

## Psychology Assessment Guide 2017

### Section A

#### VCAA Key Knowledge

#### Question

#### Answer guide

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

##### Question 1

Tony picks up a cup of coffee, but decides it is too hot to hold comfortably. He carefully places it back down onto the table. Use the following options to best describe the coordination of the divisions of Tony's nervous system.

Heat from the cup is detected by sensory receptors in Tony's fingers, which is part of the \_\_\_\_\_ nervous system. Sensory signals are sent to the \_\_\_\_\_ nervous system for processing, where Tony decides that the cup is too hot to hold comfortably. Motor information is then sent from the \_\_\_\_\_ nervous system to the skeletal muscles, via the \_\_\_\_\_ nervous system, to put the cup down.

- A. somatic; central; central; somatic
- B. autonomic; central; central; autonomic
- C. central; peripheral; peripheral; central
- D. somatic; peripheral; peripheral; somatic

**A** *Heat from the cup is detected by sensory receptors in Tony's fingers, which is part of the somatic nervous system. Sensory signals are sent to the central nervous system for processing, where Tony decides that the cup is too hot to hold comfortably. Motor information is then sent from the central nervous system to the skeletal muscles, via the somatic nervous system, to put the cup down.*

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

##### Question 2

Tegan accidentally touched a hot pot on the stove. Her hand immediately withdrew from the hot pot. The hand-withdrawal reflex is a

- A. conscious response.
- B. unconscious response.
- C. controlled response.
- D. voluntary response.

**B** *Spinal reflexes are unconscious responses because they occur independent of the brain's awareness.*

*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

What are the differences between an axon and a dendrite of a neuron?

- A. axons receive information from other neurons and there are often multiple axons for each neuron, whereas dendrites transmit information to other neurons and there is often only one dendrite for each neuron.
- B. axons transmit information to other neurons and there are often multiple axons for each neuron, whereas dendrites receive information from other neurons and there is often only one dendrite for each neuron.
- C. axons receive information from other neurons and there is often only one axon for each neuron, whereas dendrites transmit information to other neurons and there are often multiple dendrites for each neuron.
- D. axons transmit information to other neurons and there is often only one axon for each neuron, whereas dendrites receive information from other neurons and there are often multiple dendrites for each neuron.

**D** *Axons send information away from the cell body, and dendrites receive information from other neurons.*

*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 4

In the lock and key analogy, \_\_\_\_\_ are the lock and \_\_\_\_\_ are the key.

- A. neurotransmitters; receptor sites on the dendrite
- B. neurotransmitters; receptor sites on the axon
- C. receptor sites on the dendrite; neurotransmitters
- D. receptor sites on the axon; neurotransmitters

**C** *Neurotransmitters are the keys that unlock the receptor sites on the dendrite.*

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

### Question 5

To demonstrate the existence of explicit memory, a \_\_\_\_\_ task could be used, whereas to demonstrate the existence of implicit memory, a \_\_\_\_\_ task could be used.

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

**B** *Recall and recognition are measures of explicit memory, whereas relearning could measure either explicit or implicit memory.*

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

### Question 6

The motor symptoms of Parkinson's Disease are thought to be primarily caused by a lack of

- A. dopamine.
- B. GABA.
- C. acetylcholine.
- D. glutamate.

**A** *The motor symptoms of Parkinson's Disease are thought to be due to a lack of dopamine. A deficit of GABA is thought to be primarily responsible for the early non-motor symptoms of Parkinson's Disease.*

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

### Question 7

What is the difference between random sampling and random allocation?

- A. random sampling involves every member of the sample having an equal chance of being selected for the either the experimental or control group, whereas random allocation involves every member of the population having an equal chance of being selected for the sample
- B. random sampling involves every member of the population having an equal chance of being selected for the sample, whereas random allocation involves every member of the sample having an equal chance of being selected for either the experimental or control group
- C. random sampling involves every member of the sample having an equal chance of being selected for the population, whereas random allocation involves every member of the sample having an equal chance of being selected for either the experimental or control group
- D. random sampling involves every member of the population having an equal chance of being selected for the sample, whereas random allocation involves every member of the experimental or control groups having an equal chance of being selected for the sample

**B** *Remember that sampling takes a subset of the population, whereas allocation distributes that sample into the experimental/control groups.*

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

### Question 8

Which of the following would be considered a circadian rhythm?

- A. sleep cycle
- B. 90-minute cycle of sleep
- C. REM/NREM cycle
- D. sleep-wake cycle

**D** *A circadian rhythm is a biological rhythm that lasts for approximately 24 hours. The 'sleep cycle' alone does not typically last for 24 hours.*

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

### Question 9

In observational learning, the stage of reproduction

- A. requires vicarious reinforcement.
- B. involves trying out the model's behaviour, regardless of ability.
- C. is dependent on having the physical and/or mental ability to perform the model's behaviour.
- D. involves paying attention to the model.

**C** *Reproduction refers to converting a mental representation of a model's behaviour into their own behaviour, contingent on their physical/mental ability to reproduce that behaviour.*

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

### Question 10

Life events could

- A. cause eustress.
- B. cause distress.
- C. cause eustress and/or distress.
- D. never cause stress.

**C** *Life events, such as marriage, could cause eustress and/or, distress.*

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)

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

### Question 11

Crying at the thought of the death of your pet hamster would be considered both

- A. an emotion-focused coping strategy and an approach strategy.
- B. an emotion-focused coping strategy and an avoidance strategy.
- C. a problem-focused coping strategy and an approach strategy.
- D. a problem-focused coping strategy and an avoidance strategy.

