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Units 3&4 Trial Exam 2018

Assessment Guide

Part A: Multiple Choice

VCAA Key Knowledge	Question	Answer guide
the roles of different divisions of the nervous system (central and peripheral nervous systems and their associated sub-divisions) in responding to, and integrating and coordinating with, sensory stimuli received by the body	**Question 1** An important function of the somatic nervous system is to A. maintain homeostasis. B. carry motor messages from the central nervous system to the muscles, organs and glands. C. carry sensory messages from the sensory receptors on the skin to the central nervous system. D. initiate motor messages to allow movement in the visceral muscles.	*C The afferent (sensory) pathway of the somatic nervous system sends messages from the sensory receptors in the skin to the brain (in the CNS) to be processed. Note that option B is incorrect as this would be a task performed by the autonomic nervous system.*
the distinction between conscious and unconscious responses by the nervous system to sensory stimuli, including the role of the spinal reflex	**Question 2** The spinal reflex is A. an autonomic response. B. an involuntary response. C. a conscious response. D. a learned response.	*B The spinal reflex is an unconscious, unlearned involuntary response.*
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 3** The axon terminal is responsible for A. storing and releasing neurotransmitter. B. increasing the speed of an action potential. C. generating an action potential. D. integrating messages from neighbouring neurons.	*A When an action potential reaches the axon terminals, they release the neurotransmitter that is stored within them.*
the effects of chronic changes to the functioning of the nervous system due to interference to neurotransmitter function, illustrated by the role of dopamine in Parkinson's disease.	**Question 4** Which of the following is a common non-motor symptom of Parkinson's Disease? A. resting tremor B. depression C. bradykinesia D. mania	*B Depression is a common non-motor symptom of Parkinson's Disease. Note that options A and C are common motor symptoms of Parkinson's disease.*

the effects of chronic changes to the functioning of the nervous system due to interference to neurotransmitter function, illustrated by the role of dopamine in Parkinson's disease.

Question 5

Parkinson's disease is most commonly associated with insufficient levels of the neurotransmitter _____ in the substantia nigra.

A. serotonin
B. noradrenaline
C. glutamate
D. dopamine

D *Dysfunction to the dopaminergic system in the substantia nigra is a hallmark of Parkinson's disease.*

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

Question 6

Resilience best described as

A. the ability to avoid adversity.
B. the tendency to seek out adversity.
C. the ability to recover from adversity.
D. the tendency to help those suffering from adversity.

C *Resilience is the ability to "bounce back" from life's stressors.*

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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 7

A placebo is

A. when the participants in an experiment are unaware of which group they have been allocated into.
B. an improvement in performance purely because of the expectation of the effect of the treatment.
C. a "blank" treatment.
D. a single blind experiment.

C *A placebo is a blank/inactive treatment given to the control group in order to establish a single blind experiment, where participants are unaware of which group they are allocated into.*

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the distinction between dyssomnias (including sleep-onset insomnia) and parasomnias (sleep walking) with reference to the effects on a person's sleep-wake cycle

Question 8

Sleep-onset insomnia is a type of _____, whereas sleep walking is a form of _____.

A. dyssomnia; parasomnia
B. circadian rhythm, ultradian rhythm
C. parasomnia; dyssomnia
D. ultradian rhythm; circadian rhythm

A *Dyssomnias are conditions involving difficulty falling asleep (such as sleep onset insomnia), maintaining sleep, or excessive sleep. Parasomnias are unusual behaviours that occur during sleep (such as sleep walking).*

Use the following information to answer Questions 9-15

Vassie and Mary attend the same university. Every morning Vassie picks up Mary from her house and drives her to the campus. To let Mary know she has arrived, she toots the car horn from the curb outside her house. Vassie is a very bad driver and narrowly avoids an accident almost every morning. After about two weeks of term, Mary notices that her heart is racing and she feels afraid whenever she hears a car horn sound from the curb outside of her house.

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 9

After week two of term, which nervous system is automatically activated when Mary hears the car horn?

A. the somatic nervous system
B. the sympathetic nervous system
C. the automatic nervous system
D. the motor nervous system

B Mary's increase in heart rate is characteristic of sympathetic nervous system activation.

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 10

After week two of term, the sound of the car horn has become the

A. neutral stimulus.
B. unconditioned stimulus.
C. conditioned stimulus.
D. conditioned response.

C The sound of the car horn was originally a neutral stimulus, however repeated associations between the sound of the car horn and Vassie's dangerous driving (the UCS) has meant that the sound of the car horn has now become a conditioned stimulus, which generates the conditioned response of fear of the sound of a car horn.

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 11

Around this time, Mary notices that her heart starts beating faster anytime she hears the sound of a car horn from the street, even if it isn't from Vassie's car. In this situation, Mary is demonstrating

A. stimulus generalisation.
B. stimulus discrimination.
C. response generalisation.
D. response discrimination.

A When Mary demonstrates a similar conditioned response to a stimulus that is similar to the conditioned stimulus, she demonstrates stimulus generalisation.

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 12

According to Lazarus and Folkman's Transactional Model of Stress and Coping, what is Mary's primary appraisal of the drive to university most likely to be?

A. the drive to university is benign/neutral
B. the drive to university is stressful but presents challenge for growth
C. the drive to university is irrelevant
D. the drive to university is stressful and presents a threat

D Based on the scenario, it is clear that Mary has interpreted the drive to university as relevant, stressful and posing a threat to her safety/wellbeing.

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 13

After week three, Mary tells Vassie that she does not feel safe when she drives her to university and offers to give her driving lessons. In this situation, Mary's coping strategy is best described as

A. problem focussed.
B. emotion focused.
C. an avoidance strategy.
D. repression.

A This a problem focused coping strategy as it deals directly with the stressor.

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 14

After the driving lessons, Vassie's driving dramatically improves and she drives safely to university every morning. After a few weeks of having Vassie drive her safely to university, Mary notices that her heart no longer races when she hears the car horn sound out the front of her house. In this situation, the conditioned response has become extinguished because of

A. repeated presentations of the sound of the horn without the presence of the conditioned stimulus.
B. repeated presentations of the sound of the horn without the presence of the unconditioned stimulus.
C. repeated presentations of the sound of the horn without the presence of the conditioned response.
D. repeated presentations of the sound of the horn without the presence of the unconditioned response.

