



Victorian Certificate of Education
Trial Examination

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STUDENT NUMBER Letter

2023 PSYCHOLOGY

Written trial examination – Units 3/4

Reading time: (15 minutes)

Writing time: (2 hours 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	40	40	40
B	7	7	80
			120

- 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 book of 36 pages
- Answer sheet for multiple-choice questions
- Additional space is available at the end of the book if you need extra paper to complete an answer.

Instructions

- Write your student number in the space provided above on this page.
- Check that your name and student number as printed on your answer sheet for multiple-choice questions are correct, and sign your name in the space provided to verify this.
- 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 book.

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

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Suggested answers to multiple-choice questions

1. A 2. D 3. B 4. C 5. A 6. D 7. C 8. A 9. D 10. A
11. C 12. A 13. C 14. B 15. D 16. C 17. C 18. A 19. D 20. B
21. B 22. C 23. B 24. C 25. A 26. C 27. D 28. D 29. C 30. A
31. B 32. B 33. C 34. D 35. A 36. D 37. B 38. C 39. B 40. D

Suggested answers to short-answer questions

Question 1 (11 marks)

- a. When Jesse withdraws his hand, this is an example of a spinal reflex (**1 mark**). The role of this response is to increase the chances of survival and to reduce the likelihood of further harm being caused to Jesse (**1 mark**).
- b. Sensory receptors in Jesse's skin would initially detect the hammer hitting his hand. The message would then travel via the afferent tract (sensory neurons) to Jesse's spinal cord (**1 mark**). Information would then be communicated from the sensory neurons to the interneurons and then onto motor neurons (**1 mark**). The motor information would then travel via the efferent tract (motor neurons) to Jesse's hand for him to withdraw his hand (**1 mark**).
- c. When Jesse first strikes his hand with the hammer, his sympathetic nervous system would have been activated which would lead to several physiological changes, including increased heart rate, increased breathing rate and decreased digestion (**1 mark**). Once the initial injury has occurred and Jesse has calmed down, Jesse's parasympathetic nervous system would then dominate, causing Jesse's physiological responses to return to normal levels (**1 mark**).
- Note – students could answer this question in a number of different ways. Students may state that Jesse's parasympathetic nervous system is initially dominant while hammering and the sympathetic nervous system dominates once he has hit his hand. Alternatively, students may also state that when Jesse initially hits his hand, he goes into a temporary state of shock whereby his parasympathetic nervous system is dominant, and his sympathetic nervous system would then dominate after the initial shock.
- d. The personal experience of hitting his thumb with a hammer is an episodic long term memory as it is a personal event that has occurred to him (**1 mark**). Episodic memories (a form of declarative memory) are formed by the hippocampus (**1 mark**). Knowing how to use a hammer is an example of a procedural memory as it is knowing how to do something (**1 mark**). This would be formed by the cerebellum (**1 mark**).

Question 2 (12 marks)

- a. An approach strategy occurs when individuals employ a strategy that directly confronts the source of stress. In other words, they directly confront the stressor **(1 mark)**. Rishika may practise basketball with a friend to improve her skills **(1 mark)**. An avoidance strategy occurs when an individual deliberately evades or distances themselves from the stressor. This deals with the emotional components of stress but is ineffective long term **(1 mark)**. Kiera may watch Netflix instead of practising basketball **(1 mark)**.
- b. Context specific effectiveness is said to occur when the coping strategy is appropriate for the unique demands of the stressor. In other words, there is a “match” between the coping strategy and the stressor **(1 mark)**. Rishika's coping strategy matches the stressor and therefore she is more likely to experience a reduction in stress levels **(1 mark)**.
- c. Coping flexibility refers to an individual’s ability to adjust or change their coping strategy to meet the unique and changing demands of the stressor **(1 mark)**. This is performed as the stressor may change slightly once the initial coping strategy has been employed and therefore it is no longer effective **(1 mark)**. For example, Rishika may have originally trained with a friend, however her friend may have become ill and therefore she changes her coping strategy to watching YouTube clips of how to improve shooting technique **(1 mark)**.
- d. Pruning is the process whereby synaptic connections that are not adequately activated are eliminated **(1 mark)**. This process occurs to promote stronger and more essential synaptic connections, which in turn enhances the efficiency of brain functioning **(1 mark)**. Should Kiera decide to return to playing basketball in the future, she would return at a lower skill level due to the process of long-term depression, whereby synaptic connections are weakened due to not being regularly coactivated **(1 mark)**.

