

YEAR 12 *Trial Exam Paper*

2018

PSYCHOLOGY

Written examination

Sample responses

This book presents:

- high-level sample responses
- explanatory notes
- mark allocations
- tips on how to approach the exam.

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SECTION A – Multiple-choice questions

Question 1

Answer: D

Explanatory notes

Option D is correct because the parasympathetic nervous system counterbalances the sympathetic nervous system, restoring the body to a state of calm once the need for sympathetic nervous system activation has passed.

Question 2

Answer: B

Explanatory notes

Option B is correct because dopamine is needed to control messages so that voluntary muscle movements are smooth and coordinated. A low level of dopamine causes neurons to fire uncontrollably. This means that a person with Parkinson's disease cannot adequately control their voluntary movements.

Question 3

Answer: B

Explanatory notes

Option B is correct because the tests on Mondays rely on students being able to identify the correct information from a list (recognition), while the tests on Fridays require the students to retrieve stored information without using cues to assist retrieval (recall).

Question 4

Answer: C

Explanatory notes

Option C is correct because the cause of anxiety is not always apparent. For example, someone may feel anxious while flying but there is no specific reason why. The cause of a phobic response is generally known: Alex knows that he is fearful of large bodies of water as a result of almost drowning as a small child.



Tip

- *In multiple-choice questions, watch out for options with words such as 'only' or 'never'. Concepts in Psychology are rarely 100% certain and therefore these options are often incorrect.*

Question 5**Answer: B****Explanatory notes**

Option B is correct because catastrophic thinking involves overestimating and exaggerating the worst possible outcomes to situations even though they are unlikely to occur. Option A is incorrect; Alex's belief is a factor that contributes to the perpetuation of the phobia, but is not a phobia itself (a phobia involves a wider range of characteristics).

Option C is incorrect because memory bias refers to the distorting influences of present knowledge, beliefs and feelings on the recollection of previous experiences. Alex is not experiencing a memory bias because he has never fallen over in the bath before. Option D is incorrect; an attention bias refers to paying attention to stimuli that reinforce Alex's phobia.

Question 6**Answer: B****Explanatory notes**

Option B is correct because Alex's fight-flight reaction is activated even when he is not facing any real threat or danger. Because Alex perceives the water to be a threat, this is enough to initiate his physiological stress response.

Option A is incorrect because, although Alex is experiencing a stress response, eustress is a positive psychological response to stress. In Alex's case, he experiences a negative psychological response to stress. Option C is incorrect; when Alex sees water, this will activate the fight-flight response, in which adrenaline is secreted. Option D is incorrect; when Alex sees water he will perceive it to be a threat and therefore his sympathetic nervous system will be activated. The parasympathetic would be active when Alex did **not** detect a threat.

Question 7**Answer: A****Explanatory notes**

Option A is correct because benzodiazepines are gamma-aminobutyric acid (GABA) agonists (i.e. they mimic the effects of GABA to reduce anxiety). Benzodiazepines work on the central nervous system by increasing GABA's inhibitory effects and making the post-synaptic neurons less likely to fire.

Question 8**Answer: B****Explanatory notes**

Option B is correct as long-term depression results in a long-lasting decrease in the strength of synaptic connections.

Option A is incorrect because long-term depression results in a decrease in synapse strength and slower functioning of the neurons, rather than stronger neural connections.

Option C is incorrect because long-term depression occurs throughout the cerebral cortex.

Option D is incorrect because long-term depression occurs throughout the lifespan.

Question 9**Answer: A****Explanatory notes**

Option A is correct because an extraneous variable is any variable (other than the independent variable) that can cause a change in the dependent variable, and therefore has an unwanted effect on the results.

Options B and D are incorrect because they refer to the dependent variables (simple and operationalised).

Option C is incorrect because it refers to the independent variable.

Question 10**Answer: C****Explanatory notes**

Option C is correct because the proportion of REM sleep increases as the night progresses and the proportion of NREM sleep decreases as the night progresses.

Question 11**Answer: A****Explanatory notes**

Option A is correct because in the transmission of neural impulses, information travels through the soma then along the axon to the axon terminals. This transmission occurs in the form of an electrical signal known as an action potential. Axon terminals then release neurotransmitters that travel across the synapse and bind to receptor sites on the dendrites of the post-synaptic neuron. This part of the process involves a chemical message.

**Tip**

- *It is important that students read multiple choice questions carefully. There was a very small difference between the options in the question.*

Question 12**Answer: B****Explanatory notes**

Option B is correct because a precipitating factor increases a person's susceptibility to developing a mental disorder. Anita's breakup might act as a trigger that results in the development of a mental disorder.

Question 13**Answer: D****Explanatory notes**

Option D is correct because, after repeated associations between the loud noise (unconditioned stimulus) and the white rat (neutral stimulus), Little Albert learned to fear the white rat (conditioned response) in the absence of the loud noise.

Question 14**Answer: C****Explanatory notes**

Option C is correct because Little Albert displayed stimulus generalisation when he showed a fear response (conditioned response) to items that were similar to the white rat (conditioned stimulus), such as a white rabbit.