B Extinction in classical conditioning occurs after repeated presentations of the once CS (sound of the car horn) without the UCS (dangerous driving) until the CR (fear of the sound of the horn) is no longer demonstrated.

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 15

The change in Mary's response to the sound of the horn also indicates that Mary has engaged in a process of

A. reuptake.
B. resistance.
C. repression.
D. reappraisal.

D Mary's change in response to the sound of the car horn indicates she has reappraised the drive to university from stressful and threatening to benign/positive or neutral.

Use the following information to answer Questions 16-22.

Gordon, Nicole and Esmé were sitting in their house when their town was hit by a large earthquake. The earthquake had a major toll, both in terms of lives and damage to infrastructure. Luckily, Gordon, Nicole and Esmé survived, but 24 hours later, they are all dealing with the incident in different ways. Gordon has started to drink alcohol heavily and his blood alcohol concentration (BAC) is now 0.10%, Nicole has not slept in 24 hours, while Esmé has more coffee than usual after waking up in the morning (three cups) but otherwise remained reasonably calm, given the circumstances.

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 16

Immediately as the earthquake hit, Nicole felt overwhelmed with fear and found it difficult to move. In this freeze response, which nervous system was dominant?

A. the somatic nervous system
B. the sympathetic nervous system
C. the automatic nervous system
D. the motor nervous system

B The sympathetic nervous system is responsible for the activation of the fight/flight/freeze response.

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

Question 17

Which of the following terms bests describes the stressor of an earthquake?

A. eustress
B. acculturative stress
C. daily pressure
D. catastrophe

D The earthquake is best described as a catastrophe as it is an unpredictable event that suddenly causes major stress for a whole community.

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

Question 18

Nicole's lack of sleep after the incident is most likely to be because

A. she is old and does not require sleep.
B. of the abundance of adrenaline and cortisol in her system, making it hard to fall asleep.
C. of insufficient exercise during the day.
D. of the abundance of melatonin in her system, making it hard to fall asleep.

B Stress hormones such as adrenaline and cortisol have the role of activating the body and make it more difficult to fall asleep.

the effects of partial sleep deprivation (inadequate sleep either in quantity or quality) on a person's affective (amplified emotional responses) behavioural and cognitive functioning

Question 19

After 24 hours of wakefulness, Nicole is experiencing

A. markedly more difficulty completing complex tasks.
B. markedly more difficulty completing simple tasks.
C. a greater ability to concentrate than she normally would.
D. no noticeable changes from her normal functioning.

B Research indicates that it is more difficult to complete simple tasks than complex tasks when sleep deprived.

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 20

As the caffeine in coffee is a stimulant, what changes are likely to occur to the brainwave patterns of Esmé after she drinks coffee?

A. the amplitude of her brain waves would decrease while the frequency of her brainwaves would increase
B. the amplitude of her brain waves would increase and the frequency of her brainwaves would increase
C. the amplitude of her brain waves would decrease and the frequency of her brainwaves would decrease
D. the amplitude of her brain waves would increase while the frequency of her brainwaves would decrease

A Stimulants are associated with mental states of increased concentration and focus, which in turn is associated with brainwaves of lower amplitudes and higher frequencies.

the effects on consciousness (cognition, concentration and mood) of one night of full sleep deprivation as a comparison with effects of legal blood-alcohol concentrations.

Question 21

Gordon and Nicole both attempt to fill out a lengthy insurance claim form for their house. Given the extent of Gordon's BAC and Nicole's fatigue, it is likely that

A. Gordon will have more difficulty filling out the form than Nicole.
B. Nicole will have more difficulty filling out the form than Gordon.
C. Gordon and Nicole will be roughly equal in their ability to fill out the form.
D. Gordon and Nicole will both find filling out the form easier than when in sober and well slept.

C Research by Drew Dawson and Kathryn Reid (1997) indicates that the performance of an individual with a BAC of 0.10% was equivalent to that of an individual following 24 hours of sustained wakefulness.

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 22

In terms of states of consciousness, it is likely that

A. Gordon, Nicole and Esmé are all in an altered state of consciousness.
B. Gordon is in an altered state of consciousness, whereas Nicole and Esmé are in normal waking consciousness.
C. Nicole is an altered state of consciousness, whereas Gordon and Esmé are in normal waking consciousness.
D. Gordon and Nicole are in an altered state of consciousness, whereas Esmé is in normal waking consciousness.

D Gordon is in an alcohol induced altered state of consciousness and Nicole is in an altered state of consciousness based on her sustained wakefulness, whereas Esmé is demonstrating normal waking consciousness.

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

Question 23

Which of the following statements is a limitation of the restorative theory of sleep?

A. sleep makes us vulnerable to some predators
B. people who have been inactive during the day require just as much sleep as those who have had reasonably active days
C. sleep is essential for memory consolidation
D. different animals have different patterns of sleep

B The restorative theory of sleep is limited in its ability to explain why sleep is required even if minimal energy has been expended during the day.

Use the following information to answer Questions 24-26.

Principal Incandenza wants to compare the performance of two Year 9 history classes at his school. Both classes are taught by the same teacher, Ms Avril. He tests both classes on a Friday afternoon, and to avoid any possibility of cheating, he gives Class 1 a multiple-choice test of historical concepts and Class 2 a short answer test of the same historical concepts. He then compares their results.

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

Question 24

Class 1 are given a test of _____, whereas Class 2 are given a test of _____.

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

C Recognition involves choosing the correct answer from incorrect alternatives (such as a multiple-choice test) whereas recall involves retrieving information with minimal retrieval cues (such as a short answer test).

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

Question 25

It is likely that the students in Class 1 have an advantage because the method by which they are tested

A. provides them with more retrieval cues than Class 2.
B. provides them with easier consolidation of the information than Class 2.
C. allows for less decay than Class 2.
D. makes it easier to encode the information than Class 2.

A Recognition tasks (such as a multiple-choice test) provide more retrieval cues than recognition tasks (such as a short answer test).

