Neap:

Trial Examination 2019

VCE Psychology Unit 3

Written Examination

Question and Answer Booklet

Reading time: 15 minutes
Writing: 1 hour 30 minutes

Student's Name: _____

Teacher's Name: _____

Structure of booklet

Section	*Number of questions*	*Number of questions to be answered*	*Number of marks*
A	40	40	40
B	6	6	50
			Total 90

Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.

Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.

No calculator is allowed in this examination.

Materials supplied

Question and answer booklet of 21 pages.

Answer sheet for multiple-choice questions.

Additional space is available at the end of the booklet if you need extra paper to complete an answer.

Instructions

Write **your name** and your **teacher's name** in the space provided on this booklet and in the space provided on the answer sheet for multiple-choice questions.

All written responses must be in English.

At the end of the examination

Place the answer sheet for multiple-choice questions inside the front cover of this booklet.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

Students are advised that this is a trial examination only and cannot in any way guarantee the content or the format of the 2019 VCE Psychology Units 3&4 Written Examination.

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SECTION A – MULTIPLE-CHOICE QUESTIONS

Instructions for Section A

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1; an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Question 1

The nervous system can be best described as the network of all

A. organs, glands and muscles within the body.

B. organelles within the body.

C. neurons throughout the body.

D. cells throughout the body.

Use the following information to answer Questions 2–8.

Jennie was snorkelling in Port Phillip Bay two summers ago. After diving down in deep water to view some marine life, she surfaced and was hit by a jet ski. Jennie was initially in shock as the collision resulted in severe cuts to her face and shoulder area. After several seconds she realised that the jet ski driver did not notice that they had hit her. Fearful that she would lose consciousness due to her rapid blood loss, Jennie swam towards shore, which took several minutes. She was eventually attended to by the surf lifesavers who were on duty at the section of the beach that Jennie swam to. Following her physical recovery from the accident, whenever Jennie views Port Phillip Bay she often has vivid recall of aspects of the collision.

Question 2

Following the collision, which one of the following biological events would have been the first to occur?

A. the release of adrenaline by Jennie's adrenal gland

B. the activation of the sympathetic nervous system (SNS)

C. the activation of the fight-flight-freeze response

D. the brain areas responsible for a fear response registering that Jennie was under threat

Question 3

In terms of Selye's General Adaptation Syndrome (GAS), Jennie's SNS would have been first activated when she reached which one of the following stages?

A. exhaustion

B. resistance

C. alarm-shock

D. alarm-countershock

Question 4

During the initial shock phase of Jennie's response to the collision, her

A. level of resistance to the stress would have lowered (according to Selye's GAS).

B. pupils would have dilated.

C. body temperature would have rapidly increased.

D. heart rate would have accelerated.

Question 5

Which one of the following brain structures would have played a key role when the level of fear Jennie experienced as a result of the collision with the jet ski was encodeed?

A. hypothalamus

B. amygdala

C. cerebellum

D. hippocampus

Question 6

Jennie's recall of the collision when she views Port Phillip Bay is an example of

A. priming.

B. a flashbulb memory.

C. a semantic memory.

D. an implicit memory.

Question 7

Which one of the following brain structures would have played a key role in the consolidation of the explicit contextual details of the collision, such as the name of the beach?

A. hypothalamus

B. amygdala

C. cerebellum

D. hippocampus

Question 8

Which one of the following describes the recall of the memory back into Jennie's conscious awareness?

A. a context-dependent cue which would assist her recall of the memory back into her short-term memory (STM)

B. a context-dependent cue which would assist her recall of the memory back into her long-term memory (STM)

C. a state-dependent cue which would assist her recall of the memory back into her STM

D. a state-dependent cue which would assist her recall of the memory back into her LTM

Use the following information to answer Questions 9–13.

Tim has been suffering from the effects of Parkinson's disease for over five years. He has responded to a request calling for volunteers who have suffered from Parkinson's for at least three years to participate in a study testing the effects of a drug that has been designed to alleviate the symptoms of the disease.

Prior to consenting to participate, Tim was required to read an outline of the nature of the study. It stated that half of the participants would be taking a placebo for the duration of the study and the other half would take the actual medication. The experimenters would monitor the condition of the participants in the placebo group as a safety procedure. The experiment was designed to compare the severity of the motor symptoms of the disease both before and after the treatment. The allocation of participants into the two groups would be determined in a random manner.

Question 9

Parkinson's disease demonstrates the effects of

A. the ageing process.

B. a nervous system disorder.

C. the fallibility of the immune system.

D. a stress-related condition.

Question 10

Parkinson's disease initially affects the areas of the brain that are responsible for

A. controlling movement.

B. learning movements.

C. initiating movement.

D. processing the body's sensory information.

Question 11

Which research design will the experiment use?

