2018
VCE
Psychology
Trial Examination
Suggested Answers

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Answer Summary for Multiple-Choice Questions
2018 VCE Trial Examination

Q1	D	Q26	B
Q2	C	Q27	B
Q3	C	Q28	A
Q4	A	Q29	A
Q5	C	Q30	B
Q6	D	Q31	B
Q7	B	Q32	C
Q8	B	Q33	B
Q9	B	Q34	D
Q10	B	Q35	C
Q 11	C	Q36	B
Q 12	B	Q37	D
Q13	C	Q38	C
Q14	D	Q39	D
Q15	A	Q40	B
Q16	B	Q41	C
Q17	A	Q42	A
Q18	B	Q43	B
Q19	D	Q44	A
Q20	D	Q45	C
Q21	D	Q46	B
Q22	A	Q47	B
Q23	B	Q48	D
Q24	B	Q49	C
Q25	A	Q50	D

SECTION A – Multiple-choice questions

Question 1 Answer = D
The dendrite of the post-synaptic neuron receives chemical messages in the form of neurotransmitters that have been released into the synaptic gap by the axon terminal of the pre-synaptic neuron.

Study Design Reference:
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

Question 2 Answer = C
The same participants were used in both conditions of the experiment and experienced both the control and experimental condition. In other experimental designs participants are only exposed to one level of the IV and do an experiment once.

Study Design Reference:
Unit 1-4 Key Science Skills

Question 3 Answer = C
The sugar-free lollies were used to eliminate the placebo effect through the use of a single blind procedure. The placebo effect refers to participants' behaviour/responses being influenced by their expectations of how they should behave, caused by the belief that they have received some treatment and not the treatment itself.
Note: order effects may have been present due to the use of a repeated measures design - counterbalancing was not used to control them.

Study Design Reference:
Unit 1-4 Key Science Skills

Question 4 Answer = A
Debriefing occurs at the end of an experiment (not the beginning). Informed consent (B, C and D) must happen at the beginning of an experiment.

Study Design Reference:
Unit 1-4 Key Science Skills

Question 5 Answer = C

An altered state of consciousness is any state of consciousness that is characteristically different to NWC in terms of level of awareness, sensations, thoughts, feelings and memories that are experienced.
Some ASCs occur naturally such as sleep, daydreaming and other are induced eg meditation, hypnososis, alcohol, drugs, anaesthesia.

Study Design Reference:
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 6 Answer = D

Afferent (sensory) neurons: detect sensory stimuli (light, heat, pressure, chemicals) and transmit the stimulus to the CNS.

Interneurons (associational) neurons: lie w/in CNS receive signals from incoming sensory neurons, interpret them and stimulate outgoing motor neurons

Efferent (motor) neurons: transmit motor messages/ neural impulses from the brain and spinal cord to the muscles.

Study Design Reference:
The role of the neuron as the primary cell involved in the reception and transmission of information

Question 7 Answer = B

Conscious responses are voluntary responses which always involve the brain, though some voluntary movements (such as walking) require less conscious attention. These responses are coordinated by the somatic nervous system. In contrast, unconscious responses are involuntary; many of these are controlled within the spinal cord without involving the brain and are therefore referred to as spinal reflexes. This enables a faster response as it can be initiated before the message reaches the brain.

Study Design Reference:
The distinction between conscious and unconscious responses by the nervous system to sensory stimuli, including the role of the spinal reflex

Question 8 Answer = B

A test can be reliable without being valid. However, a test cannot be valid unless it is reliable; it cannot be measuring what it is supposed to measure without also being a consistent measure.

Study Design Reference:
Unit 1-4 Key Science Skills

Question 9 Answer = B
GABA has an inhibitory role on the fight-flight-freeze response; when a person has low levels of GABA there is an increase in agitation and anxiety which can contribute to anxiety and the development of a specific phobia.

