scratching the post.*
- *The consequence is being patted and praised whenever he uses the post.*
- *This is a form of positive reinforcement as the pleasant stimulus of being patted and praised is being added, strengthening the behaviour of using the post.*

**Marking Protocol:**

One mark for each of the above points. Note: No marks should be awarded for a description of being excited at the laundry door, as this is a reflexive behaviour that is conditioned through classical conditioning; however, marks may be awarded if this is phrased as a voluntary behaviour (e.g. running towards the laundry door).

Christos's father, Ted, has Alzheimer's disease. Ted enjoys his visits with his grandchildren, but he doesn't remember when they visited him previously, even if it was just the day before. The children like to play, 'just imagine.' Christos has noticed that Ted gets really frustrated when they ask him to imagine what things might be like in 50 years' time.

the role of episodic and semantic memory in retrieving autobiographical events and in constructing possible imagined futures, including evidence from brain imaging and post-mortem studies of brain lesions in people with Alzheimer's disease and aphantasia as an example of individual differences in the experience of mental imagery

**Question 4a** (2 marks)

With reference to a key brain area, explain why Ted does not remember his grandchildren's previous visit, even if it was just the day before.

**Answer:**

- *The hippocampus is essential for the consolidation of episodic/autobiographical memory.*
- *With the damage to his hippocampus that arises from Alzheimer's disease, Ted is unable to form new explicit episodic memories such as remembering who visited him.*

**Marking Protocol:**

One mark for each of the above points.

the role of episodic and semantic memory in retrieving autobiographical events and in constructing possible imagined futures, including evidence from brain imaging and post-mortem studies of brain lesions in people with Alzheimer's disease and aphantasia as an example of individual differences in the experience of mental imagery

**Question 4b** (2 marks)

Explain why Ted is becoming frustrated when asked to imagine what things might be like in 50 years' time, with reference to a key brain area.

**Answer:**

- *The hippocampus plays a key role in imagining novel experiences/constructing imagined futures/episodic future thinking.*
- *Ted is likely to be having trouble constructing possible imagined futures due to his Alzheimer's disease which affects his hippocampus, which leads to his frustration.*

**Marking Protocol:**

One mark for each of the above points.



Nora is 17 years old and has been feeling really sleepy during the day. She often has trouble staying awake at school and, despite being tired, has trouble falling asleep before midnight. Her doctor refers her for a sleep study at the sleep clinic. The sleep specialists say that she likely has Delayed Sleep Phase Syndrome (DSPS) and suggests improving her sleep hygiene and the use of bright light therapy.

*sleep as a psychological construct that is broadly categorised as a naturally occurring altered state of consciousness and is further categorised into REM and NREM sleep, and the measurement of physiological responses associated with sleep, through electroencephalography (EEG), electromyography (EMG), electro-oculography (EOG), sleep diaries and video monitoring*

**Question 5a (4 marks)**

Nora is surprised when the sleep specialist shows her the graphs of results and tells her that they can see when she is dreaming. Identify two measurements that would be the most valid in determining when Nora is in REM sleep and describe how they will indicate this sleep stage.

**Answer:**

- *Electroencephalography / EEG.*
- *EEG will show an increase in brain activity (indicated by high frequency and low amplitude waves) during REM sleep.*
- *Electro-oculography / EOG.*
- *EOG will indicate a high level of activity in the muscles that move the eyes during REM sleep.*

**Marking Protocol:**

One mark for each of the above points. Note: EMG is not an acceptable response as the level of muscle activity is already quite low and, therefore, will not be as effective in indicating when Nora is in REM sleep.

*changes to a person's sleep-wake cycle that cause circadian rhythm sleep disorders (Delayed Sleep Phase Syndrome [DSPS], Advanced Sleep Phase Disorder [ASPD] and shift work) and the treatments of circadian rhythm sleep disorders through bright light therapy*

**Question 5b (3 marks)**

Define Delayed Sleep Phase Syndrome (DSPS) and explain why Nora is more likely to experience this than her parents are.

**Answer:**

- *DSPS occurs when a person's sleep-wake cycle is significantly later than what is desired/acceptable/conventional.*
- *Nora is more likely to experience this condition than her parents as this disorder is more likely to occur during adolescence...*
- *...due to hormonal/biological changes that delay the release of melatonin which normally promotes sleepiness (as compared to adults).*

**Marking Protocol:**

One mark for each of the above points.