Question 15**Answer: D****Explanatory notes**

Option D is correct because glutamate is a neurotransmitter that has a role in learning. Glutamate is an excitatory neurotransmitter that produces long-lasting changes in the neuron when learning occurs.

Options A and B are incorrect because they are neurohormones.

Option B is incorrect because GABA has a role in the inhibition of anxiety.

Question 16**Answer: A****Explanatory notes**

Option A is correct because the amygdala retrieves implicit emotional responses.

**Tip**

- *Although the hippocampus is involved in encoding and consolidating the explicit declarative elements of memories, it is not involved in the implicit recall of a fear response.*

Question 17**Answer: A****Explanatory notes**

Option A is correct because, while most ethics were breached in Watson and Rayner's experiment, the most significant breach was the fact that Little Albert was left with lasting psychological harm. Watson and Rayner made no effort to reverse the ill effects of their research.

Option B is incorrect because Albert was too young to give informed consent. His mother consented for him.

Option C is incorrect because debriefing is not relevant to informed consent.

Option D is incorrect because Little Albert and his mother were never debriefed about the results of the experiment.

Question 18**Answer: D****Explanatory notes**

Option D is correct; a strength of Selye's model was that he made a connection made between prolonged arousal and ill-health, while a limitation is that his findings are difficult to be generalised to people because his research involved non-human subjects.

Option A is incorrect because Selye did not use humans in the development of the model; he used rats. The use of rats also made it difficult for Selye to generalise his results to humans.

Option B is incorrect because both are considered strengths of the model.

Option C is incorrect because Selye's research was primarily focused on the physiological elements of the stress response and its effect on illness.

Question 19**Answer: A****Explanatory notes**

Option A is correct because normal waking consciousness is when you are awake and aware of your thoughts, feelings and sensations from both internal events and the surrounding environment.

Question 20**Answer: A****Explanatory notes**

Option A is correct because cumulative risk refers to the combined effect of exposure to multiple biological, psychological and social risk factors for mental health.

Question 21**Answer: A****Explanatory notes**

Option A is correct because social support refers to the network of family, friends, neighbours and community members that are available during difficult times to provide emotional, physical and financial assistance. Strong social support has been found to decrease a person's vulnerability to stress and increase their ability to cope with stressors.

Option 22**Answer: B****Explanatory notes**

A leading question is a question that is phrased to suggest what the desired response is. Option B is correct because it is the only question that contains a presupposition (i.e. that the thief was a man).

Question 23**Answer: C****Explanatory notes**

Option C is correct because daily pressures are minor troubles or concerns that arise in day-to-day living and can make us upset or angry. Jack's source of stress is minor and easy for him to overcome.

Question 24**Answer: C****Explanatory notes**

Option C is correct because Jack is likely to perceive that he will miss his job interview (i.e. that it is future harm that could occur). Options A and D are incorrect because Jack has perceived the event as stressful. Option B is incorrect because the damage has not yet occurred; he may miss the interview, but he still could make it in time.

Question 25**Answer: B****Explanatory notes**

Option B is correct; exercise results in the release of endorphins, reducing pain and stress levels, and improving mood.

Option A is incorrect because exercise uses up stress hormones and allows the immune system to return to normal functioning.

Option C is incorrect because there is no evidence that suggests that exercise induces Delta brain waves (these brainwaves are normally associated with slow wave sleep).

Option D is incorrect because the secretion of endorphins results in reduced pain and stress levels, rather than affecting general functioning of the body.

Question 26**Answer: C****Explanatory notes**

Option C is correct because mental health is defined as a positive state of mental wellbeing in which an individual has the ability to cope with and manage life's challenges, works productively, strives to fulfil one's goals and potential, and has a sense of connection to others. Thoughts that are highly distressing and dysfunctional are evidence of a mental health problem or mental illness.

Question 27**Answer: C****Explanatory notes**

Option C is correct because in operant conditioning the consequences are directly given to the learner. In observational learning, the consequences may be vicarious (e.g. the learner sees another person being given a consequence).

Question 28**Answer: C****Explanatory notes**

Option C is correct because, during neural transmission, the lock-and-key process ensures that neurotransmitters lock onto the correct receptor site on the post-synaptic neuron. At this point, the neurotransmitters can either inhibit or excite the post-synaptic neuron.

Question 29**Answer: A****Explanatory notes**

Option A is correct because Khaviya is being punished. Punishment involves being given an unpleasant stimulus that, when paired with a response (behaviour), weakens or decreases the response over time.

**Tip**

- *In some operant conditioning questions, the more specific option (e.g. response cost) may not be available. Remember that there are two types of punishment: positive (i.e. application of a negative stimulus to decrease the likelihood of a behaviour reoccurring) and negative (i.e. removal of a positive stimulus to decrease the likelihood of a behaviour reoccurring).*

Question 30**Answer: B****Explanatory notes**

Option B is correct because a research hypothesis should include four elements: the population from which the sample is drawn (secondary school students), the simple independent variable (studying alone or in supportive groups), the dependent variable (academic improvement) and a prediction of the direction of the effect.