A. a cross-sectional study

B. an independent groups design

C. a matched participants design

D. a repeated measures design

Question 12

The use of the placebo in this case serves as a

A. form of counterbalancing.

B. single-blind procedure.

C. double-blind procedure.

D. secondary measure.

Question 13

When would the researchers be required to tell the participants whether they were part of the placebo or experimental groups?

A. when informing them of their rights

B. prior to obtaining informed consent

C. when informing them of the risks of their participation in the experiment

D. during debriefing

Question 14

GABA neurotransmitters have an inhibitory effect on

A. postsynaptic receptors.

B. presynaptic axon terminals.

C. the synapse.

D. myelin.

Question 15

An avoidant coping strategy is most likely to be used by a stressed-out student when

A. they are in the resistance stage of the Selye's GAS.

B. they are conducting a primary appraisal according to the Lazarus and Folkman Transactional Model of Stress and Coping.

C. following a secondary appraisal according to the Lazarus and Folkman Transactional Model of Stress and Coping.

D. when they are 'fleeing' according to the fight-flight-freeze response.

Question 16

The influence of punishment on a child by an adult, either directly or indirectly, is **least** applicable to which one of the following applications of learning theories?

A. classical conditioning

B. operant conditioning

C. social learning

D. the three-phase model of operant conditioning

Use the following information to answer Questions 17–20.

Lilli was sitting with her school friends in a grassy area during lunchtime when a bug started crawling up her leg. Before she realised what it was, she swiped it away with her hand.

Question 17

Lilli's response is an example of

A. a fight-flight-freeze response.

B. a conscious response to sensory stimuli.

C. a spinal reflex.

D. countershock.

Question 18

Which division of Lilli's nervous system is responsible for integrating and coordinating her response to the bug?

A. somatic

B. parasympathetic

C. sympathetic

D. central

Question 19

Which division of the nervous system is responsible for conveying the afferent information to the spinal cord?

A. somatic

B. parasympathetic

C. the brain

D. central

Question 20

Which part of the neuron in Lilli's leg is responsible for conducting an action potential from her leg to the spinal cord?

A. soma

B. myelin

C. dendrites

D. axon

Use the following information to answer Questions 21–24.

Melanie is an experienced VCE teacher who changed schools at the start of the year. She found the demands of her new school to be overwhelming; halfway through the school year she started showing some of the early symptoms of illness such as a sore throat. Despite her symptoms, Melanie refused to take any time off work in order to stay on top of her workload. By the third term she had developed a stress-related illness, largely due to the depletion of her immune system.

Question 21

Which one of the following is the source of stress that has contributed to Melanie's stress-related illness?

A. a catastrophe

B. daily pressures

C. a life event

D. acculturative distress

Question 22

Which one of the following best identifies Melanie's response to her stress?

A. a fight-flight-freeze response

B. eustress

C. distress

D. context-specific stress

Question 23

The lingering effects of which stress hormone would have had the most impact on the depletion of Melanie's immune system?

A. adrenaline

B. noradrenaline

C. adenosine

D. cortisol

Question 24

In terms of Selye's GAS, Melanie would have first showed signs of illness during which one of the following stages?

A. exhaustion

B. resistance

C. alarm-countershock

D. alarm-shock

Question 25

Long-term potentiation (LTP) is **not** applicable to changes that occur to which one of the following?

A. procedural memory

B. neural plasticity

C. sensory memory

D. semantic memory

Question 26

Adrenaline can best be described as a

A. neurotransmitter released into the synaptic cleft.

B. neurohormone released into the synaptic cleft.

C. neurotransmitter that upon release is absorbed into the bloodstream.

D. neurohormone that upon release is absorbed into the bloodstream.

Question 27

Which one of the following types of long-term memories is most likely to be reconstructed when retrieved?

A. flashbulb memories

B. procedural memories

C. episodic memories

D. priming

Question 28

Which one of the following stages of observational learning requires the observers to form a mental representation of the modelled behaviour?

A. attention

B. retention

C. reproduction

D. motivation

Question 29

During the acquisition stage of the conditioning in the Watson and Rayner 'Little Albert' experiment, the loud clanging sound produced by the hammer striking the steel bar occurred

A. several seconds before the white rat was presented.

B. a fraction of a second before the white rat was presented.

C. several seconds after the white rat was presented.

D. a fraction of a second after the white rat was presented.

Use the following information to answer Questions 30–33.