**A** An approach strategy involves an orientation towards the stressor. If emotion-focused coping strategies involve an orientation towards the stressor, then this would be considered an approach strategy.

neural plasticity and changes to connections between neurons (including long-term potentiation and long-term depression) as the fundamental mechanisms of memory formation that leads to learning

- the 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 12

Long-term potentiation typically involves

- A. an increase in the amount of neurotransmitter (such as glutamate) released by the pre-synaptic neuron.
- B. an increase in the amount of neurotransmitter (such as GABA) released by the pre-synaptic neuron.
- C. a decrease in the amount of neurotransmitters released by the pre-synaptic neuron.
- D. a decrease in the amount of neurotransmitters released by the post-synaptic neuron.

**A** Neurotransmitters such as glutamate (the brain's major excitatory neurotransmitter) are increasingly released when long term potentiation occurs.

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

### Question 13

Short-term memory has a duration of \_\_\_\_\_ and a capacity of \_\_\_\_\_.

- A. a potentially unlimited time; a potentially unlimited capacity
- B. approximately 0.2-4 seconds; a potentially unlimited capacity
- C. approximately 20 seconds;  $7 \pm 2$  pieces of information
- D.  $7 \pm 2$  pieces of information; approximately 20 seconds

**C** Short term memory has a duration of around 20 seconds and a capacity of 5-9 pieces of information.

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 14

If new information is encoded into short-term memory after the capacity of short-term memory is reached, which of the following processes is most likely to occur?

- A. retrieval
- B. rehearsal
- C. decay
- D. displacement

**D** Displacement is the process of pushing out information in short term memory due to reaching its capacity.

Use the following information to answer Questions 15-21.

Chemotherapy, the use of anti-cancer drugs to kill cancer cells, can have several side-effects, including nausea and vomiting. Over the past two weeks, Jill has eaten broccoli to boost her nutritional intake while receiving chemotherapy. Jill now dislikes the taste of broccoli, and feels nauseated even when she sees broccoli being cooked.

*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 15**

For Jill, the neutral stimulus is

- A. broccoli, which is repeatedly associated with the conditioned stimulus.
- B. broccoli, which is repeatedly associated with the unconditioned stimulus.
- C. chemotherapy drugs, which is repeatedly associated with the conditioned stimulus.
- D. chemotherapy drugs, which is repeatedly associated with the unconditioned stimulus.

**B** *Broccoli is the NS because it did not result in a conditioned response before conditioning. The NS is repeatedly paired with UCS (chemotherapy drugs in this case) for acquisition to occur in classical conditioning.*

*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 16**

The neutral stimulus becomes the conditioned stimulus

- A. before conditioning.
- B. during conditioning.
- C. after conditioning.
- D. when it is repeatedly associated with the conditioned response.

**C** *The NS becomes the CS after conditioning.*

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

**Question 17**

Jill's conditioned response is

- A. salivation.
- B. feeling nauseated.
- C. feeling nauseated at broccoli.
- D. feeling nauseated at chemotherapy drugs.

**C** *The CR is feeling nauseated at broccoli.*

*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 18**

Jill noticed that she began to feel nauseated at the sight of cauliflower, but not carrots. This means that

- A. stimulus discrimination occurred with cauliflower, and stimulus discrimination occurred with carrots.
- B. stimulus generalisation occurred with cauliflower, and stimulus generalisation occurred with carrots.
- C. stimulus discrimination occurred with cauliflower, but stimulus generalisation occurred with carrots.
- D. stimulus generalisation occurred with cauliflower, but stimulus discrimination occurred with carrots.

**D** *Stimulus generalisation occurs when a stimulus other than the original CS (such as cauliflower) also elicits the CR, whereas stimulus discrimination occurs when a stimulus other than the original CS (such as carrots) does not elicit the CR.*

*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 19**

For Jill, the process of extinction could involve

- A. no longer taking chemotherapy drugs alongside broccoli.
- B. refusing to feel nauseated alongside broccoli.
- C. refusing to feel nauseated by the chemotherapy drugs.
- D. no longer eating broccoli.

**A** *The process of extinction involves the CS being presented without the UCS.*

*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 20**

When is it said that extinction has occurred?

- A. when the unconditioned stimulus no longer occurs to the unconditioned response
- B. when the unconditioned response no longer occurs to the unconditioned stimulus
- C. when the conditioned stimulus no longer occurs to the conditioned response
- D. when the conditioned response no longer occurs to the conditioned stimulus

**D** *Extinction has occurred when the CS no longer produces the CR.*

*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 21**

Which of the following would demonstrate spontaneous recovery for Jill?

- A. feeling nauseated at broccoli, after apparent extinction of the conditioned response
- B. feeling nauseated at broccoli, after apparent extinction of the unconditioned response
- C. feeling nauseated at broccoli, after apparent extinction of the conditioned stimulus
- D. feeling nauseated at broccoli, after apparent extinction of the unconditioned stimulus

**A** *Spontaneous recovery involves the CS eliciting the CR, after apparent extinction of the CR.*

*Use the following information to answer Questions 22 – 30.*

Jack is a patient at his local hospital, and is receiving treatment that involves a course of injections.

*mental health as a continuum (mentally healthy, mental health problems, mental disorders) influenced by internal and external factors that can fluctuate over time*

**Question 22**

Jack has developed a persistent, intense and irrational fear of hospitals after repeated visits to the local hospital to have several painful injections. If this specific phobia impairs Jack's ability to function normally, this would indicate that he has

- A. a mental health problem.
- B. a mental disorder.
- C. mental health.
- D. a mental health continuum.