Option A is incorrect because there is no comparison between the experimental and control group. Option C incorrectly lists the sample, rather than the population. Option D is incorrect because no population is provided.

Question 31

Answer: D

Explanatory notes

Option D is correct. A population is the entire group of people that we are interested in learning about. In research terms, the population is the larger group from which a sample has been drawn. The population is always larger than the sample.

Option A is incorrect because the 100 VCE students is the sample, not the population.

Option B is incorrect because the population and the sample cannot be the same.

Option C is incorrect because the suggested sample does not specify the number of students who were involved.

Question 32

Answer: C

Explanatory notes

Option C is correct because a matched-participants design involves matching pairs of participants based on a predetermined characteristic and then randomly assigning one of the pair to the experimental group and the other to the control group. In this study, students are matched into pairs based on their semester 1 English reports.

Question 33

Answer: D

Explanatory notes

Option D is correct because if one person drops out of the study, so does the data for the other member of their pair. This means that a lot of time and effort might go into collecting data that cannot be used in the analysis.

Question 34

Answer: C

Explanatory notes

Option C is correct because Dr Brown used convenience sampling instead of random sampling and cannot generalise the results to the wider population. Because Dr Brown used participants from only one school, secondary school students from other schools did not have an equal opportunity to participate in the research. The students from Sunnydown College may not be representative of all VCE English students.

Question 35

Answer: A

Explanatory notes

Option A is correct because anterograde amnesia occurs when there is damage to the hippocampus. The hippocampus plays a key role in the encoding and storage of explicit long-term memories. People who have their hippocampus removed or damaged (e.g. in the case of Alzheimer's disease) are unable to form new explicit long-term memories.

Question 36

Answer: D

Explanatory notes

Option D is correct because 17 hours of total sleep deprivation is the equivalent of a blood alcohol concentration of 0.05, whereas 24 hours of total sleep deprivation is the equivalent of a blood alcohol concentration of 0.10.

Question 37

Answer: A

Explanatory notes

Option A is correct because an energy drink has caffeine (a stimulant) in it. Stimulants increase activity in the central nervous system and the rest of the body, which increases the amount of beta brain waves and has an alerting, activating effect.

Question 38**Answer: D****Explanatory notes**

Option D is correct because measurements of accuracy typically involve comparing the number of correct and incorrect responses (errors) made by the individual.

Option A is incorrect because this relates to a measure of speed rather than accuracy. Option B is incorrect as measurements of accuracy would not measure muscle twitches; a video monitoring device would be used to measure overt movements such as twitches. Option C is incorrect as measurements of accuracy would not measure feelings of tiredness; a self report would.

Question 39**Answer: B****Explanatory notes**

Option B is correct because in the serial position effect, the immediate free recall of items at the beginning and the end of a list are remembered better than the items in the middle of the list. However, if there is a delay between the learning and recall of a list, only items at the beginning of the list will have superior recall. This is because the items at the beginning of the list enter an empty short-term memory and have enough time to be rehearsed and encoded into long-term memory. Items at the end of the list decay from short-term memory because the duration of short-term memory (12–30 seconds) has been exceeded.

**Tip**

- *In scenarios where a list is recalled, watch out for a delay in recall (e.g. recalling a list after walking to the shops) because this will mean that items that had been retained in short-term memory (STM) will have decayed and disappeared from memory. Similarly, if the items are recalled in order, the recency effect will not occur as the duration of STM will have been exceeded and the items in STM will have decayed from memory.*

Question 40**Answer: A****Explanatory notes**

Option A is correct because, in a spinal reflex, the spinal cord receives a sensory message and initiates a motor message directly to minimise damage to the body. This occurs before the sensory information reaches the brain to be consciously processed.

Question 41**Answer: A****Explanatory notes**

Option A is correct because the placebo effect occurs when there are changes in the participants' behaviour because they believe that they are receiving an experimental treatment rather than due to the effect of the treatment. A placebo is a fake drug or treatment that is used so that participants do not know if they are being exposed to the control or experimental condition. The placebo eliminates the impact of the placebo effect on results.

**Tip**

- *It is important to understand the difference between a placebo and a placebo effect. These terms mean different things and can change the meaning of a question.*

Question 42**Answer: B****Explanatory notes**

Option B is correct because state-dependent cues are associated with an individual's internal physiological or psychological state at the time the memory was formed and act as a trigger to recall associated memories. The cue of feeling sad triggers Charlie's other memories of sadness.

Question 43**Answer: D****Explanatory notes**

Option D is correct because normal waking consciousness sensations reflect reality. In an altered state of consciousness, the sensation of pain can be distorted – either heightened or dulled.

Question 44**Answer: D****Explanatory notes**

Option D is correct because sufferers of sleep deprivation often have mood changes such as becoming more irritable (affective); having slower reaction time (behavioural); and having impaired problem-solving, decision making and errors in judgment (cognitive).