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 26

After the test, Principal Incandenza concludes that Class 1 is better at history, but Ms Avril complains that his conclusion is not valid because of a confounding variable brought about by

A. experimenter bias.
B. environmental differences.
C. non-standardised procedures.
D. violation of ethical guidelines.

C As the tests used to measure performance in history are different, it is impossible to draw a meaningful conclusion as to the relative performance of the two classes. Any difference in performance is conceivably due to the relative difficulty of the test.

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

Question 27

One similarity between sensory memory and long-term memory is that

A. both memory stores can hold around 5-9 pieces of information.
B. both memory stores have an unlimited duration.
C. both memory stores have a limited duration and capacity.
D. both memory stores function outside of conscious awareness.

D Both sensory memory and long-term memory function outside of conscious awareness.

the multi-store model of memory (Atkinson-Shiffrin) with reference to the function, capacity and duration of sensory short-term and long-term memory	**Question 28** The functional duration of short-term memory can be enhanced through the process of A. chunking. B. maintenance rehearsal. C. elaborative rehearsal. D. visual encoding.	*B Maintenance rehearsal functionally allows more information to be held for a longer time in short-term memory by refreshing the duration of the memory trace each time the information is repeated.*

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 29** When a neurotransmitter has an excitatory effect on the post synaptic neuron, the post synaptic neuron is A. more likely to supress the release of neurotransmitter. B. more likely to generate an action potential. C. more likely to supress an action potential. D. less likely to generate an action potential.	*B When a neurotransmitter has an excitatory effect on a post synaptic neuron it makes that neuron more likely to generate an action potential ("fire").*

Use the following information to answer Questions 30-32.

One Saturday afternoon Lou takes his wife Maureen to an amusement park where they first met. When they first walk through the gates, Lou started to remember many details about their first encounter that he had not thought of in some time.

When they ride a roller coaster, both Lou and Maureen get a bit scared when the roller coaster speeds up through the big dips. When they get off the ride, Maureen comments to Lou that she was thinking about a vivid memory she has from a time she was attacked by a stray dog.

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect	**Question 30** For Lou, walking gates of the amusement park acted as A. a state dependent cue. B. a context dependent cue. C. relearning. D. an elaborative cue.	*B The environment of being at the amusement park has prompted Lou's memory of events that were formed in the same context, acting as a context dependent retrieval cue.*

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect	**Question 31** Which of the following prompted Maureen's memory of being attacked by a dog? A. the roller coaster B. the amusement park C. the feeling of fear D. the feeling of excitement	*C The feeling of fear acts as a state dependent retrieval cue for Maureen, as it prompts other memories that were formed when in a similar mental state.*

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 32

Which of the following was important for the formation of Maureen's memory of the dog attack?

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

B Adrenaline plays a significant role in the consolidation of emotionally arousing experiences (such as being attacked by a dog).

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

Question 33

An electro-oculograph (EOG) detects, amplifies and records

A. eye movements.
B. brain waves.
C. the electrical activity of the muscles in the eye.
D. the electrical activity of the muscles that control eye movement.

D The EOG detects, amplifies and records the electrical activity of the muscles that control eye movement. This allows inferences to be drawn about eye movement.

Use the following information to answer Questions 34-36.

Marcel and Albert are in a car accident and both sustain a blow to the head. In the hospital, the two friends undergo scans that indicate damage to different areas of their brains. Marcel's scans indicate damage to his hippocampus and Albert's scans indicate damage to his amygdala. Following these scans, further tests are performed to establish how their functioning has been affected by their respective injuries.

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 34

Follow up tests on Marcel are likely to indicate that he

A. generally shows little cognitive impairment but finds it difficult to remember what age he is.
B. generally shows little cognitive impairment but finds it difficult to learn new facts, such as the name of his doctors.
C. generally shows little cognitive impairment and can learn new information without difficulty but finds it difficult to learn to fear new experiences that have caused him harm.
D. shows considerable impairment to his ability to hold information in his short-term memory.

B Damage to the hippocampus leads to an impaired ability to consolidate new declarative long-term memory.

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

Question 35

Follow up tests on Albert are likely to indicate that he

A. generally shows little cognitive impairment but finds it difficult to remember what age he is.
B. generally shows little cognitive impairment but finds it difficult to learn new facts, such as the name of his doctors.
C. generally shows little cognitive impairment and can learn new information without difficulty but finds it difficult to learn to fear new experiences that have caused him harm.
D. shows considerable impairment to his ability to hold information in his short-term memory.

C Damage to the amygdala leads to an impaired ability to consolidate the implicit emotional tone of a new declarative memory, particularly fear.

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 36

Follow up tests on Marcel and Albert revealed that they both

A. demonstrated no change to their ability to learn new motor skills.
B. demonstrated no change to their ability to learn the lyrics to a song they had never previously heard.
C. demonstrated significant changes to the capacity of their long-term memory stores.
D. demonstrated significant changes to the duration of their long-term memory stores.

A The consolidation of procedural memory related to motor skills is a function of the cerebellum, which was unaffected by the car crash for both Marcel and Albert.

Use the following information to answer Questions 37-39.

One year ago, Tyson was made redundant and has been unemployed since this time. He has also recently divorced his wife and had a series of arguments with his neighbour. Tyson has started drinking alcohol heavily to help deal with the stress he is under. Nevertheless, he has a supportive group of friends that he knows he can turn to when he needs assistance.

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

Question 37

Tyson's experience of long-term unemployment has given him a reduced sense of self-efficacy. Self-efficacy is best described as

A. the belief in your own personal worth.
B. the belief in your core personal values.
C. the belief in your personal abilities to meet a challenge.
D. the rumination on your own weaknesses.

C Self-efficacy describes the belief that that you are able to succeed at a certain task, not to be confused with self-esteem, which is a belief in your personal worth.

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

Question 38

In terms of Tyson's mental health, his heavy drinking is an example of which of the following factors?

A. a predisposing factor
B. a protective factor
C. a perpetuating factor
D. a perpetrating factor

C Excessive alcohol consumption is an avoidance coping strategy that is likely to inhibit his recovery from the stressors that he is facing.

the concept of cumulative risk.