Study Design Reference:
The relative influences of contributing factors to the development of specific phobia with reference to: gammaamino butyric acid (GABA) dysfunction

Question 10 Answer = B
Biological stress reactions (physiological): heart palpitations; skin rashes; headaches
Psychological stress reactions (behavioural and affective): Changes to eating habits; irritability; decreased concentration; memory impairment; changes to sleeping habits

Study Design Reference:
Stress as an example of a psychobiological process

Question 11 Answer = C
One way that communication between neurons can become more efficient is if the first neuron becomes more likely to release the neurotransmitter glutamate. Glutamate is an excitatory neurotransmitter that plays a key role in synaptic plasticity.

Study Design Reference:
The role of neurotransmitters in the neural basis of memory and learning (including the role of glutamate in synaptic plasticity)

Question 12 Answer = B
Informed consent occurs prior to an experiement and involves a participant, or their parent/guardian if they are under 18-years-old, being told what will be involved in the study, any potential risks involved and their rights. The participant (or parent/guardian) must then provide written agreement for their involvement in a study.

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

Question 13 Answer = C
Extinction of a conditioned response can occur if the conditioned stimulus is presented many times without being paired with the unconditioned stimulus

Study Design Reference:
The 'Little Albert' experiment as illustrating how classical conditioning can be used to condition an emotional response.
Classical conditioning as a three-phase process (before conditioning, during conditioning and after conditioning) that results in the involuntary association between a neutral stimulus and unconditioned stimulus to produce a conditioned response, including stimulus generalisation, stimulus discrimination, **extinction** and spontaneous recovery

Question 14 Answer = D
The fight–flight–freeze response is an innate and evolutionary phenomenon that is critical for survival; it outlines the responses of confronting, fleeing or becoming 'paralysed' when confronted with a stressor.

Study Design Reference:
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 15 Answer = A
The fight-flight-freeze is controlled by the activation of the sympathetic nervous system. When our sympathetic nervous system is activated, a number of physiological changes occur including increased heart rate, perspiration and breathing rate, dilation of pupils, decreased salivation and digestion and increased muscle tension.

Study Design Reference:
Models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion, including the **'fight-flight-freeze'** response and the role of cortisol

Question 16 Answer = B
Both eustress and distress are examples of stress, whilst they involve the same physiological responses, they differ in terms of the associated psychological response. Eustress is a positive psychological response to a stressor, whereas distress is a negative psychological response to a stressor

Study Design Reference:
Sources of stress (eustress and distress)

Question 17 Answer = A
Lazarus and Folkman's Transactional Model of Stress and Coping focuses on the psychological determinants of the stress response over which an individual has control. In contrast Selye's General Adaptation Syndrome focuses on the biological determinants of the stress response; the model was developed through research conducted on rats and outlined three stages (alarm reaction, resistance and exhaustion) of the stress response.

Study Design Reference:
Models of stress as a biological process, with reference to Selye's General Adaptation Syndrome and models of stress as a psychological process, with reference to Richard Lazarus and Susan Folkman's Transactional Model of Stress and Coping

Question 18 Answer = B
Meditation activates the parasympathetic nervous system which is responsible for calming a person's physiological responses after sympathetic nervous system arousal.

Study Design Reference:
The roles of different divisions of the nervous system (central and peripheral nervous systems and their associated sub-divisions)

Question 19 Answer = D
Decreasing bodily arousal and decreasing heart rate are both physiological changes. While in an altered state of consciousness Quinny would have change in his time orientation in that time may appear to pass more quickly or slower than normal.

Study Design Reference:
Changes in a person's psychological state due to levels of awareness, controlled and automatic processes, content limitations, perceptual and cognitive distortions, emotional awareness, self-control and time orientation

Question 20 Answer = D
Stress has both a psychological and physiological component. There are two types of stress – eustress which is associated with feelings of excitement and enthusiasm and distress which is associated with feelings such as frustration and irritability.

Study Design Reference:
Stress as an example of a psychobiological process

Question 21 Answer = D
Daily pressures include stressors in our day-to-day lives such as misplacing your phone or having a fight with a friend. These types of hassles or pressures seem fairly unimportant in the scheme of things however they can have a cumulative effect on our levels of stress and, ultimately, will negatively affect our mental and physical wellbeing.
In contrast however, life events, which can be positive or negative, such as death of a loved one or a beginning a new job are bigger events that have a more lasting impact.