Anna is a ten-year-old who has just been diagnosed with type 1 diabetes. To help Anna with her condition, the school nurse has been trained to work with Anna on school days, regularly checking her blood glucose levels and managing them with regular insulin injections throughout the day. Initially Anna was terrified of the thought of having an injection, so the nurse has developed a system for when she needs to give one to Anna.

Firstly the nurse gets both Anna and the needle ready. Then, just before she is about to deliver the injection, she asks Anna to count backwards from a certain number, such as counting backwards from 300 by 6s. When Anna gets to the third number in her count, the nurse delivers the injection, which momentarily causes a mild level of pain. The nurse then gives Anna a piece of chewing gum for her bravery.

After a couple of weeks of this process, the nurse notices that Anna flinches just as she is about to state the third number in her count.

Question 30

In terms of classical conditioning, the unconditioned response in Anna's case is

A. Anna being asked to count backwards prior to the injection.

B. the delivery of the injection by the nurse.

C. the mild level of pain experienced as a result of the injection.

D. flinching as she states the third number in her count.

Question 31

In terms of classical conditioning, the neutral stimulus in Anna's case is

A. Anna being asked to count backwards prior to the injection.

B. the delivery of the injection by the nurse.

C. the mild level of pain experienced as a result of the injection.

D. flinching as she states the third number in her count.

Question 32

In terms of classical conditioning, the conditioned response in Anna's case is

A. Anna being asked to count backwards prior to the injection.

B. the delivery of the injection by the nurse.

C. the mild level of pain experienced as a result of the injection.

D. flinching as she states the third number in her count.

Question 33

In terms of the three-phase model of operant conditioning, from Anna's point of view, which one of the following is the antecedent?

A. receiving the chewing gum

B. delivery of the injection by the nurse

C. being informed by the nurse that she needs an insulin injection due to her low blood glucose levels

D. flinching as she states the third number in her count

Use the following information to answer Questions 34–37.

The VCE Psychology class at Nar Nar Goon Secondary College was involved in a class experiment on the serial position effect. The students were allocated to either the free recall group (the front and back rows of the class) or the delayed recall group (the second and third row of the class) based on their seating position for that lesson. The teacher read out a series of four-letter nouns at two-second intervals. After reading out the final word, the free recall group were required to record on a sheet of paper as many words as they could recall in any order. The delayed recall group had to wait one minute before they recalled the words. During the one-minute delay, these participants were required to record as many VCE subjects as they could.

Question 34

The method of allocation to the two groups was

A. non-random.

B. random.

C. convenience.

D. stratified.

Question 35

Which one of the following would be the most likely operationalised dependent variable for the serial position effect experiment?

A. the number of words recalled

B. the percentage of words recalled

C. the percentage of participants who recalled each word based on the ordered positioning of the words

D. whether the participants used free recall or delayed recall

Question 36

For both groups of participants, the words would first be rehearsed while they were in which one of the following memory stores?

A. iconic memory

B. sensory memory

C. STM

D. LTM

Question 37

The delayed recall group experienced a primacy effect but no recency effect.

This is most likely due to the limitations of which one of the following memory stores?

A. echoic memory

B. STM

C. LTM

D. semantic memory

Use the following information to answer Questions 38–40.

Shanella is a teacher who wanted to learn how to use the webcam on her school computer to record videos of her presenting material to her Psychology class. She asked for assistance from the IT department at her school and, after making a few errors on her initial attempts, she successfully managed to create a video of a presentation to her class via her webcam.

In recent months, she has tried several times to repeat this process using the same computer station that she originally used, but found that she had forgotten several steps. Eventually, a year after first learning the process, she sought assistance from the IT department. Shanella found it easier to relearn the process, which was reflected by her estimation of a savings score of 60% of the time taken for the original learning compared to the time taken for relearning.

Question 38

The 60% savings score can best be explained by which one of the following statements?

A. Shanella had saved 60% of the steps required to operate her webcam.

B. Shanella had saved 60% of time taken to relearn how to operate her webcam.

C. Shanella had forgotten 40% of the information required to operate her webcam.

D. Shanella only had access to 40% of the neural pathways responsible for her memory of how to operate her webcam.

Question 39

Shanella's inability to operate the webcam a year after first learning to can be best explained by

A. long-term potentiation (LTP).

B. long-term depression (LTD).

C. the lack of state-dependent cues.

D. the lack of context-dependent cues.

Question 40

The memory of the sequence of steps required to operate her webcam is an example of which one of the following types of memories?

A. semantic

B. episodic

C. priming

D. procedural

END OF SECTION A

SECTION B

Instructions for Section B

Answer **all** questions in the spaces provided. Write using blue or black pen.