**Tip**

- *Students often get these mixed up. Remember that affective means emotions, cognitive means internal processes (e.g. memory or information processing) and behavioural means overt actions.*

Question 45**Answer: B****Explanatory notes**

Option B is correct because poor sleep refers to partial sleep deprivation (quantity or quality) that is usually chronic. Poor sleep is considered a biological risk factor for the development or progression of some mental disorders. Rumination is a psychological risk factor that involves repeatedly thinking or dwelling on undesirable thoughts, negative feelings or problems without acting to change them. The other options are incorrect because they do not directly relate to the scenario.

Question 46**Answer: B****Explanatory notes**

Option B is correct because many people with insomnia have sleep-related thoughts and behaviours that are inappropriate, and these have the unintended consequence of developing their insomnia and maintaining (or worsening) its symptoms. Cognitive behavioural therapy for insomnia focuses on overcoming the causes of a person's sleep problems and changing their maladaptive responses rather than just treating the symptoms.

Question 47**Answer: C****Explanatory notes**

Option C is correct because reproduction occurs when the learner has the mental and physical ability to perform the behaviour. In this scenario, Lachy's ability to reproduce the modelled response may be restricted by his physical limitations (or his coordination).

Option A is incorrect because Lachy actively watched Heath kicking a goal.

Option B is incorrect because Lachy wanted to kick the goal.

Option D is incorrect because it is likely that Lachy formed a long-term memory of how to kick a goal because he has been watching Heath for a while.

Question 48**Answer: D****Explanatory notes**

Option D is correct because Rob is experiencing parasomnia, which is a sleep disorder that is characterised by inappropriate physiological or psychological activity during sleep or during sleep-to-wake transitions. More specifically, Rob is experiencing an episode of sleep walking, which usually occurs during stages 3 and 4 of NREM when there is no muscle paralysis (cataplexy).

Question 49**Answer: C****Explanatory notes**

Option C is correct because shift work scheduled outside normal business hours results in a change to sleep onset time and usually leads to sleep deprivation. This occurs because shift workers often sleep when it is light outside and their sleep–wake cycle does not match the external environmental cues, leading to less and lower quality sleep.

**Tip**

- *External environmental cues are also known as zeitgebers.*

Question 50**Answer: B****Explanatory notes**

Option B is correct because Clayton is experiencing stigma, which is social disapproval typically associated with a mental health disorder. Stigma is a perpetuating risk factor because it prolongs the occurrence of a mental disorder and inhibits recovery.

Option A is incorrect because it is not specific enough. Social influence describes a wide range of social factors that can be both positive and negative.

Option C is incorrect because Clayton is not experiencing any overt form of discrimination (and it is not a factor that is outlined by the Study Design).

Option D is incorrect as Clayton's fear of telling his friends is a risk factor rather than a protective factor.

SECTION B

Question 1

Sample response

Store	Capacity	Duration	Role
Sensory memory	unlimited	0.2–4 seconds	receives sensory information from the environment
Short-term memory	7 ± 2 items (or 5–9 items)	12–30 seconds	maintains information in conscious awareness for immediate use
Long-term memory	unlimited	relatively permanent	stores information that has been encoded (semantically) for future use

Mark allocation: 4 marks

- 1 mark for correct identification of the duration of sensory memory
- 1 mark for correct identification of the capacity of short-term memory
- 1 mark for correct identification of the role of short-term memory
- 1 mark for correct identification of the role of long-term memory



Tip

- When identifying the capacity and duration of any memory store, you must ensure the unit of measurement (e.g. seconds or items) is included.

Question 2a.**Sample response**

- Warren is an adult and requires 7–8 hours of sleep per night, whereas Aaron is an adolescent and requires 9–10 hours of sleep per night.
- Aaron is an adolescent and his sleep-wake cycle will be delayed by approximately 2 hours. This means that Aaron will feel tired and go to sleep around 2 hours later than Warren.

Mark allocation: 2 marks

- 1 mark each for up to two correct differences between the sleep patterns of adolescents and adults. These could include:
 - total sleep time
 - proportion of REM sleep in a night
 - the shift in the adolescent sleep-wake cycle to 2 hours later than an adult

Note: This question requires two comparisons for full marks.

**Tip**

- *Ensure that you make the points in your response clear to the examiner. One of the best ways to do this is to use dot points.*

Question 2b.**Sample response**

The restorative theory suggests that sleep is vital for replenishing and revitalising the physiological and psychological resources depleted by our waking activities.

Aaron is likely to need a higher proportion of REM sleep than Warren. Aaron is more often involved in a high level of mental activity at school and when studying at home than Warren is at his work as a builder. Therefore, Aaron requires more REM sleep than Warren to consolidate new information.

Mark allocation: 3 marks

- 1 mark for a definition of the restorative theory of sleep
- 1 mark for an explanation of why Aaron might require more REM sleep more than Warren with reference to the amount of mental activity undertaken by Aaron and Warren
- 1 mark for a comparison in the response

Question 2c.**Sample response**

Sleep-onset insomnia is a sleep disorder involving persistent difficulty falling asleep at the usual sleep time.