Study Design Reference:
Sources of stress (eustress and distress) including daily pressures, life events, acculturative stress, major stress and catastrophes that disrupt whole communities

Question 22 Answer = A
Both eustress and distress are examples of stress, whilst they differ in terms of the associated psychological response, both have the same physiological response which involves the activation of the sympathetic nervous system

Study Design Reference:
Sources of stress (eustress and distress)

Question 23 Answer = B
Psychological changes can be categorised as behavioural, cognitive or affective. Changes in concentration are an example of a cognitive change that may be experienced when a person is stressed.

Study Design Reference:
Stress as an example of a psychobiological process

Question 24 Answer = B
Dyssomnias relate to problems with falling asleep and staying asleep, whereas parasomnias are characterised by unusual or abnormal behaviours during sleep. Both types of problems can be treated and can be experienced by people at any age, however parasomnias tend to be more common in childhood.

Study Design Reference:
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 25 Answer = A
Self-reports are statements and answers to questions made by patients/participants concerning their experiences (thoughts, feelings and behaviours) in relation to a psychological phenomenon. They can be in the form of questionnaires (with open and/or closed questions), diary entries or interviews. It is a measurement based on personal judgments and is therefore, subjective.

Study Design Reference:
Techniques to investigate consciousness (measurement of speed and accuracy on cognitive tasks, subjective reporting of consciousness, including sleep diaries, and video monitoring)

Question 26 Answer = B
In the shock phase, the body responds as though it is injured. Body temperature and blood pressure momentarily drop as the person or organism becomes aware of the situation. It is during this stage that people who are given bad news have been known to faint or, in extreme circumstances, have a heart attack. This effect lasts for a relatively short period of time.

Study Design Reference:
Models of stress as a biological process, with reference to Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion

Question 27 Answer = B
During prolonged stress, it also has the effect of suppressing the immune system and making us vulnerable to illness.

Study Design Reference:
The role of cortisol in stress

Question 28 Answer = A
Stress is subjective and is influenced by a person's perception, personality and past experiences.

Study Design Reference:
Stress as a psychological process

Question 29 Answer = A
Jeremy's sweating is indicative of sympathetic nervous system activation and the fight-flight-freeze response, which is an adaptive response. The purpose of perspiration is to cool the body down so that it doesn't overheat.

Study Design Reference:
Stress as a biological process, with reference to the 'fight-flight-freeze' response

Question 30 Answer = B
Perpetuating risk factors inhibit recovery, therefore making the mental disorder last longer than it otherwise would. In the case of Dylan, his sleep deprivation is making his stress worse and is inhibiting his recovery.

Study Design Reference:
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 31 Answer = B
Psychological effects of sleep deprivation can be categorised as behavioural, cognitive or affective. Mood disturbances are an example of an affective effect, clumsiness is a behavioural effect and memory problems and difficulties performing simple tasks are cognitive effects.

Study Design Reference:
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 Answer = C
During the preparation stage people have made a commitment to make a change, are now taking small steps toward cessation and are trying to gather information about what they will need to do to change their behavior.

Study Design Reference:
Models of behaviour change with reference to the transtheoretical model including the stages of pre-contemplation, contemplation, preparation, action and maintenance/relapse.

Question 33 Answer = B
Acculturative stress is stress arising from the need to adapt to a different culture, customs and laws, often experienced when migrating to a new country. In can also incorporate the stress associated with moving to a country which speaks a different language and the difficulties that arise from that, as is the case with Sula.

Study Design Reference:
Sources of stress (eustress and distress) including daily pressures, life events, **acculturative stress**, major stress and catastrophes that disrupt whole communities

Question 34 Answer = D
Avoidance coping strategies tend to be emotion focused as the fundamental goal is to avoid feelings of distress and emotional upset – even for a short period of time. Avoidance strategies include wishful thinking, denial, distancing, procrastination, distraction, rationalisation, substance abuse and oversleeping. Reading books is an example of distraction and pretending to be in another country is an example of denial and wishful thinking.