**B** *When a mental state does not allow an individual to function normally, this would be considered a mental disorder.*

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

**Question 23**

Jack has developed a conditioned fear response just like

- A. Little Albert, albeit to a different conditioned stimulus.
- B. Little Albert, to the same conditioned stimulus.
- C. Henry Molaison (H.M.), albeit to a different conditioned stimulus.
- D. Henry Molaison (H.M.), to the same conditioned stimulus.

**A** *Little Albert had a conditioned fear response to white rats.*

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

**Question 24**

When he is at home, Jack often thinks about his past and future visits to the hospital. Jack dwelling on his awful experiences at the hospital, without doing anything to reduce his fear, is known as

- A. catastrophic thinking.
- B. rumination.
- C. poor self-efficacy.
- D. cumulative risk.

**B** *Rumination involves dwelling on negative experiences/thoughts without doing anything about those thoughts.*

*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 25**

Jack's repeated thoughts about the awful experiences at the hospital are likely to be a

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

**C** *Rumination likely perpetuates (inhibits the recovery of) the phobia she has of hospitals.*



*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 26

Jack responds to an advertisement in the newspaper asking for volunteers with a specific phobia to take part in research testing the effectiveness of a drug. Which of the following is likely to be an active ingredient in the drug, with the aim of the drug to reduce phobic symptoms?

- A. a glutamate antagonist
- B. a glutamate agonist
- C. a GABA antagonist
- D. a GABA agonist

**D** *A GABA agonist (which mimics the inhibitory effects of GABA) is most likely to reduce phobic symptoms.*

*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*

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

### Question 27

As part of the research, Jack does not know if he has received a placebo or the actual drug. This is so that the researcher can control for the effects of

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

**A** *The placebo effect, or the expectations that a certain treatment will have a certain effect on Jack's health, can be controlled using a placebo.*

*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*

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

**Question 28**

A placebo implies the use of

- A. random sampling.
- B. a single-blind procedure.
- C. counterbalancing.
- D. standardised instructions and procedures.

**B** *A placebo is only effective if a single-blind procedure is used.*

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

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

**Question 29**

If Jack does not know that it is possible that he may receive a placebo, then which of the following ethical guidelines is most at risk?

- A. withdrawal rights
- B. debriefing
- C. informed consent
- D. deception

**C** *Informed consent involves Jack knowing the true nature and purpose of an experiment. If he is not told that he may receive a placebo or the actual drug, then he may not have received fully informed consent. This can be resolved by telling Jack that he will 'either receive the drug or a placebo'.*

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 30**

If Jack receives the actual drug, this would be considered a

- A. biological treatment.
- B. psychological treatment.
- C. social treatment.
- D. trans-theoretical treatment.

**A** *Drugs are biological treatments.*

Use the following information to answer Questions 31-38.  
Roger has a phobia of spiders.

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

**Question 31**

Due to his phobia, Roger has difficulty falling asleep each night. This is called

- A. sleep-maintaining insomnia, which is a dyssomnia.
- B. sleep-maintaining insomnia, which is a parasomnia.
- C. sleep-onset insomnia, which is a dyssomnia.
- D. sleep-onset insomnia, which is a parasomnia.

**C** *Sleep-onset insomnia is a dyssomnia.*

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 32**

Because Roger needs to wake early in the morning for work each day, he only gets an average of five hours of sleep. This is called

- A. partial sleep deprivation.
- B. total sleep deprivation.
- C. full sleep deprivation.
- D. inadequate sleep deprivation.

**A** *Partial sleep deprivation refers to an insufficient amount of sleep.*

*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 33**

Due to Roger's inadequate sleep, which of the following could be a change in his affective experience?

- A. reduced focus
- B. amplified emotional responses
- C. memory loss
- D. not being able to drive well

**B** *His emotional responses may be amplified – he may become more irritable, grumpy, etc. than he usually is.*

*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 34**

One night, Roger's sleep deprivation was so bad that he did not get any sleep for a 24-hour period. Research suggests that his lowered ability to concentrate would be equivalent to a blood-alcohol concentration of

- A. 0.01%.
- B. 0.05%.
- C. 0.10%.
- D. 10%.

**C** *Approximately 20+ hours of wakefulness is the equivalent to a BAC 0.10%.*

*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 35**

In the morning, Roger takes a double-shot of coffee to help him stay alert. The caffeine is considered a

- A. suppressant.
- B. depressant.
- C. stimulant.
- D. intoxicant.

**C** *Caffeine is a common stimulant.*

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

**Question 36**

Brain waves that are associated with alertness are typically

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

**C** *Beta waves are generally associated with wakefulness.*

*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 37**

Roger goes to a psychologist who uses cognitive behavioural therapy (CBT) to treat his insomnia. Which of the following is not typically involved in this type of treatment?

- A. identifying the underlying causes and factors contributing to Jack's inability to sleep
- B. learning relaxation techniques
- C. sleep hygiene training
- D. pharmacotherapy, such as taking melatonin

**D** *Pharmacotherapy, or drugs, are not used as part of CBT.*

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

**Question 38**

Roger gets his sleep back on track, and is sleeping normally. He is now 30 years old. When Roger is 90 years old, how is his sleep likely to change?

- A. when Roger is older, he is likely to have less sleep overall (than when he is 30)
- B. when Roger is older, he is likely to have more sleep overall (than when he is 30)
- C. when Roger is older, he likely to have less NREM sleep, but more REM sleep (than when he is 30)
- D. there will be no difference in his sleep patterns when Roger is older than when he is 30

**A** *The elderly tend to get less sleep than younger age groups.*

*Use the following information to answer Questions 39-41.*  
Shakira has caught a flu.

*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 39**

Gerard gives Shakira a call to ask her how she is going. Shakira's phone rings, she picks up, and she talks with Gerard. Which of the following is the antecedent in this scenario for Shakira?