*changes to a person's sleep-wake cycle that cause circadian rhythm sleep disorders (Delayed Sleep Phase Syndrome [DSPS], Advanced Sleep Phase Disorder [ASPD] and shift work) and the treatments of circadian rhythm sleep disorders through bright light therapy*

**Question 5c (3 marks)**

Describe bright light therapy (BLT) and explain how this could be used to help Nora with her DSPS.

**Answer:**

- *BLT is the timed exposure of the eyes to intense, safe amounts of bright light (e.g. using a special light box or visors).*
- *Nora should be exposed to bright light in the early morning to help her feel more alert and awake during the day, as the bright light suppresses melatonin which normally induces sleepiness.*
- *Conversely, when Nora wants to sleep, her bedroom environment should be kept as dark as possible (several hours before her desired time of sleep) to stimulate the release of melatonin and induce sleep.*

**Marking Protocol:**

One mark for each of the above points.

improving sleep hygiene and adaptation to zeitgebers to improve sleep-wake patterns and mental wellbeing, with reference to daylight and blue light, temperature, and eating and drinking patterns

**Question 5d (3 marks)**

Identify and describe a change that Nora can make to improve her sleep hygiene and explain how this may assist with her DSPS.

**Answer:**

- *Nora can avoid blue/bright light in the hours before sleeping.*
- *Blue/bright light (e.g. from electronic devices) is detected by the suprachiasmatic nucleus and can delay the release of melatonin.*
- *By avoiding blue/bright light in the hours leading to bedtime, melatonin secretion will be facilitated, helping Nora to feel sleepy at an earlier time (helping to advance her sleep-wake cycle).*

OR

- *Nora could ensure that she has an appropriate bedroom temperature.*
- *Overly hot or cold temperatures are known to affect sleep; a bedroom temperature of approximately 18°C is suggested, or whatever Nora finds comfortable.*
- *A relatively cool and comfortable temperature will help with the onset of Nora's sleep, which may help to advance her sleep-wake cycle.*

OR

- *Nora could limit the consumption of caffeine in the afternoon and evening.*
- *Caffeine is a stimulant that will increase Nora's wakefulness.*
- *Restricting her caffeine intake in the afternoon/evening will prevent stimulants from delaying Nora's sleep onset further.*

OR

- *Nora could limit the consumption of food before her desired bedtime.*
- *Consuming a heavy meal just before bedtime can affect sleep onset, so the main evening meal should occur a couple of hours before the desired bedtime.*
- *Having an overly full stomach can make it difficult to sleep, so it is important that Nora eats earlier to avoid delaying her sleep onset further.*

OR

- *Nora could establish a regular sleep routine.*
- *She can do this by going to bed and getting up around the same time each day, even on weekends or holidays.*
- *This will help Nora to maintain a regular circadian rhythm and promote sleep at the desired times.*

OR

- *Nora can avoid napping during the day.*
- *This will help to ensure that she is not disrupting her sleep-wake cycle and further delaying the release of melatonin in the evening.*
- *This will help her to feel sleepy in the evening, which can help to advance her sleep-wake cycle.*

**Marking Protocol:**

One mark for any of the above groups of points, to a maximum of three. Note: Other appropriate sleep hygiene improvements can also be accepted. The response must refer to the scenario to receive full marks.

A road traffic safety organisation wants to conduct a study comparing the effects of alcohol and sleep deprivation on driving. In line with previous research, they wish to compare driving ability on a driving simulator with a BAC of 0.10 and after 24 hours of being awake.

It is proposed that all participants will attend the study site on three consecutive Wednesday afternoons to complete each of the following conditions:

- **Condition A:** Participants complete the driving simulator task unaffected by alcohol or sleep deprivation.
- **Condition B:** Participants consume alcohol until they return a BAC of 0.10 on a breathalyser test and then complete the driving simulator.
- **Condition C:** Participants have been awake for 24 hours when they arrive to complete the driving simulator.

*the effects of partial sleep deprivation (inadequate sleep either in quantity or quality) on a person's affective, behavioural and cognitive functioning, and the affective and cognitive effects of one night of full sleep deprivation as a comparison to blood alcohol concentration readings of 0.05 and 0.10*

**Question 6a** (1 mark)  
What was the conclusion of previous research that compared the effects of a BAC of 0.10 and sleep deprivation?

**Answer:**

- *A BAC of 0.10 results in a similar degree of cognitive impairment to 24 hours of sleep deprivation.*

**Marking Protocol:**

One mark for the above point.