Mark allocation: 1 mark

- 1 mark for the correct definition of sleep-onset insomnia

Question 2d.**Sample response**

Aaron would need to be exposed to an intense but safe amount of light early in the morning (e.g. between 6–8 am) to resynchronise his sleep cycle. This would advance Aaron's circadian rhythm to an earlier time (i.e. shift the phase forward) so that Aaron will be sleepier earlier and wake up earlier.

Mark allocation: 3 marks

- 1 mark for correct identification of when Aaron needs to be exposed to light and an explanation of bright light therapy
- 1 mark for an explanation that the sleep-wake cycle will shift forward
- 1 mark for stating that this will make Aaron feel tired earlier

Question 3a.**Sample response**

Cameron's new coping strategy is likely to be effective because he is demonstrating a high level of coping flexibility. He realised that he needs to replace his ineffective strategy of driving around Australia with a more effective one, such as asking his friend to do the driving for him.

Cameron's new strategy is likely to be effective because it has a high level of context-specific effectiveness. There is a good match between the coping strategy used and the stressful situation because Cameron has realised the limitations of his previous plan and has found a friend to do the driving.

Mark allocation: 4 marks

- 1 mark for stating that Cameron is displaying a high level of coping flexibility
- 1 mark for providing an explanation of coping flexibility with reference to Cameron
- 1 mark for stating that Cameron's strategies are displaying good context-specific effectiveness
- 1 mark for providing an explanation of context-specific effectiveness with reference to Cameron

Note: Students who do not refer to the scenario in the question may only receive up to two marks for stating that having both coping flexibility and context-specific effectiveness will lead to effective coping.

Question 3b.**Sample response**

Cameron's boss could determine if Cameron were drunk or not by testing Cameron's emotional awareness. If Cameron has heightened emotions (for example, if he is more aggressive than usual) he is likely to be in an altered state of consciousness (ASC). Cameron's boss could also examine to see if Cameron has any cognitive distortions. The boss could give Cameron a set of five words to recall. If Cameron has an impaired memory and can't recall the five words, it might indicate that he is in an ASC.

Mark allocation: 2 marks

- 1 mark each for up to two explanations of how Cameron's boss could use the characteristics of an altered state of consciousness to determine if Cameron was drunk: including levels of awareness, perceptual distortions, cognitive distortions, emotional awareness, self-control and time orientation

Note: To be given a mark, the response must include a reference to the scenario in the question. For example, it is essential to discuss the test that could be given to assess what state of consciousness that Cameron is in.

Two explanations must be given for full marks.

Question 4a.**Sample response**

Luna cannot function as she normally does because she avoids open spaces and cannot leave her apartment. Luna also experiences intense distress whenever she sees a bird.

Mark allocation: 2 marks

- 1 mark each for up to two pieces of evidence from the scenario in the question that relate to the definition of mental illness, including:
 - atypical thoughts or behaviours (e.g. avoidance behaviours)
 - levels of distress
 - dysfunctional thoughts, feelings or behaviour

Note: Responses must relate to Luna.

Question 4b**Sample response**

- An example of a conscious response was when Luna went for a job, because the action was voluntary (or involved voluntary muscle movement)
- An example of an unconscious response was when Luna's heart rate increased at the sight of the magpie. This is because her response was involuntary.

Mark Allocation: 4 marks

- 1 mark for the identification of conscious response
- 1 mark for a justification, such as:
 - the reaction involved conscious awareness
 - attention was directed towards the stimulus
 - the response was voluntary or intentional
 - the task was goal-directed or purposeful
- 1 mark for the identification of unconscious response
- 1 mark for a justification, such as:
 - the reaction does not involve conscious awareness
 - no attention needs to be directed towards the stimulus (i.e. the response was involuntary or unintentional)
 - the task was reflexive or adaptive, increasing chances of survival

Question 4c.**Sample response**

Long-term potentiation is the long-lasting strengthening of synaptic connections of neurons that results in the enhanced functioning of the neurons. When Luna initially associated fear with birds, new neural connections were formed in the amygdala. Now, whenever Luna thinks about birds as dangerous or has a negative experience involving birds, the neural connections are strengthened, making Luna more likely to perceive birds as dangerous or scary.

Mark allocation: 3 marks

- 1 mark for a correct explanation of long-term potentiation
- 1 mark for explaining that when a fear response is initially formed it results in a neural or memory trace being formed
- 1 mark for explaining that Luna's repeated exposure to the birds will strengthen the neural trace and ultimately increase her feelings of fear

Note: A good answer will refer to the scenario in the question. A generic response will be able to receive 2 marks.

Question 4d.**Sample response**

Before treatment, when Luna saw a bird (the conditioned stimulus), she became fearful (the conditioned response).