- A. Gerard's phone calling
- B. Shakira's phone ringing
- C. Shakira picking up the phone
- D. Shakira talking with Gerard

**B** *The antecedent is the stimulus that leads someone to perform a behaviour. Shakira's phone ringing leads Gerard to pick up her phone.*

*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 40**

Gerard enjoys speaking with Shakira, but Shakira doesn't really like speaking with Gerard, as he ends up dominating the phone call with dull details about his own life. Shakira is receiving \_\_\_\_\_ and is \_\_\_\_\_ likely to pick up her phone in future.

- A. positive punishment; less
- B. positive punishment; more
- C. positive reinforcement; less
- D. positive reinforcement; more

**A** *Shakira is less likely to pick up her phone in future, because she has had an unpleasant stimulus added (Gerard's dull conversation) as a result of her behaviour.*

*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 41**

Shakira picking up her phone and speaking with Gerard is an example of operant conditioning because

- A. the learning involves a reflexive behaviour.
- B. the learning involves a voluntary behaviour.
- C. the learning involves stimulus discrimination.
- D. Shakira is passive in her learning.

**B** *Operant conditioning typically involves voluntary behaviour, whereas classical conditioning typically involves reflexive behaviour.*

*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 42**

Which of the following is **incorrect** about Alzheimer's disease?

- A. Alzheimer's disease is a type of dementia
- B. Alzheimer's disease is a neurodegenerative disease
- C. Alzheimer's disease can only be conclusively diagnosed through an autopsy
- D. Alzheimer's disease only involves anterograde amnesia

**D** *Alzheimer's disease involves both retrograde and anterograde amnesia, among other symptoms.*

*Use the following information to answer Questions 43-45.*

Professor Loftus showed participants a video of a car accident, then asked participants one of four questions about the video.

*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 43**

Which question is most likely to elicit the highest estimation of speed from participants?

- A. how fast were the cars going when they hit each other?
- B. how fast were the cars going when they smashed into each other?
- C. how fast were the cars going when they contacted each other?
- D. how fast were the cars going when they bumped into each other?

**B** *The leading word 'smashed' is likely to bias the participants' views by presupposing that the accident was severe.*

*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 44**

Loftus did not ask participants more than one of the questions listed in Question 43, above. This suggests that she utilised

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

**A** *If participants were only asked the questions once, this rules out a repeated measures design. It is possible that she used a matched participants design, but there is no information in the scenario that suggests this.*

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

**Question 45**

Which of the following correctly operationalises the independent variable?

- A. the accuracy of the memory, operationalised as the estimated speed of the car crash in miles per hour
- B. memory
- C. misinformation
- D. the leading question, operationalised as the wording of the question, either using hit, smashed, contacted or bumped

**D** *The IV is the leading question used, operationalised by using different words to describe the collision.*

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

*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 46**

Simon eats junk food when he is stressed about all the study he must complete for his upcoming VCE exams, but he finds that his poor diet has led to low energy levels, which makes him unable to concentrate for a sufficient number of hours each night. Despite this, he has no intention of changing to a healthy diet. Which stage of the transtheoretical model is Simon likely to be in?

- A. maintenance/relapse
- B. action
- C. contemplation
- D. pre-contemplation

**D** *The pre-contemplation stage occurs when people have no intention of changing problem behaviour.*

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

**Question 47**

The restoration theory of sleep suggests that

- A. sleep has a survival function
- B. sleep occurs when we are least prone to predators
- C. sleep allows for mental and physical rejuvenation
- D. NREM sleep consolidates memories

**C** *The restoration theory of sleep suggests that rejuvenation is the purpose of sleep.*

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

**Question 48**

Which of the following does **not** characterise a mentally healthy person?

- A. high levels of functioning
- B. social and emotional wellbeing
- C. resilience to life stressors
- D. low self-efficacy

**D** *Poor self-efficacy is a psychological risk factor for the development of a mental disorder.*

*the influence of social risk factors including disorganised attachment, loss of a significant relationship and the role of stigma as a barrier to accessing treatment*

**Question 49**

For people suffering from mental disorders, stigma is often \_\_\_\_\_ accessing treatment, and is primarily a \_\_\_\_\_ issue.

- A. an opportunity for; social
- B. an opportunity for; biological
- C. a barrier to; social
- D. a barrier to; biological

**C** *Stigma is a socially-constructed mark of disgrace that prevents people from accessing treatment (as they feel ashamed of admitting that they have a mental health problem/disorder).*

*the concept of cumulative risk.*

**Question 50**

The concept of cumulative risk suggests that

- A. biological factors increase the likelihood of mental health disorders.
- B. psychological factors increase the likelihood of mental health disorders.
- C. social factors increase the likelihood of mental health disorders.
- D. an accumulation of risk factors increases the likelihood of mental health disorders.

**D** *Cumulative risk refers to the accumulated biological, psychological and social risk factors that combine to affect an individual's mental health.*

## Section B

### VCAA Key Knowledge

#### Question

#### Answer guide

*changes to a person's sleep-wake cycle and susceptibility to experiencing a circadian phase disorder, including sleep-wake shifts in adolescence, shift work and jet lag*

*the interventions to treat sleep disorders including cognitive behavioural therapy (with reference to insomnia) and bright light therapy (with reference to circadian phase disorders).*

**Question 1** (3 marks)

Sonny is an adolescent who finds it difficult to get to bed early at night, and wake up early for school the next morning. He consults a psychologist who suggests that he uses bright light therapy. Describe how bright light therapy could be used to help Sonny.

