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**2016**

**TRIAL EXAMINATION**

**VCE PSYCHOLOGY**

**UNITS 3&4**

**ASSESSMENT GUIDE**

**IMPORTANT NOTE**

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#### Section A – Multiple choice questions

**Question 1**

**Questions 1, 2, 3 & 4 refer to the following scenario.**

Rob is driving his girlfriend, Sue, along the Calder freeway from Melbourne to Bendigo. They have been driving along in a 110 kph zone for over 30 minutes.

**Question 1**

Sue is sitting in the passenger seat, vaguely listening to the radio with her thoughts drifting between seeing Rob’s parents again and what she will wear to the dance tonight. Rob suddenly says “Sue, have you heard what I’ve been saying?”

Sue had probably been

**Answer: D.** in an altered state of consciousness (daydreaming)

**Question 2**

Rob has been driving for seven years, so whilst they are travelling along in light traffic, he is in a relaxed state of normal waking consciousness (NWC), for Rob, this form of driving is probably a(n)

**Answer: C.** automatic process allowing divided attention

**Question 3**

Suddenly the car in front brakes hard and indicates that it is stopping in the emergency lane. Rob brakes and is forced to swerve into the outside lane to avoid hitting the other car.

As Rob executes this manoeuvre to avoid an accident, he becomes very alert and his driving at this stage is probably a(n)

**Answer: B.** controlled process requiring selective attention

**Question 4**

Sue did not see the other car, but finds that the sudden swerve has left her with a pounding heart, she is hyperventilating and her hands are sweating. Her reaction is probably the fight-or-flight response controlled by the

**Answer: A.** sympathetic division of the autonomic nervous system

**Question 5**

Even experienced drivers are prohibited from using a mobile phone, except through a hands-free device. This is because it is considered that drivers

**Answer: C.**cannot perform two controlled processes (driving and holding a conversation on a mobile phone) at the same time

**Question 6**

In a sleep laboratory, Ada is connected to an Electromyograph (EMG). During Non-Rapid Eye-Movement sleep (NREM), Stage 4, the EMG would show

**Answer: B.** low levels of electrical activity in the muscles of the body

**Question 7**

Ada was also attached to an Electroencephalograph (EEG). For most of the time that Eva was in REM sleep, the EEG would show

**Answer: C.** beta-like waves with a ‘saw-tooth’ pattern

**Question 8**

There are several theories of why we sleep. Which of the following provides evidence in support of the ‘Restorative Theory’?

**Answer:** **D.** Athletes will sleep approximately an extra 90 minutes the night they have run a marathon.

**Questions 9 & 10 refer to the information below:**

Jenny is an outdoor education teacher who has been leading a group of students and supervising teachers on a 5-day hike up Mt Kosciuszko and back towards the Snowy River. During this time she has been awakening regularly and patrolling to check that all hikers are safe.

As a result of this, she has been averaging only 4-5 hours sleep per night and is feeling very fatigued.

**Question 9**

It is likely that Jenny

**Answer: B.** will find the simple task of lighting a gas stove to boil water more difficult than usual.

**Question 10**

As she keeps walking, it is likely that Jenny will experience

**Answer: C.** microsleeps

**Question 11**

The sympathetic nervous system is

**Answer:** **A.** responsible for the fight-or-flight response

**Question 12**

If the corpus callosum is severed

**Answer: A.** information from the extreme right visual field will be processed in the left occipital lobe

**Question 13**

Broca’s area is almost always located in the

**Answer:** **D.** association cortex of the left frontal lobe

**Question 14**

Broca’s aphasia

**Answer: B.** is sometimes referred to as *expressive aphasia*

**Question 15**

Wernicke’s aphasia

**Answer: A.** may result from damage to the left temporal lobe

**Question 16**

Damage to the left cerebral hemisphere is likely to cause problems with

**Answer:** **C.** Sensation in the right side of the body and movement of the right side

**Questions 17 and 18 refer to the following information**

In ‘split-brain’ research, Sperry and Gazzaniga studied patients who had had operations to sever the corpus callosum, in order to prevent severe epileptic seizures.

**Question 17**

A ‘split-brain’ patient has the word “BALLPARK” flashed across the centre of a screen in front of him. He could then perform which of the following?

**Answer:** **D.** Say “Park”

**Question 18**

A picture of a ball was flashed to his left visual field. He could then perform which of the following?