Study Design Reference:
Use of particular strategies (exercise and approach and avoidance strategies) for coping with stress.

Question 35 Answer = C
Whilst poor coping strategies can impact on the development of a mental illness and subsequent recovery it is not a know cause of a neurotransmitter imbalances. Such imbalances have a biological basis.

Study Design Reference:
The effects of chronic changes to the functioning of the nervous system due to interference to neurotransmitter function

Question 36 Answer = B
Neurotransmitters act as'keys' (with a unique molecular structure) that fit into the matching receptor sites, or 'locks' on the post-synaptic neuron, causing the neurotransmitter to have its effect (inhibitory or excitatory) on the cell.

Study Design Reference:
The role of neurotransmitters in the transmission of neural information between neurons (lock-and-key process)

Question 37 Answer = D
Inhibitory neurotransmitters decrease the likelihood that the neuron will fire an action potential. Some of the major inhibitory neurotransmitters include serotonin and gamma-aminobutyric acid (GABA). In contrast, excitatory neurotransmitters increase the likelihood that the neuron will fire an action potential. Some of the major excitatory neurotransmitters include epinephrine and norepinephrine.

Study Design Reference:
The role of neurotransmitters in the transmission of neural information between neurons (lock-and-key process) to produce excitatory effects or inhibitory effects

Question 38 Answer = C
Paula is almost asleep so would be showing alpha waves, these waves are also shown in the first stage of NREM sleep and also when a person is daydreaming. Hailey has just fallen asleep, meaning she would be in NREM 1 or 2, the characteristic waves of NREM sleep and that indicate someone is asleep are theta waves. Jodie is in a deep sleep which refers to NREM 3 & 4, the waves that charaterise this type of sleep are delta waves (which would be present with some theta waves also).

Study Design Reference:
Changes in levels of alertness as indicated by brain waves patterns (beta, alpha, theta, delta)

Question 39 Answer = D
The biopsychosocial model outlines that mental health is influenced by the interaction of internal (biological and psychological) and external (social) factors. The loss of significant relationships is an example of a social factor.

Study Design Reference:
Factors that contribute to the development and progression of mental health disorders – the influence of social risk factors

Question 40 Answer = B
The biopsychosocial model can be used as a framework to understand the interventions used to treat a mental illness. Psychological interventions such as counselling focus on a person's thought processes whereas biological interventions such as medication can help to target the underlying physiological cause of an illness.

Study Design Reference:
Biopsychosocial factors that contribute to the progression of mental health disorders

Question 41 Answer = C
Parasomnias are sleep disorders characterised by unusual or abnormal behaviours during sleep such as sleep walking. Sleep walking typically occurs during NREM 3 or 4 which is also called deep sleep. Most sleep walkers follow routine activities that are automatic and require very little conscious awareness, such as walking down a corridor, brushing their teeth or going to the toilet. Most often stare blankly as they sleep walk and do not respond to other people.

Study Design Reference:
The distinction between dyssomnias (including sleep-onset insomnia) and parasomnias (including sleep walking)

Question 42 Answer = A
The stage of attention in observational learning involves actively watching a model's behaviour. The learning is more likely to attend to a model who has similar characteristics to the learner, in this case, the same gender.

Study Design Reference:
Observational learning as a method of social learning, particularly in children, involving attention, retention, reproduction, motivation and reinforcement

Question 43 Answer = B
Adnan has used an independent groups design as his participants were split into two separate groups and only experienced one level of the IV – recall or recognition. There was no reference to pretesting and pairing of participants on a characteristic so it was therefore not a matched participants design.

Study Design Reference:
Unit 1-4 key science skills

Question 44 Answer = A
The independent variable in a study is the variable that is manipulated by the experimenter. In this investigation, Adnan manipulated the type of retrieval method used by his participants – either recall or recognition.

Study Design Reference:
Unit 1-4 key science skills

Question 45 Answer = C
Group 1 used free recall whereas Group 2 used recognition. Recognition is a more sensitive measure of retention and provides more retrieval cues, hence is a more effective method to retrieve information from memory.