*determine appropriate investigation methodology: case study; classification and identification; controlled experiment (within subjects, between subjects, mixed design); correlational study; fieldwork; literature review; modelling; product, process or system development; simulation*

**Question 6b** (2 marks)  
Identify and describe the experimental design used in this investigation.

**Answer:**

- *This is a within-subjects design...*
- *...as each participant will undertake each condition (A, B and C) of the experiment.*

**Marking Protocol:**

One mark for each of the above points.

*characteristics of the selected scientific methodology and method, and appropriateness of the use of independent, dependent and controlled variables in the selected scientific investigation*

**Question 6c** (2 marks)  
Identify a potential source of error in this investigation and how it may be controlled for by using the experimental design identified in Question 6b.

**Answer:**

- *One potential source of (random) error is the differences between participants, such as their driving skills.*
- *This is controlled for by a within-subjects design, as all participants complete all of the experimental conditions.*

**Marking Protocol:**

One mark for each of the above points. Note: The response must include a specific reference to a difference between individuals that may impact their performance on the driving simulator to achieve full marks.

*the accuracy, precision, repeatability, reproducibility and validity of measurements*

**Question 6d** (1 mark)  
How might the results of this experiment assist with assessing the reproducibility of previous findings?

**Answer:**

- *If the results of this experiment are similar to previous findings, this would indicate a high level of reproducibility (closeness of agreement between the results of measurements of the same quantity being measured, carried out under changed conditions of measurement) of such findings.*

**Marking Protocol:**

One mark for the above point.

evaluate investigation methods and possible sources of error or uncertainty, and suggest improvements to increase validity and to reduce uncertainty

**Question 6e** (2 marks)

Define external validity and identify one factor that may increase the external validity of this investigation.

**Answer:**

- *If the results of the research can be applied to similar individuals in a different setting, then the results are said to be externally valid.*
- *External validity can be increased by using broad inclusion criteria/sampling techniques that result in a more representative sample of the general driving population (for example, ensuring that a range of age groups are used to represent the driving population).*

**Marking Protocol:**

One mark for each of the above points. Note: Any factor that increases the external validity of the investigation may be awarded a mark; however, note that the answer above is the best response as suggested by the Study Design.

the effects of partial sleep deprivation (inadequate sleep either in quantity or quality) on a person's affective, behavioural and cognitive functioning, and the affective and cognitive effects of one night of full sleep deprivation as a comparison to blood alcohol concentration readings of 0.05 and 0.10

**Question 6f** (2 marks)

Describe two potential impacts on affective functioning when participants undertake Condition C.

**Answer:**

- *Irritability – participants may be more annoyed than usual while completing the simulator.*
- *Amplified emotional responses – participants may overreact when they make a mistake and become very upset or angry.*
- *Misjudging others' emotions – participants may become annoyed at others for deliberately pushing in or think others are looking at them unkindly.*
- *Decreased impulse control – participants may slam their fists on the table when they make a mistake.*

**Marking Protocol:**

One mark for any of the above points, to a maximum of two. Note: Any appropriate example of change in affective functioning should be awarded a mark.

*the application of a biopsychosocial approach to maintaining mental wellbeing, with reference to protective factors including adequate nutritional intake and hydration and sleep (biological), cognitive behavioural strategies and mindfulness meditation (psychological) and support from family, friends and community that is authentic and energising (social)*

**Question 7a** (6 marks)

At the end of the year, VCE Units 3&4 Psychology students are asked to compile a list of suggestions for the Year 11s to help them to maintain their mental wellbeing during their final year of school.

Using the biopsychosocial approach, create a list of three suggestions and describe how it can help the students to maintain their mental wellbeing; ensure that there is a protective factor from each domain.