During treatment, Luna's psychiatrist helped her develop a fear hierarchy of birds (e.g. looking at a photo of a bird and watching a video of a bird). They progressively associated birds (the conditioned stimulus) with a relaxation technique (the unconditioned stimulus), such as deep breathing, to produce a feeling of relaxation (the unconditioned response).

After conditioning and repeated associations, Luna stops showing fear in response to birds. Instead, birds (the conditioned stimulus) elicit a relaxation response (the new conditioned response).

Mark allocation: 5 marks

- 1 mark for referring to the three stages of classical conditioning (before, during and after conditioning)
- 1 mark for stating that the conditioned stimulus will result in a conditioned response
- 1 mark for demonstrated knowledge of a fear hierarchy, including at least two examples
- 1 mark for an explanation that each item on the fear hierarchy must be systematically paired with a relaxation technique (unconditioned stimulus)
- 1 mark for explaining that the pairing will continue until the conditioned stimulus does not produce a fear response (or that it now produces a conditioned relaxation response)

Note: Students must refer to the scenario in the question to get full marks.

Question 4e.**Sample response**

Luna's psychiatrist could obtain permission from a legal guardian on Luna's behalf, or the psychiatrist could obtain consent at a time when Luna's symptoms do not interfere with her capacity to understand the side effects of the drugs.

Mark allocation: 2 marks

- 1 mark each for up to two examples of how informed consent can be obtained, including:
 - obtaining permission from a legal guardian on the participant's behalf
 - obtaining consent at a time when Luna's symptoms do not interfere with her capacity to give informed consent (this is possible when the illness is temporary or episodic)

Note: Two examples must be given for full marks.

Question 5a.**Sample response**

Dopamine

Mark allocation: 1 mark

- 1 mark for correctly identifying dopamine

Question 5b.**Sample response**

Dopamine is needed to control voluntary muscle movement. A low level of dopamine results in neurons firing uncontrollably. This means that an individual with Parkinson's disease cannot adequately control their voluntary movements. The resulting symptoms include shaky hands and instability.

Mark allocation: 3 marks

- 1 mark for a correct description of the role of dopamine in relation to controlling voluntary muscle movement, resulting in tremors
- 1 mark for explaining that when dopamine levels are low, neurons fire uncontrollably
- 1 mark for a link to a symptom associated with Parkinson's disease

Question 5c.**Worked Solution**

A similarity between Parkinson's disease and Alzheimer's disease is that they both involve the progressive degeneration of neurons in the brain. A difference is that in Parkinson's disease sufferers have depleted levels of dopamine, whereas in Alzheimer's disease sufferers have depleted levels of acetylcholine. Another difference is that Parkinson's disease results in problems with voluntary motor movement whereas Alzheimer's disease results in the inability to encode and recall both explicit and implicit memories.

Mark Allocation: 3 marks

- 1 mark for correctly identifying a similarity between both diseases.
- 1 mark each for correctly identifying two differences between both diseases

Note: Two differences must be given for full marks.

**Tip**

- When comparing concepts, ensure that your response includes terms such as 'whereas' or 'in comparison to' to clearly demonstrate that there is a comparison.

Question 6a.**Sample response**

Stefano is in the contemplation stage because he is thinking about changing his behaviour in the next few weeks and is exploring different dieting options, but he has not yet made any changes to his diet.

Mark allocation: 2 marks

- 1 mark for correctly identifying that Stefano is in the contemplation stage
- 1 mark for providing a justification that relates to the scenario in the question

Question 6b.**Sample response**

An advantage of the trans-theoretical model is that the model takes into account individual differences in readiness to change

A disadvantage of the trans-theoretical model is that there is a lack of research on the confounding variables that can influence change

Mark allocation: 2 marks

- 1 mark for providing a correct advantage of the model, including:
 - it is useful in understanding the process of behaviour change
 - it emphasises behaviour change as a process and not just a single event
 - it accounts for individual differences in people's readiness to change
 - it allows for setbacks and relapse
 - it is based on empirical research (evidence based)
- 1 mark for providing a correct disadvantage of the model, including:
 - a lack of research focusing on the confounding variables that can influence each step
 - its limited usefulness in the design of treatment interventions
 - it does not account for all of the cognitive processes involved in behaviour change
 - the lack of research supporting the validity of the time frames suggested in the model
 - disagreement about whether the stages are discrete or continuous

**Tip**

- *When asked to provide advantages and limitations of models, ensure that you explicitly label each of your points to make it clear which is the advantage and which is the limitation*

Question 7a.**Sample response**

The operationalised independent variable for the study was the method used to memorise the passage from a psychology textbook: reading a passage repeatedly or thinking about examples of ways to relate the information to their own lives.

The operationalised dependent variable for the study was the percentage of information recalled on a test on the content of the passage.