Study Design Reference:
Methods to retrieve information from memory or demonstrate the existence of information in memory, including recall, recognition, relearning and reconstruction

Question 46 Answer = B
One of the first areas in the brain affected by Alzheimer's disease is the hippocampus. Atrophy, or shrinkage, in this area of the brain helps explain why one of the early symptoms of Alzheimer's disease is often impairment of memory, especially the formation of new memories.

Study Design Reference:
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 47 Answer = B
Systematic desentisation is a psychological treatment for phobias. The process involves a patient working with a psychologist to be gradually exposed to their fear inducing stimulus. The first step of the process involves creating a fear hierarchy.

Study Design Reference:
Evidence-based interventions and their use for specific phobia with reference to: systematic desensitisation as psychotherapeutic treatments of phobia (psychological)

Question 48 Answer = D
Stigma is a 'mark of disgrace' that labels a person as different and separates them from others. Individuals suffering from a specific phobia may be less likely to seek or accept help, due to embarrassment, shame, distress, helplessness, sadness or anxiety as a result of stigma relating to their illness.

Study Design Reference:
Social stigma around seeking treatment

Question 49 Answer = C
Mental health is a state of emotional and social wellbeing in which individuals realise their own abilities, can cope with the normal stresses of life, work productively and contribute to their community. Resilience is the capacity to recover quickly from setbacks and high levels of resilience is a characteristic of mental health.

Study Design Reference:
The typical characteristics of a mentally healthy person, including high levels of functioning, social and emotional well-being and resilience to life stressors

Question 50 Answer = D

An ultradian rhythm is a recurrent cycle that is repeated within a 24 hour cycle (ie less than 24 hours), an example relating to sleep is the REM/NREM cycle which is approximately 90 minutes in duration. In contrast, a circadian rhythm follows an approximately 24 hour cycle.

Study Design Reference:

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

End of 2018 Kilbaha VCE Psychology Units 3 and 4 Trial Examination
Detailed answers to Section A – Multiple-choice questions

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Section B
Short Answer Questions - Answers

Question 1

a. Sympathetic nervous system (a branch of the autonomic nervous system)

b. Division: Somatic nervous system (a branch of the peripheral nervous system)

c. Response: Conscious / Voluntary

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

Question 2

		Can be increased through	If exceeded, information can be lost due to
Capacity	*7+/2 bits of information*	**Chunking**	*Displacement*
Duration	**12-18 seconds (up to 30 seconds)**	*Rehearsal*	**Decay**

Study Design Reference:
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 3

a.

- Antecedent: going for a long drive
- Behaviour: fighting over the front seat (when going for a long drive)
- Consequence: getting yelled at (for fighting over the front seat)
- This consequence acts as **positive punishment** as the girls are receiving something undesirable (the yelling) which will reduce the likelihood of the girls fighting over the front seat when they are going for a long drive

b.

- Tamara could have used **response cost** whereby she
- removed something desirable from the girls,
- for example by reducing their pocket money whenever they fought which would decrease the likelihood of the girls fighting over the front seat when they are going for a long drive

Study Design Reference:

operant conditioning as a three-phase model (**a**ntecedent, **b**ehaviour, **c**onsequence) 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 4

- Exhaustion
- Resistance
- Alarm Reaction (Shock)

Study Design Reference:

Selye's General Adaptation Syndrome of alarm reaction (shock/counter shock), resistance and exhaustion

Question 5

a.

- Similarity: **both** girls have perceived their situation as **stressful**
- Difference: **Estelle** has perceived the situation as a **threat** as she is worried that she will get lost (future)
- *whereas* **Rosie** has perceived the situation as a **challenge** as she is looking forward to the opportunities at the school

b.

- Problem-focused strategy: eg. get a map of the school
- Emotion-focused strategy: eg. talk to her mum about how she is feeling

Study Design Reference:

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 6

a.

- The dependent variable (eyewitnesses, operationalised as year 11s or year 10s) was incorrect
- The correct dependent variable should have been the number of participants who described the robber as a man

b.

- Non-random allocation
- Has the potential to introduce individual participant differences that can impact the results (in the case of Jade's experiment, it meant that the participants' year level was a confounding variable)

c.