**Answer: C.** Pick a ball out of a variety of objects under a screen – using his left hand

**Question 19**

Maisy has recently suffered a stroke that has damaged her right parietal lobe. She has moved into a nursing home where she is well looked after. When a nurse’s aide brings her dinner, Maisy is likely to eat

**Answer:** **D.** only the food from the right side of her plate

**Question 20**

The part of the temporal lobe most involved with linking emotions to memories is the

**Answer: B.** amygdala

**Question 21**

Patients suffering anterograde amnesia can usually remember what has occurred during the past 20 to 30 minutes, but the memories are not stored longer than that. This suggests that anterograde amnesia involves difficulty with

**Answer: D.** consolidation of memories

**Question 22**

Physiological characteristics of Alzheimer’s disease include

**Answer:** **D.** all of the above are correct

**Question 23**

The first sign of Alzheimer’s disease is most commonly difficulty forming new memories. This suggests that the part of the brain first affected is the

**Answer: B**. hippocampus

**Question 24**

The duration of short-term memory for the average adult is considered to be

**Answer: A**. 12 to 30 seconds

**Questions 25, 26 and 27 refer to the information below:**

During a Unit 3 VCE Psychology class, a list of 25 words was read to students. When asked immediately to recall as many of the words as possible, the following shape of graph was plotted from the results (Graph A):

During a different VCE Psychology class, the same list of 25 words was read to students. The following day these students were asked to write down the words from the list. The results were as shown on the graph below (Graph B):

**Question 25**

In Graph A, Words from the beginning and end of the list are recalled better than those in the middle of the list. This is because words in the middle of the list

**Answer: A.** are neither in long-term memory nor in short-term memory

**Questions 26**

In Graph A, Words from the end of the list are recalled better than those in the middle of the list. This is because words at the end of the list

**Answer: B.** remain in short-term memory

**Question 27**

In Graph B, the reason that only words from the beginning of the list are well recalled is because due to the delay

**Answer: B.**  the recency effect does not occur but the primacy effect does occur

**Question 28**

According to Craik and Lockhart’s “Levels of Processing” theory

**Answer: C.** information processed by semantic encoding will be retrieved most efficiently

**Question 29**

According to the information processing model of memory (Atkinson & Shiffrin), transferring material from short-term memory to long-term memory requires the process of

**Answer: D.** elaborative rehearsal

**Question 30**

Items are considered to be lost from sensory memory through

**Answer: A.** decay only

**Question 31**

According to Baddeley and Hitch, the purpose of the central episodic buffer in working memory is to

**Answer: D.** transfer information to and from long-term memory

**Question 32**

Motivated forgetting occurs when a person has a reason to forget experiences, this may occur through repression, which means that

**Answer: B.** the mind unconsciously refuses to access a memory as a protection mechanism

**Question 33**

Ming’s wallet was stolen. He obtained a replacement credit card with a new PIN number. When he tried to use the card he kept entering his old PIN and was locked out of the account.

Ming was experiencing

**Answer:** **D.** proactive interference where the old PIN is inhibiting his retrieval of the new PIN

**Question 34**

Joe and Jim had witnessed a car accident and were interviewed by reporters for two local newspapers

Reporter A asked Joe “How fast were the cars going when they smashed into each other?”

Reporter B asked Jim “How fast were the cars going when they hit each other?”

The likely responses are most likely to show that

**Answer: C.** Joe’s estimate was faster than Jim’s

**Question 35**

Which of the following is an acronym?

**Answer:** **D.** ASEAN

**Question 36**

A *fixed action pattern* is

**Answer:** **D.** genetically programmed

**Question 37**

Most human children learn to walk by the age of about 16 months, this is referred to as

**Answer:** **A.** a behaviour acquired due to maturation

**Question 38**

When learning occurs, neurotransmitters are released into the synapses. Three of these neurotransmitters closely involved with learning and memory are

**Answer: C.** glutamate, acetylcholine and dopamine

**Question 39**

It is very important that, in the first few days and weeks of life, children are exposed to visual stimuli varying in dark and light shades and vision of movement. This is because those weeks represent an extremely \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ during which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ experiences need to occur

**Answer: B.** sensitive period ; experience dependent

**Question 40**

In terms of *developmental plasticity* which of the following are the first two process to occur – in the correct sequence?