**Answer:**

- *Bright light therapy involves being exposed to light (such as the sun or a bright lamp) at the beginning of Sonny's day to entrain (synchronise) his sleep-wake shift (altered circadian rhythm) to appropriate daylight and night hours.*
- *The light helps to suppress the production of melatonin in the morning, to help Sonny wake up at an appropriate time.*
- *This will then lead Sonny to become sleepy earlier in the night, which promotes entrainment (the synchronisation of the circadian rhythm to normal day/night hours).*

**Marking protocol:**

One mark for each of the above points.



Ken is getting increasingly stressed at his home printer that refuses to print out a Psychology assignment that is due in class tomorrow. He thinks about his Psychology teacher who told the class that students who do not submit the assignment on time, and in print, will receive a detention. After unsuccessfully trying to print a couple of times, he decides to head to his local library to print his assignment there.

*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 2a** (2 marks)

What are Ken's primary and secondary appraisals in this situation?

**Answer:**

- *Primary appraisal: Ken evaluates this stressor (needing to print his assignment) as significant and stressful to him, which may involve thinking about the threat of his teacher giving him a detention if he does not submit his assignment on time.*
- *Secondary appraisal: Ken evaluates the coping resources that are available to him to resolve the situation, by either printing the assignment at home, or printing it at his local library.*

**Marking protocol:**

One mark for each of the above points. In each point, a discussion of primary or secondary appraisal in relation to the scenario is required.

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

**Question 2b** (2 marks)

Discuss Ken's response to the stressor in relation to his coping flexibility.

**Answer:**

- *Ken can realise that he needs to abandon the ineffective strategy of printing at home with a defective printer (evaluative coping), and*
- *replace the ineffective strategy with an effective one by printing his assignment at his local library (adaptive coping).*

**Marking protocol:**

One mark for each of the above points. Note: the terms 'evaluative coping' and 'adaptive coping' are not required in an answer, but a discussion of coping flexibility for 2 marks should involve a discussion of the ability to abandon ineffective strategies and replace them with more effective ones, and tie the scenario into both.

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

**Question 2c** (3 marks)

Discuss three distinct factors that would contribute to the context-specific effectiveness of Ken's response to the stressor.

**Answer:**

*The extent to which Ken's response (of printing the assignment at his local library) has high context-specific effectiveness depends on:*

- *the stressor itself - the need to print his assignment. This would be effectively solved by printing it at his local library.*
- *the situation - if the library is open and has a working printer, the response would be effective.*
- *the individual - if Ken has the time, money and skill to print his assignment at the local library, the response would be effective.*

**Marking protocol:**

One mark for each of the above points.

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

**Question 2d** (2 marks)

Ken successfully prints his assignment at his local library. He decides to go for a five-kilometre run around the local park to further reduce his stress. Describe two ways that exercise could reduce Ken's stress.

**Answer:**

- *Exercise can relieve the frustration built up by Ken's faulty printer by the release of endorphins that increase a sense of wellbeing and reduce his stress.*
- *Exercise can help to clear Ken's mind from the stress of the defective printer, which can help to reduce his stress.*
- *Exercise can increase energy demands on the body which help to break down stress hormones that are released, which can help to reduce Ken's stress.*

**Marking protocol:**

One mark for any of the above points, to a maximum of two. Note that all answers must refer back to the scenario, otherwise no marks are awarded.

Dr Seuss, Jenny's psychologist, decides to test whether Jenny can be classically conditioned to fear the sound of a buzzer. Dr Seuss does this by repeatedly pairing the sound of a buzzer with an electric shock.

*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 3a** (7 marks)

Using key terms, describe how Jenny is becoming classically conditioned to fear the sound of a buzzer, as a three-phase process.

**Answer:**

- *Before conditioning*
  - *unconditioned stimulus (electric shock) → unconditioned response (fear to electric shock)*
  - *neutral stimulus (sound of buzzer) → no response*
- *During conditioning*
  - *repeated presentations of neutral stimulus (sound of buzzer) and unconditioned stimulus (electric shock) → unconditioned response (fear to electric shock)*
- *After conditioning*
  - *conditioned stimulus (sound of buzzer) → conditioned response (fear to sound of buzzer)*

**Marking protocol:**

One mark for each of the above points. Note that the unconditioned response and conditioned response are the same behaviour, so it is essential to state what stimulus is eliciting the behaviour. Note that all answers in brackets are required parts of the answer.

Dr Seuss discovers that Jenny has damaged amygdala, but intact hippocampi and cerebellum.

*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 3b** (2 marks)

What would the likely effect of Jenny's damaged amygdala be on Dr Seuss's conditioning procedure? Justify your answer.

**Answer:**

- *It is likely that Jenny would not be able to feel fear with an increased autonomic (or sympathetic) nervous system activation, given her damaged amygdala.*
- *This is because the amygdala is responsible for the consolidation of fear information, and if it is damaged, this implicit fear information will not be encoded.*

**Marking protocol:**

One mark for each of the above points.

*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 3c** (2 marks)

If Dr Seuss asks if Jenny can tell what will follow the sound of the buzzer, what is Jenny likely to say? Justify your answer.

**Answer:**

- *Jenny is likely to say that an electric shock is going to follow the sound of the buzzer.*
- *Using her explicit memory consolidated by her hippocampi, Jenny can state the connection between the sound of the buzzer and an electric shock.*

**Marking protocol:**

One mark for each of the above points.

Dr Seuss has another patient, Lisa, who has damaged hippocampi, but intact amygdala and cerebellum. Dr Seuss wants to test whether she can be classically conditioned to fear the sound of a buzzer. Dr Seuss does this by repeatedly pairing the sound of a buzzer with an electric shock.

*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 3d** (2 marks)

Could Dr Seuss tell if Lisa had been conditioned if he asks if she is afraid of the sound of the buzzer? Justify your answer.