- Jade could have used random allocation
- If the sample is large enough, this means that the E-group and the C-group will be equivalent on all participant characteristics and the presence or absence of the IV will be the only difference between them

d.

- The year 10 class were asked a **leading question** which implied that the robber was a man
- According to Loftus's research, **eyewitness memory** is particularly susceptible to being **reconstructed** (updated/reconsolidated) during retrieval to **include false information** that may be introduced during questioning, especially if the questions include leading information regarding details that were not actually witnessed.
- Therefore, in Jade's investigation, the potentially misleading information in the last question of stage 2 meant that the Year 10s would be more likely to recall the robber as a man
- than those in Year 11 who were not asked a leading question

Study Design Reference:

Unit 1-4 Key Science Skills

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 7

- Ashling would require fewer hours of sleep (approximately 6 hours) than her granddaughter Poppy who would require approximately 16 hours
- Ashling would also spend a smaller proportion of time (approximately 20%) in REM sleep than Poppy who would spend approximately 50% of her sleep in REM

Study Design Reference:

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 8

a.

- An example of an approach strategy is to **make a study timetable** for the upcoming SAC
- this will help to reduce stress by **directly alleviating the problem** of having a big workload to manage - it is an adaptive and healthy response to stress

b.

i.

- Madeline is experiencing ongoing levels of stress due to her **low levels of coping flexibility**
- Yoga has become an **ineffective coping strategy**
- however Madeline has failed to adapt effectively to the stress of year 12 as she is **not replacing yoga with a different strategy**.

ii.

- (This is an example of context-specific effectiveness -) In Year 12 Madeline is experiencing a **similar type of situation/stressor** to Year 11
- Madeline has gone to yoga in Year 12 because it was a **useful/ appropriate way for her to manage her stress in** year 11 - this **past experience** has resulted in her using the same (previously effective) strategy again

Study Design Reference:

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

Question 9

- Sleep evolved to **enhance** an animal's **survival** in its environment
- Limitation *(One of):*
    - Does **not explain why** we **must** have **sleep** - all species sleep, despite the amount of food (abundant or scarce) or danger they are in
    - Sleeping can be **dangerous** - the **loss of awareness** during sleep makes the animal very **vulnerable** to predators and unlikely to be able to respond to danger.

Study Design Reference:

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

Question 10

a. Beta waves

b.

- An decrease in frequency of his brainwaves
- An increase in amplitude of his brainwaves

Study Design Reference:
Changes in levels of alertness as indicated by brain waves patterns (beta, alpha, theta, delta)
The measurement of physiological responses to indicate different states of consciousness, including electroencephalograph (EEG)

Question 11

Similarity *(one of)*:

- Both are chemical substances that affect the nervous system and brain activity.
- Both impact on consciousness by altering thoughts, feelings, perceptions and behaviours

Differences *(any two of):*

- Depressants **decrease** nervous system activity (slows the NS) whereas stimulants increase NS activity (and **increase autonomic nervous system activity**, such as blood pressure and heart rate)

- Depressants tend to **decrease levels of alertness** whereas stimulants increase levels of alertness

- Depressants can **increase** the presence of **lower frequency brainwaves**, such as delta, theta and alpha whereas stimulants can **increase** the presence of **higher frequency brainwaves**, such as beta (and gamma)

Study Design Reference:
Drug-induced altered states of consciousness (stimulants and depressants)

Question 12

a.

Any one of (must include an example in explanation):

- **Direct exposure** to a distressing or traumatic event eg developing a fear of dogs after being attacked by a dog

- **Witnessing other people** experiencing a traumatic event, eg. developing a fear of dogs after seeing another person being attacked by a dog

- **Reading or hearing about** dangerous situations or events eg. developing a fear of dogs after hearing stories about children, adults or family pets being attacked by a dog.

b.

- Short-acting anti-anxiety benzodiazepine agents are also known as **GABA agonists**
- As **low levels** of GABA contributes to the development of an anxiety disorder such as a specific phobia,
- benzodiazepines **mimic** GABA's **inhibitory** effects
- by **binding to receptors** and **reducing the activity** of the neurons

c.