Question 39

The cumulative risk that Tyson is exposed to

A. will guarantee that Tyson will develop a mental health disorder.
B. would be insufficient for Tyson to develop a mental health disorder.
C. may be somewhat exacerbated by the social support he receives from his friends.
D. may be somewhat mitigated by the social support he receives from his friends.

D Although Tyson has had a series of stressors to deal with that have generated considerable cumulative risk of developing a mental health disorder, these factors alone do not guarantee that he will develop a mental illness and the social support he receives acts as a protective factor for his mental health.

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 40

Controlled processes

A. require selective attention.
B. allow divided attention.
C. require divided attention.
D. require selective and divided attention.

A Controlled processes require selective attention and cannot be completed when dividing attention.

Use the following information to answer Questions 41-45.

The following table represents the data gathered from an independent-groups designed experiment on stress reduction techniques. There were three groups in this experiment. Group 1 completed regular exercise over six months, Group 2 completed regular meditation over six months, and Group 3 acted as a control group.

The dependent variable in this experiment was change in self-reported stress levels, expressed as a rating from 0 (indicating no stress) to 10 (indicating a very high level of stress) over the six month period.

Group 1	Group 2	Group 3
-3	-2	-1
-2	-3	-1
-3	-2	-1
-2	-9	-2
-4	-4	0
-2	-5	-2
-2	-3	0
-2	-2	-1
-3	-5	0
-4	-4	0

methods of organising, analysing and evaluating primary data to identify patterns and relationships including sources of error and limitations of data and methodologies

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 41

Which group had the highest standard deviation?

A. the group who completed regular exercise
B. the group who completed regular meditation
C. the group who acted as a control group
D. the standard deviation of group results cannot be calculated based on the available data

B Group 2 (who completed regular meditation) has the highest standard deviation, which is evident from the relatively lager spread of results in its data set compared to Groups 1 and 3.

methods of organising, analysing and evaluating primary data to identify patterns and relationships including sources of error and limitations of data and methodologies

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 42

Which measure of central tendency would be the most valid indicator of the typical results of the group who completed regular meditation?

A. the mean
B. the mode
C. the median
D. the range

C The median would provide the most accurate measure of central tendency for this data set as it is not as affected by the outlier (-9) compared to the mean.

evaluate investigative procedures and possible sources of bias, and suggest improvements, with reference to identification of potential extraneous and confounding variables including individual participant differences, non-standardised instructions and procedures, order effects, experimenter effect and placebo effects

Question 43

What is a likely reason for the change in stress levels reported by some participants from the control group?

A. the double blind procedure
B. the difference in treatments administered to the three groups
C. individual participant differences between the initial test and the follow up test six months later
D. the placebo effect

D The placebo effect occurs when participants change their performance based on the expectation of a treatment as opposed to an actual treatment. It is a likely reason for a decrease in stress reported by members of the control group, despite no active treatment being administered to them across the duration of the experiment.

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 44

What is one limitation of using a self-report measure?

A. self-report data produces data that reflects the personal experience of a participant
B. self-report data is prone to bias
C. self-report data is difficult to collect
D. self-report data is difficult to track over time

B Because of the subjective nature of self-report data collection, it is prone to bias. This is particularly the case when participants are aware of the expectations of the experimenter, or are aware of a socially desirable way of responding to the measure.

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 45

Which of the following best describes the type of data collected?

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

C This experiment used data that was subjective (measured through a self-report of stress levels) and quantitative (numerical information collected through the response to a Likert scale).

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 46

Martine has a BAC of 0.00 and Philip has a BAC of 0.10. Martine's will have _____ content limitations and _____ self-control than Philip.

A. less; less
B. more; less
C. more; more
D. less; more

C Martine is in normal waking consciousness and therefore has greater ability to control the content of her consciousness and own behaviour than Philip, who is in an altered state of consciousness.

Use the following information to answer Questions 47-50.

Consider the sleeping patterns of the following people:

Percy is 2 months old, Dianna is 17 years old, Otis is 47 years old and Roberta is 80 years old.

the differences in sleep across the lifespan and how these can be explained with reference to the total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM).

Question 47

The person who has the greatest proportion of their sleep spent in rapid eye movement sleep is _____.

A. Percy
B. Dianna
C. Otis
D. Roberta

A Newborn babies spend roughly 50% of sleep in REM sleep.

the differences in sleep across the lifespan and how these can be explained with reference to the total amount of sleep and changes in a typical pattern of sleep (proportion of REM and NREM).

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 48

_____ is likely to experience a delayed release in melatonin compared to the rest of the family.

A. Percy
B. Dianna
C. Otis
D. Roberta

B *As Dianna is in adolescence, she is likely to experience a sleep wake cycle shift, brought about by a delay in the release of melatonin.*

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

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 49

Over the course of a night, how many ultradian rhythms of NREM and REM sleep is Otis likely to have?

A. 2-3
B. 4-5
C. 6-7
D. 8-9

B *The typical adult sleep pattern contains about five cycles of NREM and REM sleep.*

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 50

Otis snores at night and his doctor suspects that his snoring could be affecting the quality of his REM sleep. Which of the following techniques would be most accurate in determining the proportion of REM sleep that Otis experiences over the course of a night?

A. a sleep dairy
B. video monitoring
C. an electroencephalograph (EEG)
D. a heart rate monitor (ECG)

C *An EEG machine would be able to indicate when the brainwaves associated with REM sleep are experienced by Otis. While the other options could be useful in the investigation of REM sleep patterns, they would not provide data that was as accurate as the EEG.*

Part B: Short answer and extended response

VCAA Key Knowledge	Question	Answer guide

Vivian is having dinner with her elderly grandparents. Her grandmother is in the early stages of Alzheimer's disease, but her grandfather has no condition affecting his memory.