**Answer:** **C.** proliferation; migration

**Question 41**

Myelination is a process that commences before birth and continues into the early 20s for humans. Myelination of axons leads to

**Answer: A.** increased efficiency of neural impulse transmission

**Question 42**

In operant conditioning extinction occurs when

**Answer: B.** a voluntary response no longer occurs when a discriminative stimulus is presented

**Question 43**

In operant conditioning, stimulus generalisation occurs when

**Answer: A.** a voluntary response occurs in the presence of a stimulus similar to the antecedent condition (discriminative stimulus)

**Question 44**

In classical conditioning, stimulus discrimination occurs when

**Answer:** **C.** a stimulus similar to the conditioned stimulus no longer causes the conditioned, reflexive, response

**Question 45**

Which of the following is true about negative reinforcement?

**Answer:** **B**. negative reinforcement increases the strength of a desired response

**Question 46**

According to Social Learning Theory (Bandura), children use modelling in order to

**Answer: D.** learn behaviours that are gender-appropriate

**Question 47**

According to Bandura, the correct sequence of stages in observational learning is

**Answer: B.** Attention; Retention; Reproduction; Motivation; Reinforcement

**Question 48**

It is more likely that a child will imitate an adult’s behaviour if the child

**Answer: A.** wishes to be like the adult

**Question 49**

A researcher has a rat in a Skinner Box. She aims to teach the rat to push a button every time a light flashes and she wishes this behavior to be acquired as quickly as possible.

Which schedule of reinforcement would be most likely to achieve this result?

**Answer: D.** Continuous reinforcement

**Question 50**

The method of successive approximations, or shaping, is often used to train animals to perform complex sequences of behaviour for their part in a film or television show. This is a practical application of which of the following?

**Answer: A.** Operant conditioning

**Question 51**

In Watson’s experiment with “Little Albert”, Albert was conditioned to fear the white rat, but he was also frightened by a white rabbit.

This demonstrated

**Answer: B.** stimulus generalization in classical conditioning

**Question 52**

A mental health condition can be considered a disorder if it

**Answer: A.** interferes with an individual’s ability to function independently

**Question 53**

What are some benefits of using the biopsychosocial model of mental health?

**Answer: D.** all of the above are benefits of the biopsychosocial model

**Question 54**

Which row is correct in the following table of factors contributing to mental health?

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Biological** | **Psychological** | **Social** |
| A | genetics | cognition | support networks |

**Question 55**

Self-report inventories are a common means of collecting information about persons presenting with mental health conditions. The information collected in this way is

**Answer: D.** subjective and may be qualitative and/or quantitative

**Question 56**

Criticisms of the ICD and the DSM include the fact that they have tended to be categorical classifications and may encourage ‘labelling’. A preferable system would be more

**Answer: A.** dimensional

**Question 57**

When stressed, a person will show elevated levels of arousal; as they calm down their body functions return to their normal levels. This return to balance is achieved through the working of the

**Answer: D.** parasympathetic nervous system

**Question 58**

A typical arousal response will include all of the following except

**Answer; D.** decreased blood pressure and stimulation of tear glands

**Question 59**

Lazarus and Folkman’s *transactional model* was developed

**Answer: A.** through research on humans

**Question 60**

The ‘allostatic systems’ include all of the following except the

**Answer: D.** circulatory system

**Questions 61 and 62 refer to the following information:**

Jack is due to commence Year 12 soon. As he unpacks his books for his chosen subjects he begins to feel stressed about all the work that he faces in the coming year.

After he has discussed his feelings with a friend who has just finished VCE, he begins to plan how he will approach his studies and his feelings change to those of excitement.

In terms of Lazarus and Folkman’s model

**Question 61**

Jack’s feeling of concern when he was starting to unpack his books was a result of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and he perceived the situation as a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer: C.** primary appraisal; threat

**Question 62**

Jack’s feeling of excitement after talking to his friend about how he can plan his studies was a result of

**Answer: A.** problem-focused coping

**Question 63**

Physical activity is recommended to help deal with stress, in fact it is sometimes referred to as *moving meditation*. The benefits of physical activity include

**Answer: D.** all of the above are benefits of physical activity

**Question 64**

Meditation differs from physical activity in its effects because meditation

**Answer: D.** increases alpha waves in the EEG

**Question 65**

Joanne is feeling stressed as she has many pressures from school and her part-time job. She finds that she can reduce her feelings of anxiety using her Fitbit. She sits still and thinks calm and peaceful thoughts and reduces the speed of her heartbeats shown on the device. Joanne is using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in order to return her metabolism to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer: C.** biofeedback; homeostasis

**SECTION B – Short answer section:**

*As long as the meaning of a word is clear and unambiguous, marks are not deducted for spelling errors* ***except*** *as specified in this guide.*

*Where part of a sample answer is shown in parentheses, it is for information and would not be required in a student response.*

**Question 1**

1. Sophie remembers learning to drive a manual car – she had to concentrate so hard that she couldn’t even have the radio on! Five years later, she enjoys the experience – even driving through town, listening to music and observing all the interesting things that are going on around her!”