**Answer:**

- *No*
- *This is because Lisa is not able to explicitly state that she is fearful, given damage to her hippocampi.*

**Marking protocol:**

One mark for each of the above points.

*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 3e** (2 marks)

How else could Dr Seuss tell whether or not Lisa had been conditioned to fear the buzzer?

**Answer:**

- *Dr Seuss could use devices to measure Lisa's autonomic (or sympathetic) nervous system response which would show high levels of arousal (such as increased heart rate, breathing rate, sweating, etc.).*
- *These physiological measures would indicate that she implicitly feared the buzzer and conditioning had occurred.*

**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 4a** (3 marks)

Andrea listens to a list of 15 words by an experimenter, which she is asked to memorise. Immediately after the end of the list, she is asked to write down as many words, in any order, that she can remember. Which words would she be most likely to write down, and why?

**Answer:**

- *Andrea is likely to write down more words from the beginning (primacy effect) and end (recency effect) of the list, compared to the middle of the list.*
- *Words at the beginning of the list are likely to have had enough time for encoding into long term memory to take place, and therefore can be retrieved.*
- *Words at the end of the list are likely to be held in short term memory, and therefore can be retrieved.*

**Marking protocol:**

One mark for each of the above points. Students should ideally use key terms, such as primacy/recency effect, however, this is not specifically required in this question.

*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 4b** (3 marks)

Tim listens to a list of 15 words by an experimenter, which he is asked to memorise. After a five-minute delay, he is asked to write down as many words, in any order, that he can remember. Which words would he be most likely to write down, and why?

**Answer:**

- *Tim is likely to write down more words from the beginning (primacy effect) of the list, compared to the middle and end of the list.*
- *Words at the beginning of the list are likely to have had enough time for encoding into long term memory to take place, and therefore can be retrieved because they are not affected by a delay (given the relatively permanent duration of long term memory).*
- *Words at the end of the list are likely to have decayed from short term memory, given the delay of a minute that exceeds the duration of short term memory.*

**Marking protocol:**

One mark for each of the above points. Students should ideally use key terms, such as primacy/recency effect, however, this is not specifically required in this question.

*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 5** (2 marks)

With the use of an example, describe how self-control is likely to change in an altered state of consciousness.

**Answer:**

- *Self-control, the ability to maintain and monitor appropriate thoughts, feelings and behaviours, often is lowered during an altered state of consciousness.*
- *For example, someone in an alcohol-induced altered state of consciousness may lose his/her inhibitions and use crude language or make inappropriate remarks in front of their grandparents.*

**Marking protocol:**

One mark for each of the above points. Any appropriate example of a lowered ability to maintain and monitor appropriate thoughts/feelings/behaviours is awarded one mark.

*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*

*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 6** (4 marks)

Name the last two stages of the General Adaptation Syndrome. What is the role of cortisol in these stages?

**Answer:**

- *Resistance stage – cortisol increases to help fuel the body to deal with a chronic stressor at an above-normal level.*
- *Exhaustion stage – cortisol is likely to suppress the immune system (which can also occur in the resistance stage), making the body more vulnerable to disease, which can lead to the individual combating the stressor at a lower-than-normal level (which is characteristic of the exhaustion stage).*

**Marking protocol:**

Two marks for each of the above points.

*the influence of biological risk factors including genetic vulnerability to specific disorders, poor response to medication due to genetic factors, poor sleep and substance use*

**Question 7** (2 marks)

List two biological and two social risk factors that contribute to the development and/or progression of mental disorders.

**Answer:**

*Biological risk factors* (any two for one mark)

- *Genetic vulnerability*
- *Poor response to medication due to genetic factors*
- *Poor sleep*
- *Substance use/abuse*

*Social risk factors* (any two for one mark)

- *disorganised attachment*
- *loss of a significant relationship*
- *the role of stigma as a barrier to accessing treatment*

**Marking protocol:**

One mark for two of the above points, from each category. Any other relevant biological/social factor is acceptable; however, these are the ones listed as part of the Study Design.

Ms Muffet wants to test the effect of context-dependent cues on the ability to recall a list of 20 words. She recruits 50 of her VCE Psychology students and asks them to memorise 20 unrelated four-letter nouns projected onto a screen in the library. Immediately after five minutes of studying the words, the participants recall the words by writing them down, in any order they wish. She collects their responses and finds the number of correctly recalled words out of 20. Ms Muffet calls the first part of her experiment the ‘context congruent recall condition’.

The following week, Ms Muffet uses the same VCE Psychology students for another test – she calls this the ‘context incongruent recall condition’. This time, she asks the participants to memorise a new set of 20 unrelated four-letter nouns, projected onto a screen in the library. After five minutes of studying the words, Ms Muffet walks the participants to the gym and asks them to recall the words by writing them down, in any order they wish. She collects their responses and finds the number of correctly recalled words out of 20.

Her findings are summarised in the table below.

	Mean recall	Standard deviation
Context congruent recall condition	18.1	0.3
Context incongruent recall condition	10.1	0.2

*identify and operationalise independent and dependent variables*

**Question 8a** (4 marks)

Identify and operationalise the independent and dependent variables of Ms Muffet’s experiment.

**Answer:**

- *The independent variable is the congruence (or consistency) of context-dependent cues, operationalised as either both learning and recalling words in the library, or learning words in the library and recalling them in the gym.*
- *The dependent variable is memory, operationalised by the amount of correctly (and freely) recalled four-letter nouns.*

**Marking protocol:**

One mark for identifying the IV/DV, and one mark for operationalising the IV/DV.