Mark allocation: 2 marks

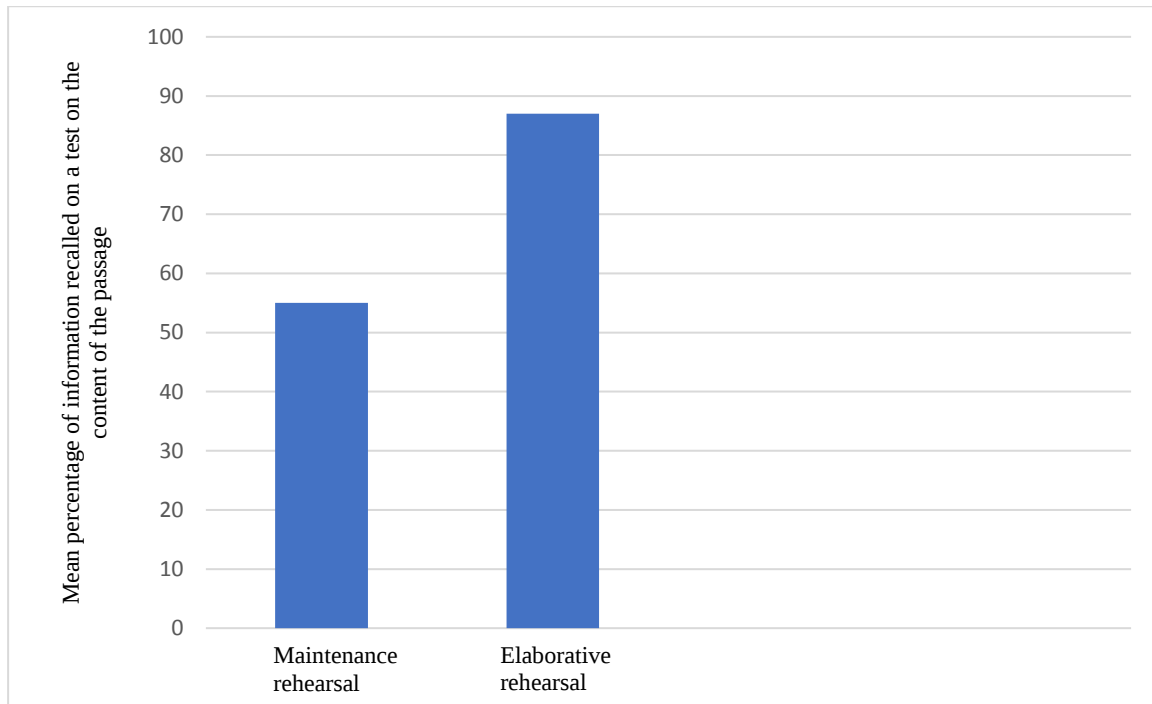
- 1 mark for identifying the operationalised independent variable
- 1 mark for identifying the operationalised dependent variable

**Tip**

- *Remember that there is a difference between a simple and operationalised variable; an operationalised variable will describe exactly how the experimenter manipulated the independent variable and measured the dependent variable.*

Question 7b.**Sample response**

The effect of rehearsal on memory retention

**Mark allocation: 3 marks**

- 1 mark for correctly labelling the x-axis as either:
 - maintenance rehearsal and elaborative rehearsal
 - repetition and assigning meaning
- 1 mark for correctly labelling the y-axis
- 1 mark for the correct type of graph and bars that show approximately 55% for group one and 87% for group two

**Tip**

- *When constructing a graph, you must ensure that you include labels on both axes and provide a title. Remember, the x-axis normally represents the independent variable, while the y-axis represents the dependent variable.*

Question 7c.**Sample response**

The results showed that a higher percentage of the content was recalled when participants learned the passage by relating the content to examples in their own lives (87%) compared with when participants learned the passage using simple repetition (55%). While the results support the research hypothesis, we cannot conclude that assigning meaning is more effective in learning new information due to the low validity of the experiment. Dr Back's experiment had low validity because the participants may have differed in reading ability: group one participants were Science majors while group two participants were English majors. Those in group two may have recalled a larger percentage of the content because they had more experience in learning large passages from books and stories rather than due to the effect of the independent variable.

Mark allocation: 3 marks

- 1 mark for discussing the results of the experiment with some reference to the means that were collected
- 1 mark for identifying that there was a low level of validity or reliability
- 1 mark for an explanation of a relevant extraneous variable and how it affected the results or an explanation that using one experimental trial cannot be considered consistent results

Question 7d.**Sample response**

Group one used maintenance rehearsal to learn the passage from the psychology textbook. Maintenance rehearsal involves repeating information so that it can be retained in short-term memory for longer. Information learned using maintenance rehearsal is unlikely to lead to long-term storage because it does not add meaning to the information. This makes it less likely to be encoded and stored in long-term memory.

In comparison, group two used elaborative rehearsal to learn the passage. Elaborative rehearsal involves giving meaning to new information and linking it with information already stored in long-term memory. Participants in group two were more likely to retain information in the passage for longer because elaborative rehearsal created cues to help them locate and retrieve the new information from long-term memory at a later time.