- Vigorous exercise can work off our anxiety by **using up stress hormones** such as adrenalin, noradrenalin, cortisol and glucose that are released into the bloodstream

- **Beta-endorphins** are produced during physical exercise and, along with serotonin and dopamine, help **improve our mood** and even give us a sense of **euphoria**.

d. *Any two of:*

- Help the sufferer to replace these with more realistic thoughts
- Provide evidence to help reduce catastrophic thinking
- Challenge cognitive and memory bias
- Underplay threat information
- Encourage positive thinking

Study Design Reference:
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 and exercise (biological); the use of cognitive behavioural therapy (CBT) and psychoeducation for families/supporters with reference to challenging unrealistic or anxious thoughts and not encouraging avoidance behaviours (social).

Question 13
This question should be assessed against the following criteria:
• *identification and explanation of formal psychological terminology relevant to the question*
• *use of appropriate psychology terminology*
• *discussion of relevant psychological information, ideas, concepts, theories and/or models and the connections between them*
• *analysis and evaluation of data, methods and scientific models*
• *drawing of evidence-based conclusions and explanation of limitations of conclusions*

Possible answer:
The first step refers to organising your space to prevent distractions which would stop you from focusing. Focus is KEY as, according to the Atkinson-Shiffrin model of memory, in order for information to be transferred from sensory memory to short term memory.

The technique in step 2 refers to practice repeating definitions over and over again – this is an example of maintenance rehearsal. Maintenance rehearsal is effective at keeping information in short term memory however it is not the best strategy to get information transferred into LTM, Repetition of information is important to strengthen neural connections however maintenance rehearsal is not the best strategy to use. The pamphlet should instead focus on the elaborative rehearsal techniques that it refers to in step 3 & 4.

"Meaningful understanding" refers to the concept of elaborative rehearsal which enhances encoding into and retrieval from LTM (from/into STM) by providing more retrieval cues. Elaborative rehearsal involves making links between new information and information already stored in LTM. It is more effective at encoding information into LTM than maintenance rehearsal is and it can also enhance retrieval as it increases the number of retrieval cues which trigger retrieval of memories. Mnemonic devices and image-name associations are both examples of elaborative rehearsal and are therefore sound strategies that are backed up by psychological theory.

Strategy 5 recommends studying in different locations. Whilst it correctly outlines that you memory can be triggered by different cues in your environment, known as context-dependent cues, it is best to make the environment as similar as possible to the environment in which the information will be recalled. Therefore, it should be advised that when studying you should do so in a place where the external environment as similar as possible to the one in which you will be retrieving the information. For example, if you are studying for a test which will be completed in silence, it is best to prepare for it in silence.

Lastly, strategy 6 of revisiting the material is the key underpinning of long-term potentiation, that is that strengthened connections between neurons will result when the neurons are repeatedly co-activated. Strengthening the neural connections will result in stronger memory traces which are more easily retrieved into LTM when needed.

Overall, the pamphlet provides some useful strategies that are backed up by psychological theory however it is necessary to keep in mind that maintenance rehearsal alone is not an effective technique that will lead to LTM retention. Furthermore, when studying it is important to consider context-dependent cues and study in an environment that is similar to the one in which the information will be recalled.

Study Design Reference:

The factors influencing a person's ability and inability to remember information, including context and state dependent cues, maintenance and elaborative rehearsal

The multi-store model of memory (Atkinson-Shiffrin)

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

End of 2018 Kilbaha VCE Psychology Units 3 and 4 Trial Examination
Detailed answers to Section B – Short answer questions

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Useful Web Links for VCE Psychology

https://www.verywellmind.com/what-is-a-neurotransmitter-2795394

http://www.stressstop.com/stress-tips/articles/fight-flight-or-freeze-response-to-stress.php

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5714480/

https://qbi.uq.edu.au/brain/brain-anatomy/types-neurons

https://www.verywellhealth.com/what-is-the-hippocampus-p2-98810

https://www.simplypsychology.org/Systematic-Desensitisation.html

End of Web Links VCE Psychology

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