In terms of level of attention and automatic and controlled processes, explain what has happened as Sophie has become an experienced driver. 2 marks

**Answer:** *At first, driving was a controlled process, requiring selective attention and Sophie was unable to pay attention to other stimuli in the environment. Five years later, driving has become an automatic process, requiring little attention from Sophie, so she is able to divide her attention and perform several other processes at the same time.*

**Marking Protocol:**

**1 mark:** For relating *controlled process* and *selective attention* in the scenario

**1 mark:** For relating *automatic process* and *divided attention* in the scenario

**b.** It is possible that an altered state of consciousness (ASC) can be identified from *content limitations (or lack thereof)*. Explain this statement and give an example. 2 marks

**Answer:**

Explanation: *In an ASC a person’s thoughts may wander from topic to topic without a logical sequence.*

Example: *A person who is drunk cannot hold a sensible conversation on one topic.*

**Marking Protocol:**

**1 mark:** For appropriate explanation.

**1 mark:** For appropriate indication that thoughts may wander illogically in ASC.

**Question 2**

**a.** What is measured by an EOG? 1 mark

**Answer:** *Electrical activity in the muscles that move the eyes.*

**Marking protocol:**

**1 mark:** Response as above

**b.** What will an EOG show during REM sleep? 1 mark

**Answer:** *Increased (very high) level of electrical activity in the muscles near the eye.*

**Marking protocol:**

**1 mark:** Response as above

**c.** Moira has been taking part in an experiment in which she has been awakened every time the EEG begins to show delta waves. So far the study has lasted two days. Indicate the likely effects on Moira’s performance on the following: 1 + 1 = 2 marks

i) completing a difficult assignment for her university course

**Answer:** *Moira’s performance will be the same as usual*

**1 mark:** Answer as above

ii) her part-time job, stacking shelves in a supermarket

**Answer:** *Moira will find more difficulty with this task than she usually does*

**1 mark:** Answer as above

**Question 3**

1. Explain why a large proportion of the primary motor cortex is devoted to the fingers

and hands/lips and tongue. 2 marks

**Answer:** *These are the parts of the body capable of the most precise and delicate movement and therefore have the greatest concentration of sensory neurons, requiring large numbers of neurons in the primary motor cortex to control these movements.*

**Marking protocol:**

**2 marks:** Response indicates precise motor control (large number of motor neurons) in these parts of the body

**1 mark:** Response indicates large numbers of neurons **or** cortical neurons

**b.** Which part of the Primary Somatosensory Cortex registers pressure on the left foot?2 marks

**Answer:** *Upper part in right hemisphere*

**Marking protocol:**

**2 marks:** Both *upper part* and *right hemisphere* are identified

**1 mark:** One of the pieces of information is given

**Question 4**

Julia is an elderly patient who has been diagnosed with left neglect.

**a.** What part of the Julia’s brain has been damaged? 2 marks

**Answer:**

* *The right parietal lobe*

**Marking protocol:**

**2 marks:** Both *right* and *parietal* are identified

**1 mark:** One of the above points is made

1. When asked to draw a picture of a clock face, what will be the characteristic features of Julia’s drawing if she does include all numbers from 1 to 12?