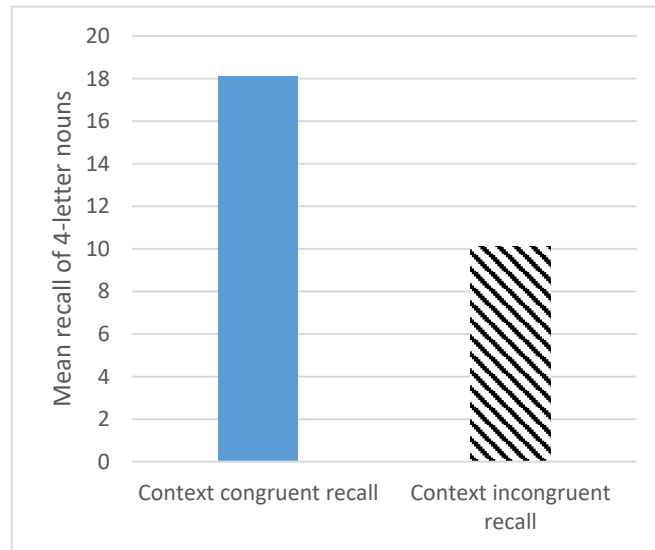
*the factors influencing a person’s ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal and serial position effect*

*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 8b** (2 marks)

Represent the means of Ms Muffet's investigation in a correctly labelled graphical representation using the grid provided below.

**Answer:**



**Marking protocol:**

Two marks for a correctly labelled graph, similar to the one above. As the two conditions were discrete, a bar graph is most appropriate.

*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 8c** (1 mark)

What do the standard deviations found by Ms Muffet mean for the reliability of her results?

**Answer:**

- *The relatively small standard deviations indicate that the results are highly reliable, as the results did not vary much within each condition.*

**Marking protocol:**

One mark for each of the above points.

*use basic principles of reliability and validity in evaluating research investigations undertaken*

*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*

*use basic principles of reliability and validity in evaluating research investigations undertaken*

*recognise the difference between statistics that describe a specific sample and the use of statistics to make inferences about the population from which the data were drawn*

**Question 8d** (2 marks)

What do the standard deviations found by Ms Muffet mean for the validity of her results? Refer to statistics that allow for inferences about the population to be made.

**Answer:**

- *The relatively small standard deviations indicate that the results are likely to be statistically significant (a statistic required to make inferences about the population), given that the difference between conditions (context congruent or context incongruent) is large (with eight more words on average being recalled in the context congruent condition) and the standard deviations are small.*
- *Given the likelihood of statistical significance, the independent variable (the presence/absence of congruent context-dependent cues) appears to be causing a change in the dependent variable (recall), which means that the results have high internal validity.*

**Marking protocol:**

One mark for each of the above points.

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

**Question 8e** (2 marks)

What experimental design did Ms Muffet use, and what potential extraneous variable is likely to be controlled through this design?

**Answer:**

- *Ms Muffet used a repeated measures design (as the same participants were used in both conditions).*
- *This would have likely controlled individual participant differences affecting the outcome of the experiment.*

**Marking protocol:**

One mark for each of the above points.

*minimise confounding and extraneous variables by considering type of sampling procedures, type of experiment, counterbalancing, single and double blind procedures, placebos, and standardised instructions and procedures*

**Question 8f** (2 marks)

Describe a confounding variable in Ms Muffet's experiment and how it could have confounded her results.

**Answer:**

- *The time delay between learning of words in the library and walking to the gym to recall the words may have confounded the results, as it is uncertain as to whether the context or the time delay led to a reduction in word recall in the second condition.*

**Marking protocol:**

Two marks for the above point, or any other relevant confounding variable which clearly confounds the results (making it impossible to know if it was the confounding variable or the independent variable making a change to the dependent variable). Individual participant differences are not accepted, as a repeated measures design was used. Note that also a practice/order effect is unlikely, as Ms Muffet did her second condition a week after the first, and a decrease in performance was found.

*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*

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

**Question 8g (6 marks)**

Explain the effects of context-dependent cues on recall. In your response, refer to:

- Relevant psychological concepts
- The results of this research
- Advice that could be given to students studying for their VCE Psychology exam

**Answer (marked globally – i.e. on the whole):**

- *Cues assist retrieval of information from long term memory.*
- *Context-dependent cues refer to the external environment in which information was learned, which acts as a cue for later retrieval.*
- *Research, including that done by Ms Muffet above, suggests that recall is easier to achieve when retrieval occurs in an environment that is the same as when the original learning took place.*
- *Furthermore, research, including that done by Ms Muffet above, suggests that recall is harder to achieve when retrieval occurs in an environment that is different to that when the original learning took place.*
- *The standard deviations from Ms Muffet's research indicate that the results were highly reliable and were likely to be valid. On top of this, the stark difference between the recall of the two conditions appears to indicate that the results were statistically significant, which helps to support the internal validity of the hypothesis that context congruent recall is likely to be more effective than context incongruent recall.*
- *When studying for the VCE Psychology exam, it could be advised that students study under conditions that are as similar as possible to the exam. This includes the sights and sounds of the exam room, which means a desk without distracting items such as phones or laptops, or a space without music or noise. By replicating a similar environment to the exam room while studying, the exam room should act as a retrieval cue for the information learned while under these conditions.*

**Marking protocol:**

This question is marked in a globally, out of a total six marks.