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 1a** (2 marks) What are two likely neurological differences between the brains of Vivian's grandmother and grandfather?	**Answer:** • *Vivian's grandmother would have widespread degeneration of her brain's neurons, whereas her grandfather would have not lost significant amounts of neural tissue.* • *Vivian's grandmother's brain would have the presence of amyloid plaques, while her grandfather's brain would not.* • *Vivian's grandmother's brain would have the presence of neurofibrillary tangles (an abnormal build-up of protein inside neurons), while her grandfather's brain would not.* • *Vivian's grandmother's brain may be starting to appear "rusted," while her grandfather's brain would not.* • *Vivian's grandmother's brain may have reduced levels of the neurotransmitter acetylcholine, while her grandfather's brain would not.* • *Any other reasonable difference with a comparison between the two grandparents.* **Marking protocol:** One mark for any of the above points, to a maximum of two. Each point must include a comparison between Vivian's two grandparents.

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 1b** (3 marks) Vivian asks her grandfather to describe his first-grade teacher to her. He says that he cannot remember her name, but that she was very strict. However, later that evening, Vivian's grandfather finds a class photo of his first-grade class, and to his surprise, the teacher was actually a man. How might the work of Elizabeth Loftus help to explain the error that Vivian's grandfather made in his recollection of his first-grade teacher?	**Answer:** • *Elizabeth Loftus explains that memory is fallible and reconstructive by nature.* • *It is possible that that Vivian's grandfather received information between his time in first-grade and when he was asked the question by Vivian (in his elderly years) that suggested that his teacher was in fact a woman (such as the stereotype that primary school teachers are more commonly female than male, or a leading question that presupposed that his first-grade teacher was a woman).* • *This information was then incorporated into his long-term memory of his teacher and thus created a false recollection of his teacher as a woman.* **Marking protocol:** One mark for each of the above points. For the second dot point, a plausible example or an explanation can be provided (as to how the memory could have been altered).

Jeremy attends a school with a strict uniform policy. Although he likes to wear his shirt untucked, he always tucks his shirt in as soon as he sees the school principal, to avoid getting a detention. Nevertheless, he does not tuck his shirt in when he sees his physical education teacher.

operant conditioning as a three-phase model (antecedent, behaviour, consequence) involving reinforcers (positive and negative) and punishment (including response cost) that can be used to change voluntary behaviours, including stimulus generalisation, stimulus discrimination and spontaneous recovery (excluding schedules of reinforcement)	**Question 2a** (5 marks) Using the language of operant conditioning, explain Jeremy's shirt tucking behaviour and why it changes depending on whether he sees his principal or physical education teacher.	**Answer:** • *When Jeremy tucks his shirt in, the antecedent is seeing his principal.* • *The behaviour is tucking in his shirt.* • *The consequence is to be negatively reinforced, by avoiding punishment for violating the school uniform policy.* • *However, when Jeremy sees his physical education teacher, he uses stimulus discrimination and does not tuck his shirt in.* • *This is most likely because Jeremy does not expect that the physical education teacher will punish him for having an untucked shirt.* **Marking protocol:** One mark for each of the above points.

observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement	**Question 2b** (5 marks) Jeremy has a younger brother named Gerald. When Gerald attends school, he also wears his shirt untucked, following the example of Jeremy. When Jeremy notices Gerald with his shirt untucked, he tells him that he looks cool. Using the language of observational learning, explain why Gerald may also be wearing his shirt untucked.	**Answer:** • *Attention: Gerald must have paid attention to Jeremy's (the model) behaviour of wearing his shirt untucked.* • *Retention: Gerald must have remembered (created a mental representation of) the way that Jeremy untucked his school shirt.* • *Reproduction: Gerald must have the ability to demonstrate the behaviour of wearing his own shirt untucked. This may have occurred when he first started at the school and received the uniform.* • *Motivation: Gerald must be motivated to perform the behaviour of wearing his shirt untucked, perhaps for the desire to be seen as cool.* • *Reinforcement: The behaviour of Gerald wearing his shirt untucked may have been reinforced by receiving a compliment (that he looks cool) from Jeremy.* **Marking protocol:** One mark for each of the above points.

Rachel has had a long history of gambling addiction. She has made multiple attempts to give up gambling, but finds that it is very difficult to stop gambling for good.

Three weeks ago, she decided to really try to quit, and sought out the help of a psychologist to help her stop. She has not gambled at all in the past three weeks, but worries that she will not be able to sustain the change to her behaviour in the long term. The psychologist reminds her that in the past, her husband has always been very supportive of her attempts to quit gambling.

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 3a** (1 mark) Describe one quality demonstrated by Rachel that demonstrates resilience.	**Answer:** • *Rachel has been persistent in her attempts to quit gambling (she has made many attempts), despite a lack of success. This demonstrates the ability to recover from adverse situations.* **Marking protocol:** One mark for the above point.

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 3b** (1 mark) Describe one factor mentioned in the scenario that enhances Rachel's resilience.	**Answer:** • *The support of her husband will assist Rachel in positively adapting to any setbacks in the process of quitting her gambling addiction.* **Marking protocol:** One mark for the above point.

models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse.	**Question 3c** (2 marks) What stage of the transtheoretical model of behavioural change is Rachel currently in? Fully justify your response.	**Answer:** • *Rachel is currently in the action stage of the transtheoretical mode of behavioural change.* • *This is because she has recently made a behavioural change (three weeks ago).* • *She is also particularly vulnerable to relapse at this time (and worries that she will not be able to sustain the change long term).* **Marking protocol:** One mark for point one. One mark for either point two or three.

Sid is a 17-year-old student that feels under a lot of pressure to perform well at school. When he starts Year 12, he initially feels overwhelmed by stress, but soon he feels able to cope with the demands of juggling his school work.

Throughout the first part of Term 1, he actually feels like he has more energy than ever and decides to take part in the school play on top of his regular workload. However, two weeks into the play rehearsals, Sid begins to feel very worried again. At this time, he finds it very difficult to fall asleep and is often lying awake in bed for up to two hours past his normal bed time of 11pm. By the end of the term, Sid develops a persistent cold and spends most of his holidays sick in bed.

When Term 2 starts, Sid has a meeting with his year level coordinator who helps him to develop a study plan so that he can keep up to date with the demands of his school work, whilst also fitting in time for cocurricular activities, such as the play. After this, Sid feels much less stress and finds he can cope much better throughout the rest of the year.