Mark allocation: 6 marks

- 1 mark for stating that group one used maintenance rehearsal
- 1 mark for an explanation of maintenance rehearsal
- 1 mark for explaining why maintenance rehearsal resulted in inferior recall, including:
 - it does not add to understanding
 - it is easily interrupted by new information or it restricts the amount of new information entering from short-term and long-term memory
- 1 mark for stating that group two used elaborative rehearsal
- 1 mark for an explanation of elaborative rehearsal
- 1 mark for explaining why elaborative rehearsal resulted in superior recall, including:
 - it increases understanding as it requires deeper processing
 - it adds detail, increasing chances of retrieval
 - it increases the possibility of long-term retention because it organises new information according to meaning
 - it creates more retrieval cues

Question 8

Sample response

For the past three months Cara has experienced increased stress levels due to an accumulation of daily pressures – minor troubles or concerns that arise in day-to-day living that act as irritants that annoy us and can make us upset. Cara wants to get into a specific university course so she must study hard so that she can get a good ATAR. Additionally, Cara has just started a new part-time job and is finding it stressful figuring out how to balance study and work.

It is likely that Cara will become ill in the lead-up to the exams because her continued experience of stress involves the interaction of psychological and biological processes.

The psychological process of stress relates to the transactional model of stress and coping. Cara's stress response depends upon her interpretation of the stressor and her ability to cope with it. During the primary appraisal stage, Cara will first evaluate her situation to determine if it is stressful. It is likely that Cara will judge her situation as a threat, because, even with her hard work, she might not get the marks required to get into her chosen university course. Cara will then go through secondary appraisal stage where she considers which resources are available to her. If Cara determines that she does not have enough resources to achieve her goal, she will perceive the situation as stressful.

The psychological perception of stress initiates a biological stress response in Cara. The biological model is the general adaptation syndrome (GAS) model. When Cara first perceived that she might not be able to get the marks to get into her preferred university course, she would have first entered shock (the first part of the alarm reaction stage), where her resistance to stress would initially fall below her normal baseline level.

When Cara's fight–flight response was activated, she would have experienced counter shock (the second part of the alarm reaction stage). This is when her resistance to stress would rapidly increase to above her baseline level. Because Cara's stressor was prolonged, she would have then gone into resistance (the second stage of GAS), where her body's resistance to the stressor rises above normal because cortisol is released to energise her body.

If Cara remains in the resistance stage for 3 months, her body will have been exposed to cortisol for a prolonged period. This would weaken Cara's immune system and make her more vulnerable to illness such as colds. Cara will then enter the exhaustion stage because her body cannot sustain a high level of resistance to stress and the effects of the stressor can no longer be overcome. During this stage, Cara's physiological systems may begin to show signs of wear and tear, leaving Cara vulnerable to illnesses such as ulcers.

Mark allocation: 10 marks

This question is marked globally out of a total 10 marks.

Marks	Criteria
8–10 marks	- Students will provide commentary on the likelihood of Cara becoming ill by considering both the transactional model of stress and coping and the GAS model. A lesser response will not discuss the interaction of the two models cohesively or will have minor errors. - Students will identify an appropriate source of stress and provide an example from the scenario. Acceptable sources of stress include: ➤ life events ➤ daily hassles that have accumulated. - Students will identify and explain the two stages of the transactional model of stress and coping in relation to the scenario. - Students will identify and explain the three stages of the GAS model in relation to the scenario. - Students' responses will be written coherently and fluently.
5–7 marks	- Students will provide commentary on the likelihood of Cara becoming ill. - Students will identify an appropriate source of stress and provide an example in relation to the scenario. Acceptable sources of stress include: ➤ life events ➤ daily hassles that have accumulated. - Students will identify and explain the two stages of the transactional model of stress and coping in relation to the scenario. - Students will identify and explain the three stages of the GAS model in relation to the scenario. - Students' responses will be written coherently.
4–5 marks	- Students will provide commentary on the likelihood of Cara becoming ill. - Students will identify an appropriate source of stress. Acceptable sources of stress include: ➤ life events ➤ daily hassles that have accumulated. - Students will identify and explain the two stages of the transactional model of stress and coping. Some elements may be missing. - Students will identify and explain the three stages of the GAS model. Some elements may be missing. - Students' responses will be written coherently.
2–3 marks	- Students will provide commentary on the likelihood of Cara becoming ill. - Students will identify an appropriate source of stress. Acceptable sources of stress include: ➤ life events ➤ daily hassles that have accumulated.

	• Students will identify or explain the two stages of the transactional model of stress and coping. Some elements may be missing. • Students will identify or explain the three stages of the GAS model. Some elements may be missing. • Students' responses may lack depth or detail.
1 mark	• Students will provide commentary on the likelihood of Cara becoming ill. • Students will identify an appropriate source of stress. • Students will identify the two stages of the transactional model of stress and coping. • Students will identify the three stages of the GAS model.

**Tip**

- *Ten-mark responses are marked holistically. This means that the overall quality of the response and the extent that it responds to the question stem is considered. In most ten mark responses, unless explicitly stated, it is best to avoid using dot points in your response. If you wish to organise your response to ensure that you have addressed each aspect of the question, subheadings are a good method of organisation.*

END OF SAMPLE RESPONSES