(Your answer may include a diagram, but a written description is also required) 2 marks

**Answer:** *She will draw the right-hand side of the clock only. If she does include the left it will be misshapen and the numbers (7 – 11) will probably be on the right side.*

**Marking protocol**

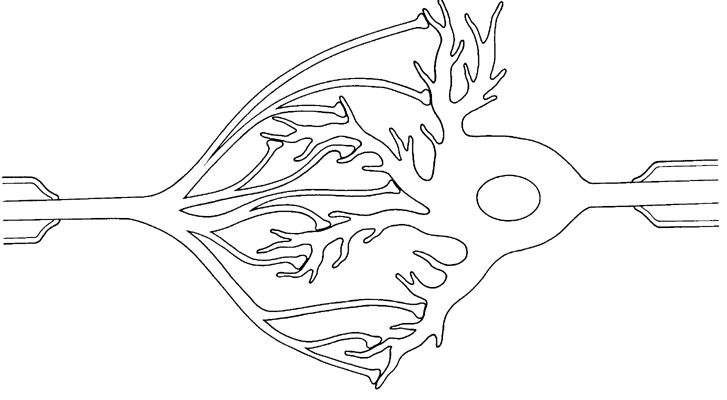
**2 marks:** Both of the above points are made

**1 mark:** One appropriate point is made

**Question 5**

Below is a simplified diagram of parts of two neurons. Label the following:

Axon terminal; dendrite; synapse; nucleus. 2 marks



**Marking protocol**

**2 Marks:** 3 or 4 of the above correctly labeled

**1 mark:** 1 or 2 of the above correctly labeled

**Question 6**

Indicate the role of neurotransmitters in communication between two neurons. 2 marks

**Answer:**

1. *Molecules of neurotransmitter from pre-synaptic neuron are released into the synaptic cleft*
2. *The neurotransmitter molecules fit into receptor sites on the dendrites of the post-synaptic neuron and increase electrical charge.*
3. *When the electrical charge has built up sufficiently in the post-synaptic neuron, a neural impulse will travel down the axon of that neuron*

**Marking protocol:**

**2 marks:** Two of the above points are made

**1 mark:** One point is made

**Question 7**

George is making a cake. He reads the recipe and measures out the ingredients, then follows the instructions for mixing and cooking.

According to Baddely and Hitch, give examples of how various components of working memorycould be involved in this process. 4 marks

**Answer:**

1. *He reads the ingredients and steps in the recipe and stores these in the visuo-spatial sketchpad*
2. *The phonological loop holds the sounds of the measures and processes needed*
3. *The episodic buffer retrieves word meanings and procedures from long-term memory*
4. *The central executive plans and executes the sequence of procedures and processes*

**Marking protocol**

**1 mark:** For each nominated component of working memory with an appropriate function indicated, to a maximum of four (other functions can also be included, such as visuo-spatial sketchpad holding picture of the mixture & central executive making jidgement about consistency of mixture etc.)

**Question 8**

There was a serious accident when a stand collapsed at a football match. Several people were killed and many more injured. The coroner took evidence from many eye-witnesses but no clear picture of the event emerged. The coroner therefore arranged for 20 eye-witnesses to be taken to the site of the accident and she took statements from them at that location.

Why did the coroner use this strategy? Explain why she expected the witnesses to have more accurate recall in this situation. 4 marks

**Answer:**

1. *Context cues*
   1. *material will be retrieved more effectively in the external environment in which it was learned*
   2. *witnesses will recall the events more clearly at the site*
2. *State-dependent cues*
   1. *material will be retrieved more effectively if the person is in the same internal state (mood/level of arousal etc.) as when learning occurred:*
   2. *the witnesses are likely to be aroused returning to the scene of the tragedy – reflecting the emotional state they would have been in at the time and therefore improving recall*

**Marking protocol:**

**1 mark:** for each of the above points to a maximum of four (or other appropriate response)

**Question 9**

**a.** What is an alternative term for *fixed action pattern*? 1 mark

**Answer:** *Species specific behaviour*

**Marking protocol:**

**1 mark:** Answer as above

**b.** Give an example of a species specific behaviour and show how this differs from a reflex action. 2 marks

**Answer:** *A funnel web spider spinning its tubular web. This is a complex behaviour (compared with a reflex action) and is shown only by this specific species of spider, not by many species.*

**Marking protocol: 1 mark –** for each of an appropriate example and differentiation from a reflex action.

**Question 10**

Using an example (or two separate examples), explain the meaning of the terms *stimulus generalization* and *stimulus discrimination* as they apply in **classical conditioning**. 4 marks

**Answer:**

*Stimulus generalization - My dog had been to stay with my mother for two weeks. My mother uses an electric can opener to open the tins of dog food; when my dog came home again I noticed that he salivated whenever I turned on the extractor fan over the oven.*

*Stimulus discrimination - After a few days, however, the salivation stopped happening when the fan was turned on, but when I used an electric can opener, he salivated again.*