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 4a** (4 marks) What stage of Selye's General Adaptation Syndrome is Sid in at the end of Term 1? What is a biological explanation as to why Sid is in this stage at the end of term?	**Answer:** • *At the end of the term, Sid is in the exhaustion phase of the General Adaptation Syndrome.* • *This is because prolonged exposure to stressors (including Year 12 and the school play) has led to prolonged release of cortisol into his bloodstream, in order to maintain a heightened state of arousal to help cope with the stressors.* • *The prolonged presence of cortisol in Sid's bloodstream has suppressed his immune system.* • *This has made him more susceptible to developing a cold, and less able to fight off the symptoms.* **Marking protocol:** One mark for each of the above points.

the distinction between dyssomnias (including sleep-onset insomnia) and parasomnias (sleep walking) with reference to the effects on a person's sleep-wake cycle	**Question 4b** (1 mark) During Term 1, what sleep disorder does Sid develop?	**Answer:** • *Sid develops sleep-onset insomnia* **Marking protocol:** One mark for the above point.

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 4c** (3 marks) Describe how cognitive behavioural therapy (CBT) could be used as an intervention to help Sid correct his sleeping habits.	**Answer:** • *Cognitive behavioural therapy uses a combination of therapies designed to correct maladaptive cognitions (thoughts, beliefs and fears) as well as use behavioural techniques correct maladaptive actions that impair Sid's sleep.* • *One example of a cognitive approach that could be useful in managing sleep-onset insomnia could include identifying, challenging and changing dysfunctional thought patterns around sleep. (For example, challenging the incorrect belief that "I will not learn a thing tomorrow if I don't sleep tonight")* • *One example of a behavioural approach that could be useful in managing sleep-onset insomnia could include* - *sleep hygiene training, OR* - *using relaxation training, OR* - *stimulus control, OR* - *sleep restriction OR* - *any other behavioural technique* **Marking protocol:** One mark for each of the above points: One mark for a global statement regarding the use of CBT in helping Sid's sleep. One mark for naming an appropriate cognitive approach for Sid. One mark for naming an appropriate behavioural approach for Sid.

context-specific effectiveness, coping flexibility and use of particular strategies (exercise and approach and avoidance strategies) for coping with stress.	**Question 4d** (2 marks) What type of coping strategy does Sid use when he develops a study plan? Justify your response.	**Answer:** • *An approach strategy OR a problem focused coping strategy.* • *This is because the study plan allows Sid to directly confront the source of his stress; the workload of Year 12.* **Marking protocol:** One mark for each of the above points.

models of stress as a psychological process, with reference to Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping (stages of primary and secondary appraisal)	**Question 4e** (2 marks) According to Lazarus and Folkman's Transactional Model of Stress and Coping, what process has allowed Sid to feel less stress in Term 2 compared to what he experienced in Term 1?	**Answer:** • *Sid has engaged in a process of reappraisal of the stressor of Year 12.* • *He no longer appraises Year 12 as being as stressful as he originally interpreted it to be in Term 1.* **Marking protocol:** One mark for each of the above points.

Professor Nguyen is interested in studying the factors that influence memory recall, aiming to enhance the memory of the students that she works with at a Victorian university. She places an advertisement for the experiment in the student newsletter and gathers 100 volunteer participants. Then, by flipping a coin, she allocates them into either Group A (immediate recall condition) or Group B (delayed recall condition).

All participants are presented with a sequence of 15 words sequentially on a PowerPoint presentation. Each word is displayed individually for one second. Following the presentation of the words, the participants in Group A are immediately asked to write as many of the words down as they can remember, in any order. The participants in Group B are asked to wait for two minutes in silence, before being asked to recall the word list in any order.

Below are the results from Group A and Group B.

Presentation order	Word	% recalled by group A	% recalled by group B
1	Snail	100	95
2	Bike	90	93
3	Couch	88	90
4	Tap	76	80
5	Shelf	65	63
6	Candle	57	55
7	Magazine	30	35
8	Bed	20	18
9	Mirror	15	10
10	Cat	83	88
11	Mat	82	85
12	Tree	40	11
13	Foot	68	14
14	Camera	89	12
15	Book	98	11
Average percent of words recognised		66.73%	50.66%

generalisability of statistics from samples to the populations from which the sample was derived

Question 5a (2 marks)
Name the sampling technique used by Professor Nguyen and explain one implication of the use of this technique for the validity of the data collected through this experiment.

Answer:

- *The sampling technique used by Professor Nguyen was convenience sampling.*
- *Convenience sampling is likely to produce a sample which is biased, and thus the results cannot be validly generalised to the population.*

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 *evaluate investigative procedures and possible sources of bias, and suggest improvements, with reference to identification of potential extraneous and confounding variables including individual participant differences, non-standardised instructions and procedures, order effects, experimenter effect and placebo effects*	**Question 5b** (2 marks) Name the experimental design used by Professor Nguyen and explain one extraneous variable that the results of the experiment may be affected by as a result of using this experimental design.	**Answer:** • *The experimental design used by Professor Nguyen was independent groups.* • *The use of independent groups means that Professor Nguyen's results may be affected by factors related to individual participant differences between the two groups of the experiment.* **Marking protocol:** One mark for each of the above points.

independent and dependent variables and operationalisation of variables	**Question 5c** (2 marks) What was the operationalised independent variable of Professor Nguyen's experiment?	**Answer:** • *The independent variable was the time gap between being presented with the words and being asked to recall them,* • *operationalised as no time gap or a delay of two minutes.* **Marking protocol:** One mark for each of the above points. Note that if only the independent variable is only expressed in operationalised terminology, two marks should still be awarded.

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect	**Question 5d** (3 marks) In terms of the trend of the data, what aspects of Group A's results are consistent with the serial position effect, what aspects are different?	**Answer:** • *Consistent with the typical serial position effect trend, the data set displays a primacy effect, evident in the superior recall of the first five words, relative to the middle of the list.* • *Also consistent with the serial position effect trend is the superior recall of the last few words.* • *The superior recognition of words 10 and 11 (Cat and Mat) is inconsistent with the serial recall effect.* **Marking protocol:** One mark for each of the above points.