Question 1 (4 marks)

Kerry had been walking for several minutes at the Chadstone shopping centre. Due to the heat at the centre his feet became swollen and his shoes felt too tight, so he stopped for a moment to loosen his shoelaces.

In terms of the relevant components/subdivisions of both the central nervous system (CNS) and peripheral nervous system (PNS), explain how Kerry's body was able to process and respond to the sensory information from the tension in his shoes.

Question 2 (6 marks)

Kathy is suffering from the early onset of Alzheimer's disease. She has agreed to participate in a study that tests the effects of medication by targeting the acetylcholine receptors in the hippocampus.

a. Explain how changes in the levels of acetylcholine affect patients suffering from Alzheimer's disease. 2 marks

b. In terms of the lock-and-key effect, describe how the medication will target the acetylcholine receptors. 4 marks

Question 3 (10 marks)

Zach and Zelda both attended the same school and coincidentally achieved the same ATAR score. When they first learned of their scores, Zach experienced eustress while Zelda experienced distress.

a. Describe the differences in Zach and Zelda's eustress and distress responses in this case. 4 marks

b. Describe a similarity of distress and eustress in this case. 2 marks

c. Identify and describe a likely primary appraisal for both Zach and Zelda according to the Lazarus and Folkman Transactional Model of Stress and Coping. 4 marks

Question 4 (15 marks)

Following the 2018–19 summer basketball season, the committee of the Eastern Junior Basketball Association (EJBA) asked all referees to complete a self-report that evaluated the level of abuse they had experienced from players, coaches and parents. A series of ten questions with 0–5 ratings covering elements such as the regularity of abuse, the tone used and the incidence of inappropriate language was issued to all referees in the EJBA in order to measure the level of abuse.

Based on the high scores that were found on the survey, the committee decided to trial a zero-tolerance approach, which was outlined to all clubs, teams, coaches and parents. During the winter season, any player, coach or parent that directed any form of abuse to a referee would be immediately ejected from the stadium. The referee had an alert button that they could press in order to signal a security guard present at each stadium to come and escort the offender out of the stadium.

This action resulted in a seemingly immediate improvement in the level of compliant behaviour by the players, coaches and parents. It also dramatically reduced the abuse of the referees due to the threat of the punishment.

At the end of the winter season the referees were given the same self-report. The results for referees who completed both the summer and winter self-reports are collated in the table below.

	Level of abuse experienced by referee during the 2018–19 summer season (mean score out of 50)	**Level of abuse experienced by referee during the 2019 winter season (mean score out of 50)**
53 referees (aged 15–62)	37.2	27.4

a. In terms of the three-phase model of the operant condition, outline the processes involved in the ejection of a parent from the stadium. 3 marks

b. Explain how the compliant behaviour of players, coaches and parents may be extinguished over time using the language of operant conditioning. 2 marks

c. Evaluate the validity of the data generated from this research investigation. 2 marks

d. Describe a benefit of calculating the mean for the scores generated. 2 marks

e. Identify the operationalised independent and dependent variables in this investigation. 2 marks

f. Identify the research design used and describe a strength of this design. 3 marks

g. Explain why it would be impractical to use counterbalancing in this research investigation. 1 mark

Question 5 (5 marks)

Mary's husband recently had a stroke that caused partial paralysis of his body. Mary has been granted a leave of absence from work in order to act as full-time carer for her husband, who has limited functioning following his release from the hospital.

Mary is over the initial shock of dealing with the stress caused by her husband's stroke. She is now in the resistance stage of Selye's GAS.

a. Identify **three** indicators that Mary is experiencing the resistance stage. 3 marks

b. Provide evidence that Mary is using an approach strategy for coping with the demands of her husband's condition. 2 marks

Question 6 (10 marks)

Bessie is a twin who, due to a brain injury experienced during infancy, has a dysfunctional amygdala that permanently affected facets of her memory. During their adolescence, she and her twin Emily experienced a traumatic event when their family was involved in a plane crash. The plane caught fire and the twins were able to free themselves and help their family from the plane, but the pilot was a casualty. The twins were interviewed by the airport safety officers following the accident and were possibly asked a series of leading questions.

Years after the event, Emily experiences occasional flashbulb memories, but her memory of the crash differs from Bessie's.

Write a response to this information that:

- describes the role of one or more neurohormones and the key brain structures involved in the formation of Emily's memory of the crash;
- describes the impact of the damage to Bessie's amygdala on her ability to memorise the event;
- describes what a flashbulb memory is and what may trigger it in this case; and
- explains the possible impact of leading questions on the twins' memory of the crash.

END OF QUESTION AND ANSWER BOOKLET

Extra space for responses

Clearly number all responses in this space.