**Marking protocol:**

**1 mark:** for each correct identification of stimulus generalization, and stimulus discrimination

**1 mark:** for each appropriate example

**Question 11**

Use an example to show how *spontaneous recovery* can occur in classical conditioning. 3 marks

**Answer:** *I use an electric can opener to open tins of dog food; I notice that my dog salivates any time I use the electric can-opener. He went to stay with my mother for two weeks and she fed him fresh food, so whenever the electric can-opener was used there was no dog food and after a few days he stopped salivating to the sound of the can-opener. After several days during which the can-opener was not used, when it was started again, he salivated a little.*

**Marking protocol:** 1 mark for each of:

* + - Appropriate example
    - Showing extinction of conditioned response
    - Showing spontaneous recovery

**Question 12**

Using an example (or two separate examples), explain the meaning of the terms *stimulus generalization* and *stimulus discrimination* as they apply in **operant conditioning**. 4 marks

**Answer:** *A customs dog is being trained to sit and stare at a piece of luggage that contains marijuana. Early in his training he is rewarded several times for sitting and staring at luggage that has been treated with marijuana smell – soon he sits and stares at any piece of luggage containing vegetable material. After several days during which he is only reinforced for staring at marijuana treated luggage he learns to respond only to the target smell.*

**Marking protocol:**

**1 mark:** for each correct identification of stimulus generalization, and stimulus discrimination

**1 mark:** for each appropriate example

**Question 13**

Use examples to explain the difference between *negative reinforcement* and *punishment* in operant conditioning 4 marks

**Answer:**

*The difference is that punishment weakens a response whereas negative reinforcement strengthens a response. Negative reinforcement - I have a headache and I take a Panadol – the headache goes away giving me a good outcome and making it more likely that next time I have a headache I will quickly take a Panadol.*

*Punishment - Fred drinks too much at a family barbeque. The next day he has a bad headache. He is less likely to drink too much at future family barbeques.*

**Marking protocol: 2 marks:** Discriminative stimulus identified and appropriate example given

**1 mark:** Unclear example

**Question 14**

**a.** Give two events in modelling that decrease the likelihood that a child will imitate the model’s behaviour. 2 marks

**Answer:**

* *Seeing the model punished*
* *Being punished for the behaviour*

**Marking protocol: 1 mark –** for each of the above points (or other appropriate characteristic) to a maximum of two

**b.** Josie wants to use modelling to teach her daughter, Joanna, how to tie her shoe-laces. Suggest how she should proceed to teach Joanna. 4 marks

**Answer:**

1. *Attention – Active watching; Josie ensures that Joanna is watching closely as she crosses the laces and makes a knot and then makes loops into a bow*
2. *Retention – Joanna forms a mental representation of the action her mother performs*
3. *Reproduction – Joanna is capable of performing the actions*
4. *Motivation – Josie says “OK Joanna – you have a go, if you can tie a bow I’ll give you an icy pole!”*
5. *Reinforcement – Joanna succeeds and asks “Can I do some more practice?”*

**Marking protocol: 1 mark –** for each step correctly identified and described to a maximum of four

**Question 15**

Laura is bush-walking through The Wombat State Forest on a windy day; suddenly there is a cracking noise and she has to leap aside in alarm as a large branch comes crashing down from a gum tree. She sits on the path for several minutes trying to recover her composure.

1. Identify two physiological responses, *other than increased heart-rate and hyperventilation*, that Laura would be experiencing as she jumped aside to avoid the branch. 2 marks

**Answer:**

* *dry mouth*
* *goose bumps*
* *sweating*

*etc.*

**Marking protocol: 1 mark –** for each of the above, or other appropriate response correctly identified.

1. Which part of Laura’s nervous system will be involved in creating these responses and which part will be most active in returning her body to balance? 2 marks

**Answer:** *Arousal – sympathetic nervous system*

*Calming – parasympathetic nervous system*

**Marking protocol:**

1. **marks:** Both correctly identified

**1 mark:** Only one system correctly identified

1. Returning her functions to normal balance, both by physical and psychological means is

referred to as *homeostasis* and the state of balance achieved is referred to as *allostatic overload*. 2 marks