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect	**Question 5e** (3 marks) Explain the likely reason why Group A displayed results that are inconsistent with the typical trend of the serial position effect.	**Answer:** • *Words 10 and 11 Rhyme (Cat and Mat)* • *The rhyme between these words makes them easily elaboratively rehearsed and stored in long-term memory.* • *The rhyme between these words means that they become retrieval cues for each other in this list. (i.e., seeing the word Cat will remind participants of the word Mat)* **Marking protocol:** One mark for each of the above points.

the factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect	**Question 5f** (2 marks) With reference to the Atkinson-Shiffrin multi-store model of memory, explain the likely reason why Group B recognised fewer words on average than Group A.	**Answer:** • *Group B had sufficient time to rehearse and encode the initial words into their long-term memories but not the words presented later in the list.* • *The delay of two minutes prior to recall was longer than the duration of short-term memory, and thus the items at the end of the list were not in the participants' short-term memory or long-term memory systems, impeding the ability to recall these words relative to Group A, who did not have the delay.* **Marking protocol:** One mark for each of the above points.

Ellis has just taken a job working night shifts at as a taxi driver. To compensate for the loss of sleep at night, he attempts to sleep through the day time. He has found it very difficult to fall asleep during the day time and consulted a doctor for assistance. The doctor informed Ellis that he has developed a circadian phase disorder.

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 6a** (4 marks) What is a circadian phase disorder, and what are three common symptoms of this condition?	**Answer:** • *A circadian phase disorder is a condition that arises from a misalignment between an individual's internal 24-hour body clock (circadian rhythm) and the 24-hour social and physical environments that the individual finds themselves in.* *Common symptoms of a circadian phase disorder include:* • *difficulty sleeping at the appropriate time* • *insomnia due to misalignment of the circadian rhythm* • *persistent experience of poor quality or insufficient sleep* • *excessive sleepiness due to persistent disruption to sleep quality/duration* • *impairment to social, occupational and/or other areas of functioning due to misalignment of the circadian rhythm* • *Any other appropriate symptom linked to circadian phase disorder* **Marking protocol:** One mark for the first point, and one mark for any of the following points, to a maximum of three.

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 6b** (4 marks) How could bright light therapy be useful in helping Ellis overcome his circadian phase disorder?	**Answer:** • *Exposure to bright light promotes the release of the hormone cortisol.* *OR* • *Exposure to bright light suppresses the hormone melatonin.* • *Cortisol is associated with feeling awake and alert.* *OR* • *Melatonin is associated with drowsiness.* • *Ellis could expose himself to greater quantities of bright light (by using a specialised bright light therapy light) half an hour before a shift.* • *This will help him to entrain (synchronise) his circadian rhythm to keep him alert at night (given his nightshift work) and feel drowsier during the daytime, assisting him to sleep during the day.* **Marking protocol:** One mark for each of the above points.

the 'Little Albert' experiment as illustrating how classical conditioning can be used to condition an emotional response, including ethical implications of the experiment.	**Question 7** (2 marks) Provide two reasons why Watson and Rayner's 'Little Albert' experiment was an example of classical conditioning and not operant conditioning.	**Answer:** • *Little Albert's behaviour of crying was an involuntary response to the conditioned stimulus of the rat.* • *Little Albert was passive in the conditioning process (i.e., he had no role in the presentation of the rat or loud noise).* • *Little Albert's behaviour of crying came after the unconditioned stimulus of the loud noise.* • *The consequences of Little Albert's behaviour of crying were irrelevant to the conditioning process.* • *The acquisition of the behaviour came through the repeated association of two stimuli (the rat and the loud noise) presented closely together.* **Marking protocol:** One mark for any of the above points, to a maximum of two.

Andrew has not always been a very anxious person, but over the last few years, he has found himself becoming increasingly anxious. He now finds his anxiety to be overwhelming. He finds himself constantly ruminating on his thoughts to the point where he finds it hard to concentrate on anything else. This has made it hard for Andrew to hold down a job, and consequently he has been unemployed for over a year. He finds that anxiety also makes it hard for him to make friends and tends to leave his house only when it is absolutely essential. Andrew's doctor suggested that his experience of anxiety is characteristic of a mental disorder, and for the last few months, Andrew has been taking medication to help manage his symptoms. While the medication has provided some relief, Andrew still finds his anxiety to be unbearable.

the distinctions between stress, phobia and anxiety; variation for individuals with stress, phobia and anxiety on a mental health continuum	**Question 8a** (3 marks) What are three important factors that Andrew's doctor would have considered when establishing where his symptoms are placed along the mental health continuum?	**Answer:** • *Andrew's experience of anxiety appears to have caused him significant distress.* • *Andrew's experience of anxiety appears to have caused his life to be dysfunctional.* • *Andrew's experience of anxiety appears to be atypical for him.* • *Andrew's experience of anxiety appears to be severe.* • *Andrew's experience of anxiety appears to be over a substantial duration of time.* **Marking protocol:** One mark for any of the above points, to a maximum of three.

ethical implications in the study of, and research into, mental health, including informed consent and use of placebo treatments.	**Question 8b** (2 marks) At the doctor's office, Andrew notices a flyer advertising a new placebo controlled experiment on anti-anxiety medication. Describe a potential ethical issue that could arise from a patient such as Andrew being involved in this sort of research.	**Answer:** • *Involvement in this sort of research study runs the risk of Andrew being in the placebo condition (who would receive an inert substance instead of an active medication) and having to stop using his current medication.* • *This could potentially mean that Andrew does not have any effective medication for the duration of the experiment, which could worsen his experience of anxiety, violating the 'no (psychological) harm' principle.* **Marking protocol:** One mark for each of the above points.

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

Question 9 (10 marks)
Dr Bello is writing a pamphlet to give to her patients on evidence-based interventions for the management of specific phobia.

Discuss three possible intervention strategies that she could write about, and clearly explain how they can assist the management of specific phobia as well as any potential limitations of the strategies.

Answer:

Dr Bello could include information on any of the following factors:

The use of short acting anti-anxiety benzodiazepine agents.