**Answer:**

*Biological protective factors*

- *Sleep; ensure that you get 8–10 hours of sleep every night. Adequate sleep is important for you to restore energy levels to ensure you have good concentration for the school day and be in a good mood.*
- *Eat a wide range of healthy food at regular intervals; having an adequate nutritional intake will help your energy levels stay consistent and help you feel more capable of completing the school day and study sessions.*
- *Drink plenty of water; being well hydrated will make you feel better and will help to prevent headaches and fatigue.*

*Psychological protective factors*

- *Use cognitive behavioural strategies; this involves challenging unhelpful/unrealistic/maladaptive thoughts and behaviours (e.g. 'I will definitely fail VCE' which then leads to a decreased work ethic) and replacing these with more positive/realistic/adaptive ones (e.g. 'I am confident with some of the content and I can use this to do my best.')* – *this will likely help you to feel calmer, more capable and help to maintain motivation, contributing to greater mental wellbeing.*
- *Practise mindfulness meditation; by focusing on the present moment without judgement, meditation will help you to improve your focus for study and can help you to wind down before bedtime.*

*Social protective factors*

- *Stay connected with authentic friends, family and your community during the busy year; the help, support, care and comfort that friends, family and community groups (such as sporting teams) provide is likely to be energising, and is important for mental wellbeing.*
- *Seeking support that comes from community support organisations such as Headspace and Beyond Blue may be beneficial as they can provide strategies for maintaining mental wellbeing.*

**Marking Protocol:**

Two marks for any of the above points (one mark for correctly identifying a protective factor within the relevant domain, and one mark for describing how it may help to maintain mental wellbeing), to a maximum of six. Note: there must be one factor for each of the biological, psychological and social domains.

ways of considering mental wellbeing, including levels of functioning; resilience, as the ability to cope with and manage change and uncertainty; and social and emotional wellbeing (SEWB), as a multidimensional and holistic framework for wellbeing that encapsulates all elements of being (body, mind and emotions, family and kinship, community, culture, country, spirituality and ancestors) for Aboriginal and Torres Strait Islander people

**Question 7b** (2 marks)

Alongside a definition of resilience, provide an example of a way in which a Year 12 student might demonstrate resilience.

**Answer:**

- *Resilience is the ability to cope with and manage change and adversity/the ability to bounce back from difficulties and cope with adversity.*
- *A Year 12 student who receives a disappointing grade but continues to work consistently to improve and reach their goals demonstrates resilience.*
- *A Year 12 student who finds that they have missed out on a role in the school play that they wanted and feels very upset but takes on a smaller role in the chorus and continues to work hard despite their disappointment demonstrates resilience.*
- *A Year 12 student who breaks their ankle but tries to focus on recovering and continuing with their studies as best as they can demonstrates resilience.*

**Marking Protocol:**

One mark for the first point, and one mark for any appropriate example of a Year 12 student showing resilience.

ways of considering mental wellbeing, including levels of functioning; resilience, as the ability to cope with and manage change and uncertainty; and social and emotional wellbeing (SEWB), as a multidimensional and holistic framework for wellbeing that encapsulates all elements of being (body, mind and emotions, family and kinship, community, culture, country, spirituality and ancestors) for Aboriginal and Torres Strait Islander people

**Question 7c (4 marks)**

The social and emotional wellbeing (SEWB) framework for wellbeing for Aboriginal and Torres Strait Islander peoples includes seven interconnected domains of connection.

Identify and define any two of the seven domains of the SEWB model.

**Answer:**

- Body and behaviours.  
• A connection to the physical elements of health, such as diet and exercise, and considers the importance of optimal bodily functioning.
- Mind and emotions.  
• A connection to mental wellbeing and the ability to manage thoughts and feelings, including experiencing positive emotions and self-confidence.
- Family and kinship.  
• A connection and a sense of belonging to family, kinship and group relations, including respect for and learning from Elders.
- Community.  
• A connection to Community for families and individuals who are supporting each other, enacting collective responsibilities.
- Culture.  
• A connection to cultural expression, cultural knowledge, and pride in and sense of belonging to cultural identity.
- Country.  
• A deep feeling of belonging to Country and of a spiritual connection to Country through kinship, culture and caring for Country.
- Spirituality and ancestors.  
• A connection to Indigenous knowledges and belief systems, including the Dreaming, Songlines, cultural healing practices, wisdom and hope.

**Marking Protocol:**

Two marks for each pair of points, to a maximum of four. Note: definitions of SEWB will vary across Aboriginal and Torres Strait Islander language groups, and SEWB will also change through a life span, so any culturally appropriate response should be awarded marks.

Vera has feared fish for as long as she can remember. Her fear started when she was snorkelling with her brother as a child, who threw some bait near her, causing a lot of fish to race towards her. The fish would eventually swim away, but when he detected this, her brother would throw in more bait near Vera. Whilst this was happening, Vera accidentally inhaled some water and began to struggle to breathe. She rushed to get out of the water and felt very frightened; from then onwards, she never went swimming in the ocean but, instead, sat on the sand with her mother (who was frightened of seaweed and, therefore, never went in either).