**Marking protocol: 2 marks:** Both correctly identified

**1 mark:** One correctly identified

**Question 16**

Whenever he has to speak in public, Vasili becomes extremely nervous and sometimes finds that he cannot speak at all! As captain of his A-Grade basketball team, he knows that he will have to give an acceptance speech on his club’s presentation night. Explain exactly how a psychologist may use *biofeedback* to help Vasili deal with his anxiety. 2 marks

**Answer:**

* + - *Identify an autonomic function to address (e.g. pulse-rate, blood pressure etc)*
    - *Provide immediate feedback about level of pulse-rate/blood pressure (e.g. on a computer screen)*
    - *Show relaxation procedures that would enable Vasili to control pulse-rate*
    - *Encourage Vasili to lie comfortably, watch the screen and invoke relaxation to lower pulse-rate*

**Marking protocol: 1 mark –** for each of *the above to a maximum of two*

**Section C - Research Methods. Answer in the space provided.**

*All questions refer to the research described below*

Sandra is a psychology researcher who believes that high quality exercise for students will positively influence their performance in their first-year university psychology course. She obtains responses to self-report questionnaires from 18-year-old participants from three Melbourne universities.

Each of the 300 volunteers is asked to indicate their gender, program of exercise and results in their university Psychology course for Semester 1 and Semester 2.

The results of Sandra’s research are shown below:

Average age of students 18 years 7 months (age-range 18 years 0 months to 18 years 11 months). 160 females; 140 males.

|  |  |  |
| --- | --- | --- |
|  | Psychology Score: (Average %), Semesters 1 & 2 | Range of scores (%) |
| Regular exercise | 76 | 42 - 98 |
| Minimal exercise | 67 | 42 - 98 |

Inferential statistics on the difference in mean score between the two groups showed p = .04.

**Question 1**

State the independent variable in operational terms. 2 marks

**Answer:**

***Variables:***

*Independent Variable (IV): Exercise program – operationalized as regular (4x per week) or irregular/poor*

*(x1 per week)*

**Marking protocol:**

**2 marks –** for statement of IV, correctly operationalized

**1 mark:** - statement of IV without operationalization

or

* Statement of operationalization but not IV

**Question 2**

State an appropriate research hypothesis for this research. 3 marks

**Answer:**

***Hypothesis:***

*That high quality exercise programs for First Year University Psychology students will positively influence their performance in Psychology studies*

**Marking protocol:**

**1 mark:** For each of IV and DV correctly identified – **NOT** stated in purely operational terms

**1 mark:** For statement of population.

**Question 3**

Account for the fact that although the means were different for the two groups, the range was similar. 1 mark

**Answer:** *There was a positive skew for the scores in the ‘poor exercise’ group*

***or***

*There was a negative skew for the scores in the ‘good exercise’ group*

Students are not required to use the ‘skew’ terms, a description of how the result could be obtained will suffice.

**Question 4**

Construct a discussion containing

The conclusion(s) based on the hypothesis (or hypotheses) and statistical analysis.

Weaknesses of the study in terms of sampling procedures; experimental procedures; possible confounding variables.

The extent to which the results can be generalized.

Suggestions for how a future study could be improved. 10 marks

**Answer:**

*As the results were statistically significant (P = .04) it is concluded that University First-Year Psychology students who have good exercise programs show improved performance in Psychology compared with those who have poor exercise programs.*

*A weakness of this study is that the sample used only 18-year-old volunteers from only three Melbourne universities. Generalization is only possible to the population of 18 year-old first year Psychology students at those universities.*

*The study does not indicate whether each university had comparable first-year programs, it did not control for the advantages of some students having studied VCE Psychology, it did not account for the fact that some universities have a much higher ATAR required for entry to a Psychology course than others.*

*In future research it is suggested that matched participants design could be used to eliminate participant variables.*

*Other possible confounds would include study strategies employed by students.*

*Future research should include random sampling from the whole population about which conclusions are to be drawn.*

**Marking protocol:**

Students adequately address each of the following content items:

Sampling and experimental procedures – sampling wider than the sample used; matched participants design to eliminate confounding participant variables.

Limitation of generalisability.

Identification of possible confound(s) and proposed method of control

Recommendations for future research

9-10 marks: A standard that is the highest expected from a VCE student

7-8 marks: A standard to be expected of no more than 30% of VCE students

5-6 marks: All criteria are addressed at an adequate level for a VCE student

3-4 marks: Some criteria are inadequately addressed

1-2 marks: Only one criterion adequately addressed or all are poorly addressed

0 marks: No criterion is appropriately addressed