Outstanding responses will

- correctly use relevant key terms from the research methods and memory dot points of the Study Design
- reference the results obtained in the experiment in supporting the conclusion that context-dependent cues affect retrieval
- provide a reasoned and substantive recommendation for students studying for their VCE Psychology exam
- write coherently and fluently



Dr Karl is looking to test the effectiveness of systematic desensitisation as a psychotherapeutic treatment for phobia. He has access to the following resources:

- Several research assistants trained in systematic desensitisation, but only has the capacity to use the therapy on 50 participants per week
- 100 volunteer participants who have a specific phobia of snakes and are happy to undergo treatment and be monitored once a week, for two weeks.
- A phobic symptoms rating scale, with 1 referring to 'no fear of snakes at all' to 10 referring to an 'extreme fear of snakes'

Using a counterbalanced repeated measures design, he found the following results:

	Week 1	Week 2
Group A	8.2	3.2
Group B	3.3	8.1

The differences between weeks 1 and 2 for both groups were statistically significant.

*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)**

Design an experiment that could lead Dr Karl to the above results and the conclusion 'that systematic desensitisation is more effective in the reduction of phobic symptoms in people who have a specific phobia of snakes in the short term, than no treatment at all'.

In your response, discuss:

- the research design Dr Karl has employed, along with any allocation procedures
- a systematic desensitisation procedure that Dr Karl could use with his research assistants, using the language of classical conditioning
- the connections between the method and the results/conclusion Dr Karl has found/made
- what further research Dr Karl should undertake, if he has access to greater resources than listed above in future

**Answer (marked globally – i.e. on the whole):**

- A counterbalanced repeated measures design controls for individual participant differences (such as the severity of their phobic symptoms to begin with) and allows Dr Karl's limited number of research assistants to be fully utilised for the entire duration of the experiment.
- Dr Karl could randomly allocate the 100 volunteers into two groups, A and B, by putting all their names in a hat, and pulling out the first 50 names for Group A, and the remaining names as Group B.
- In Group A, the 50 participants will undergo weekly monitoring, with Week 1 being the control condition, and Week 2 being the systematic desensitisation (experimental) condition.
- In Group B, the 50 participants will undergo weekly monitoring, with Week 1 being the systematic desensitisation (experimental) condition, and Week 2 being the control condition.
- Systematic desensitisation aims to allow a person to acquire a relaxation/calm response (conditioned response) to an initially feared stimulus (which is the snake).
- The research assistants could first train the patients in a relaxation technique, such as slow breathing. This relaxation technique (the unconditioned stimulus) should evoke a relaxation response (the unconditioned response).
- Secondly, the researcher could determine an appropriate fear hierarchy with the patient, such as a cartoon picture of a snake, a real-life picture of a snake, being in the same room as a snake in an enclosure, to touching a real snake.
- Starting from the bottom of this fear hierarchy (representing the most comfortable form of the feared stimulus), the research assistant could repeatedly present it with the unconditioned stimulus of a relaxation technique.
- Only until the feared stimulus becomes a conditioned stimulus evoking a conditioned response (e.g. relaxation to the sight of a cartoon picture of a snake), would the research assistant move higher up the hierarchy.
- When the feared stimulus of a snake in its most intense (but ethical and safe) form results in the conditioned response of

*relaxation (or a lack of fear), the process of systematic desensitisation is said to be complete.*

- *Once complete, the research assistant should ask the patient to rate his/her phobic symptoms on the standardised scale.*
- *Dr Karl can then compare the results within the groups to see if systematic desensitisation had an effect on the phobic symptoms of these participants.*
- *Given that there were statistically significant differences in ratings of phobic symptoms in weeks where there was the treatment versus no treatment, it appears that systematic desensitisation is an effective treatment for a specific phobia of snakes in the short term.*
- *However, the effects of the systematic desensitisation appear to wear off after a week, as seen in Group A's Week 2 results. This suggests that further research should be done using systematic desensitisation over a longer period of time, to determine the length/frequency of treatment required to help a person in the long term.*
- *Furthermore, the use of a self-report to measure phobic symptoms may be liable to bias and the placebo effect (expectations of the participants that their treatment could have led to an increase/decrease in the experience of phobic symptoms).*
- *Other avenues for further research could involve patients who are experiencing phobias other than a specific phobia of snakes.*

#### **Marking protocol:**

Full mark responses will meet all the following criteria:

- identification and explanation of formal psychological terminology relevant to the question (including an identification and explanation of the counterbalanced repeated measures design, and an explanation of systematic desensitisation in the context of a specific phobia of snakes)
- use of appropriate psychology terminology (including the use of unconditioned stimulus/response, neutral stimulus, conditioned stimulus/response)
- discussion of relevant psychological information, ideas, concepts, theories and/or models and (including the use of fear hierarchies and associating increasingly feared stimuli with a relaxation technique)
- the connections between them (including linking classical conditioning in the process of systematic desensitisation)
- analysis and evaluation of data, methods and scientific models, and drawing of evidence-based conclusions and explanation of limitations of conclusions (including a discussion of the differences in mean phobic symptoms to support a reasoned conclusion and a discussion of the limitations of the method)



# VCE PSYCHOLOGY

Written Examination  
**ANSWER SHEET – 2017**

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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2	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	19	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	36	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
3	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	20	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	37	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
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6	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	23	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	40	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D
7	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	24	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	41	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D
8	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	25	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	42	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
9	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	26	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	43	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D
10	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	27	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	44	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D
11	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	28	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	45	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
12	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	29	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	46	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
13	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	30	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	47	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
14	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D	31	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	48	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
15	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	32	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	49	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D
16	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	33	<input type="checkbox"/> A	<input checked="" type="checkbox"/> B	<input type="checkbox"/> C	<input type="checkbox"/> D	50	<input type="checkbox"/> A	<input type="checkbox"/> B	<input type="checkbox"/> C	<input checked="" type="checkbox"/> D
17	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D	34	<input type="checkbox"/> A	<input type="checkbox"/> B	<input checked="" type="checkbox"/> C	<input type="checkbox"/> D					