Vera also dislikes fish tanks and avoids public places and homes where there are fish tanks as she feels very uneasy whenever she can see fish. This has been particularly challenging as Vera has had to turn down two job offers as a dental nurse because there were fish tanks in the waiting room. She tells her mother that the fish look 'slimy and awful' and that they 'seem to be watching her with their sinister eyes.' Vera is too ashamed and embarrassed to tell others the real reason she cannot accept the jobs.

*the relative influences of factors that contribute to the development of specific phobia, with reference to gamma-aminobutyric acid (GABA) dysfunction and long-term potentiation (biological); behavioural models involving precipitation by classical conditioning and perpetuation by operant conditioning, and cognitive biases including memory bias and catastrophic thinking (psychological); and 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 (GABA agonists) in the management of phobic anxiety and breathing retraining (biological); the use of cognitive behavioural therapy (CBT) and systematic desensitisation as psychotherapeutic treatments of phobia (psychological); and psychoeducation for families/supporters with reference to challenging unrealistic or anxious thoughts and not encouraging avoidance behaviours (social)*

### Question 8 (10 marks)

Using a biopsychosocial approach, explain the factors that may have contributed to the development and progression of Vera's phobia of fish. Describe how at least one evidence-based psychological intervention could be used to help Vera to overcome her phobia.

### Sample Answer:

• *Several internal (biological and psychological) and external (social) factors may have interacted to contribute to the development and progression of Vera's phobia of fish. By understanding the contributing factors, Vera may better understand her phobia and engage in evidence-based interventions to overcome her phobia.*

#### Biological contributing factors

- *Vera may have GABA dysfunction; having insufficient GABA means that its inhibitory effect on the central nervous system may be insufficient. This could cause Vera to have trouble regulating arousal which may include a longer-lasting sympathetic nervous system response to frightening stimuli. It is also possible that this dysfunction has been genetically inherited from Vera's mother who also has a specific phobia.*
- *It is also possible that long-term potentiation has consolidated Vera's phobia. When the frightening incident occurred, neurons responsible for associating fish with fear and/or danger were repeatedly coactivated, strengthening these synapses; hence, the fear response to fish becomes more readily activated.*

#### Psychological contributing factors

- *Vera's frightening experience with fish appears to have precipitated her phobia of fish through classical conditioning. Before conditioning, fish were a neutral stimulus that did not elicit any predictable response. During conditioning, the repeated presentation of fish (NS) just before the fish rushing towards her/inhaling some water (UCS) led to fear of the fish rushing towards her/inhaling some water (UCR). After conditioning, fish alone became a conditioned stimulus that led to fear (CR).*
- *Vera's phobia of fish appears to have been perpetuated through the reinforcement of her avoidance behaviour towards any situation with fish (in an example of operant conditioning). The antecedent is a situation with fish (for example, swimming at the beach); the behaviour is avoiding the situation (by refusing to enter the water); and the consequence is relief. This acts as negative reinforcement for Vera by removing her feeling of anxiety; this removal of an unpleasant stimulus*



will make the avoidance behaviour more likely to occur in the future, limiting any opportunity to have a neutral encounter with fish and, therefore, change/desensitise the association between fish and danger.

- It is evident that Vera has cognitive biases around fish as she believes that the 'fish are watching her' with 'sinister eyes.' This indicates that there may be catastrophic thinking around fish where she imagines the worst possible outcome – for example, she may think that if she goes in the water, the fish will reach her and hurt her. She may also have memory bias, whereby she remembers the incident with the fish swimming towards her as being more dangerous and frightening than it was at the time; she would also be less likely to remember neutral or pleasant incidents with fish and more likely to remember any threatening or frightening encounters with fish. These types of cognitive biases are likely to increase the fear that Vera feels in response to fish, strengthening her connection between fish and danger.

#### Social contributing factors

- The incident with the fish was very frightening; therefore, the fish swimming towards her has acted as a specific environmental trigger that has resulted in a fearful and distressed response, contributing to the development of her phobia. This specific environmental trigger may have led to the classical conditioning of Vera as explained above.
- Vera evidently feels ashamed and embarrassed about her phobia, which may indicate the role of stigma in preventing her from admitting her difficulty and potentially seeking treatment. This may be in the form of a social stigma, which makes Vera aware that others may view her negatively or discriminate against her. This may also lead to self-stigma, whereby Vera accepts this negative view of her fear, may view herself as childish and may feel that she should be able to 'get over it.'