In some cases, a class of medication known as benzodiazepines can be useful in reducing the experience of anxiety. Benzodiazepines act as a GABA agonist, increasing the level of neural inhibition in the brain. The overall effect of this medication is to calm down the nervous system and promote relaxation.

Benzodiazepines can be effective for individuals with a specific phobia, to be used when they cannot avoid contact with the phobic stimulus. For example, a person who has a phobia of flying may take a benzodiazepine prior to boarding a flight that they are compelled to take.

Nevertheless, they can have unwanted side effects, such as reducing concentration levels and drowsiness. Furthermore, they are addictive substances. They do not treat the underlying cause of the phobia, but may be useful in the alleviation of symptoms in the short term.

The use of relaxation techniques.

The experience of phobia is commonly associated with symptoms of abnormal breathing patterns, such as hyperventilation and tachypnoea when in contact with the phobic stimulus.

A common relaxion technique is breathing retraining, which directly combats these abnormal breathing symptoms by correcting breathing patterns to a more relaxed rate when in contact with the phobic stimulus.

Breathing retraining could take the form of a slow breathing technique involving a slow inhalation (over a 3-4 second period), then briefly holding the breath before a slow exhalation (over a 3-4 second period). Slowing the rate of respiration has the added benefit of promoting parasympathetic nervous system activity (lowering our level of arousal) and increasing the threshold of the onset of a panic attack.

Despite these benefits, breathing retraining in and of itself does not address the underlying cause of a specific phobia. However, it can be very useful when combined with behavioural therapy designed to extinguish a phobic response.

Another helpful activity to promote relaxation is exercise. Exercise involves completing physical activity and it can have useful therapeutic value by promoting relaxation and distracting individuals from the stimulus that makes them anxious. Exercise also promotes the release of mood enhancing beta-endorphins in the brain, leading to an enhanced sense of wellbeing.

While exercise has general benefits for reducing anxiety, there is little substantial evidence linking an increase in exercise to a reduction in the experience of a specific phobia.

Cognitive behavioural therapy.

Cognitive behavioural therapy (CBT) takes a direct approach to identifying and extinguishing the inappropriate and dysfunctional thoughts and behaviours associated with the specific phobia.

The cognitive aspect of the therapy focuses on addressing the underlying thoughts behind the phobia. In particular, working to identify and correct the cognitive biases that cause the individual to overestimate the threat of the phobic stimulus.

The behavioural aspect of the therapy involves retraining the learned responses to the phobic stimulus to be more adaptive. A common technique used is known as systematic desensitisation. In systematic desensitisation, the client begins by learning a relaxation technique (such as slow breathing technique), to gain control over their physiological responses to fear and promote relaxation. They then create a hierarchy of their fear, from the least scary aspect of their phobic stimulus to the scariest aspect of their phobic stimulus. The client then practices the relaxation technique whilst being exposed to the first (and least scary) level of their fear hierarchy. Once they can be exposed to this level of their fear without experiencing a phobic response, they then graduate to the next most scary level of their fear. This procedure continues until such time that the individual can be exposed to the highest level of the fear hierarchy without demonstrating a phobic response. At which stage the phobia has been extinguished.

Cognitive behavioural therapy is an effective treatment for phobia but can be confronting and challenging for the individuals undergoing the treatment. It requires careful supervision to ensure that a client does not experience an adverse reaction (such as a panic attack) whilst completing the therapy, so as not to reinforce the phobia.

Psychoeducation for families and supporters.

Social support is helpful in assisting those attempting to overcome a specific phobia. Psychoeducation seeks to provide relevant information to supporters of people with a specific phobia regarding the nature of the mental disorder and its treatment.

As a part of psychoeducation on phobia, it is likely that families and supporters will be encouraged to challenge the unrealistic or anxious thoughts of the individual with the specific phobia. This helps the individual to overcome their cognitive biases about the phobic stimulus and see things from a more objective point of view.

Also, families and supporters will most likely be told that they should not encourage avoidance behaviours from the individual who is experiencing the phobia. Avoiding the phobic stimulus effectively negatively reinforces the phobia.

Friends and supporters can be crucial in providing a caring environment for people to confront their phobic stimulus in. This does not mean that they should force the individual to confront their fear, but to calmly and gently encourage the phobic individual not to avoid their fear.

Psychoeducation for families and friends is a helpful, but non-essential intervention for specific phobia.

Psychoeducation may not reduce a person's experience of specific phobia, but can help to provide a more supportive environment for that person to work through their experience of phobia in.

Marking protocol:

This question is marked in a holistically out of a total 10 marks. Above is an example of a response that would achieve 10 marks.

Outstanding responses will

- describe three different intervention strategies for specific phobia in detail.
- Explain each intervention strategy in detail.
- Suggest how each intervention strategy could be of benefit to a person experiencing a specific phobia.
- Suggest any possible limitations of each intervention strategy.
- write coherently and fluently using appropriate psychological terminology.
- Draw on their knowledge of Unit 4 Area of Study 2 and connect this knowledge to other relevant parts of the VCE Psychology study design.

In terms of the criteria outlined in the 2017-2021 VCE Psychology Exam Specifications, a 10-mark answer would:

• identification and explanation of formal psychological terminology relevant to the question

Explicitly name three different interventions for specific phobia. Provide detailed explanations of these interventions. Demonstrate a rich understanding of the VCE study design, and the way in which these interventions apply components of content covered in other areas of study to the management of specific phobia.

• use of appropriate psychology terminology

Explicitly name key terms from Unit 4 Area of Study 2 and any other relevant terms related to this question.

• discussion of relevant psychological information, ideas, concepts, theories and/or models and the connections between them

Relate and link the explanation of the interventions to relevant psychological theories. For example, explaining how benzodiazepines work as GABA agonists, how relaxation techniques work in terms of the nervous system, how CBT draws on conditioning theory, how encouraging people to not avoid their phobic stimulus prevents them from negatively reinforcing the phobia etc.

• analysis and evaluation of data, methods and scientific models; drawing of evidence-based conclusions and explanation of limitations of conclusions

Explain the strengths and limitations of the various interventions selected.

psyched

VCE PSYCHOLOGY
Written Examination
ANSWER SHEET – 2018

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					