#### Evidence-based psychological intervention for phobia

- Vera may engage in cognitive behavioural therapy as a psychotherapeutic treatment for her phobia. This would involve her working with a therapist to recognise her unrealistic thinking about the phobic stimulus; for example, the idea that fish are 'sinister' and perhaps are out to attack her. The therapist would help her to question these beliefs and correct inaccurate beliefs; for example, Vera may learn that fish prefer to avoid humans and will tend to swim away from her if she enters the water. This change in thinking could help to support a change in behaviour – for example, she may stay in a room with a fish tank for a short time or put her feet in shallow water at the beach. By changing these behaviours, Vera would be supported in changing her thinking about fish and would be helped in the understanding that they are not dangerous.
- Vera may also engage in systematic desensitisation, whereby she works with a therapist to change the association between fish and danger. Initially, the therapist would teach Vera a relaxation technique, like breathing retraining. Vera would also make a fear hierarchy of

*situations involving fish, from the least to most frightening situations; for example, in order: looking at a picture of fish; watching a small fish in a tank; watching a group of bigger fish in a tank; seeing fish in the ocean; and, finally, entering the ocean while fish are present. The therapist would then support Vera to work through the fear hierarchy, pairing the relaxation technique with each level of the phobic stimulus until a state of calm is achieved. Vera would then move on to the next level of the fear hierarchy and continue until she is able to stand in the ocean with fish present.*

**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	<ul style="list-style-type: none"> <li>• All elements of the question are addressed to an outstanding standard.</li> <li>• An insightful, well-structured and comprehensive application of multiple contributing factors for specific phobia in each domain of the biopsychosocial approach (NB: if any domain is missing, then the response cannot be awarded this category).</li> <li>• Well-explained links between Vera’s experiences and the contributing factors.</li> <li>• A clear and detailed explanation of either CBT and/or systematic desensitisation has been applied to Vera’s situation.</li> <li>• A precise and effective use of appropriate psychological terminology – key terms/concepts could include: GABA dysfunction; long-term potentiation; precipitation through classical conditioning (alongside NS/UCS/UCR/CS/CR); perpetuation through operant conditioning (alongside antecedent/behaviour/consequence); stigma; specific environmental trigger; CBT; and systematic desensitisation.</li> </ul>
7 – 8 High	<ul style="list-style-type: none"> <li>• All elements of the question are addressed to a high standard.</li> <li>• A clear application of contributing factors for specific phobia in each domain of the biopsychosocial approach (NB: if any domain is missing, then the response cannot be awarded this category).</li> <li>• Links between Vera’s experiences and the contributing factors are made.</li> <li>• A clear and accurate explanation of either CBT or systematic desensitisation has been applied to Vera’s situation.</li> <li>• Formal and appropriate psychological terminology is used throughout the response.</li> </ul>
5 – 6 Medium	<ul style="list-style-type: none"> <li>• All elements of the question are addressed to a satisfactory standard.</li> <li>• Some application of contributing factors for specific phobia in each domain of the biopsychosocial approach (NB: if any domain is missing, then the response cannot be awarded this category).</li> <li>• References to Vera’s experiences are made.</li> <li>• Some reference to either CBT or systematic desensitisation that has been applied to Vera’s situation is present (this may be brief or contain some errors).</li> <li>• Formal and appropriate psychological terminology is mostly used.</li> </ul>
3 – 4 Low	<ul style="list-style-type: none"> <li>• Not all elements of the question are addressed or addressed correctly; for example, one or more domains of the biopsychosocial approach may not have been included or the response does not refer to Vera.</li> <li>• A superficial application of contributing factors for specific phobia in each domain of the biopsychosocial approach.</li> <li>• Limited formal and appropriate psychological terminology is used throughout the response.</li> <li>• Few links are made between psychological theory and the scenario.</li> </ul>
1 – 2 Very Low	<ul style="list-style-type: none"> <li>• A superficial attempt at the question.</li> <li>• Incomplete or inaccurate application of contributing factors for specific phobia in each domain of the biopsychosocial approach.</li> <li>• Little formal and appropriate psychological terminology is used throughout the response.</li> </ul>
0 Marks	<ul style="list-style-type: none"> <li>• The question has not been meaningfully attempted.</li> </ul>

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.

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