Question 3 (16 marks)

- a. Delayed sleep phase syndrome (DSPS) is a type of circadian phase disorder where sleep and waking occurs later than usual, resulting in a delay of the sleep-wake cycle **(1 mark)**.
- b. The recommended number of hours of sleep for a neonate is 16 hours per day, whereas the recommended number of hours for an adolescent is approximately 9 hours **(1 mark)**. Neonates require more hours than adolescents due to the very rapid growth of their body and brain development at this stage. Adolescents require sleep for growth and energy levels **(1 mark)**.
- c. Exposure to blue light inhibits the release of melatonin **(1 mark)**. Melatonin is a hormone released by the pineal gland to induce sleep **(1 mark)**. Therefore, if Jason is exposed to blue light during the day, particularly before bedtime, this will delay the release of melatonin, contributing towards his delayed sleep phase syndrome **(1 mark)**.

- d. Jason could practise any of the following (a maximum of **two** examples for **1 mark each**):
- Going to bed and waking at a consistent time each day
 - Sleeping in a quiet place
 - Ensuring that his bedroom is dark and comfortable
 - Only using his bed for sleep and avoiding other activities in bed such as eating, reading, listening to music and watching TV
 - Avoiding caffeine before bed
 - Exercising, but not before bed
 - Any other reasonable example of sleep hygiene
- e. EEG – detects, amplifies and records electrical activity of the brain in the form of brainwaves (**1 mark**). When an EEG shows low frequency, high amplitude beta-like waves, Jason is likely experiencing REM sleep (**1 mark**).
EOG – detects, amplifies and records electrical activity of the muscles surrounding the eye (or muscles responsible for eye movement) (**1 mark**). When an EOG shows high electrical activity, Jason is likely experiencing REM sleep (**1 mark**).
EMG – detects, amplifies and records electrical activity of the muscles (**1 mark**).
When an EMG shows low electrical activity, Jason is likely experiencing REM sleep (**1 mark**).
- f. Cortisol serves the following adaptive functions during the stress response. (Students receive (**1 mark**) for each, for a maximum of **2 marks**):
- Increases/controls blood sugar levels
 - Improves/regulates metabolism
 - Energises the body
 - Reduces inflammation
 - Assists with memory formation

Question 4 (13 marks)

- a. Antecedent Stimulus – The dog trainer could say “roll over” while placing the dog in a roll over position and moving the dog appropriately (**1 mark**).
Behaviour – The dog rolls over (**1 mark**).
Consequence – The dog trainer gives the dog a treat when the behaviour has been performed successfully. This is a form of positive reinforcement which increases the likelihood of the behaviour occurring again (**1 mark**).
- b. Attention – Dahlia must watch closely as the dog trainer performs the action of teaching the dog to roll over. Should Dahlia not watch closely, then her chances of successfully training the dog will reduce (**1 mark**).
Retention – Dahlia must form a mental representation of the dog trainer performing the action of teaching the dog to roll over. If she does not, then she will not be able to remember how to perform the action (**1 mark**).
Reproduction – Dahlia must have the physical and mental ability to train her dog. Should she not have this ability then she will not be able to train her dog to roll over (**1 mark**).

- c. Similarities (any **two** of the following for **1 mark each**):
- In both observational learning and operant conditioning, the role of the learner is active.
 - The behaviour demonstrated by the learner is voluntary in both types of learning.
 - The response made by the learner is conscious in both types of learning.
- Differences (any **two** of the following for **1 mark each**):
- In operant conditioning, the learning needs to be directly experienced by the learner, whereas in observational learning, learning occurs vicariously.
 - In operant conditioning, learning can be seen by others, whereas in observational learning, the behaviour is not necessarily seen by others.
 - In operant conditioning, learning is demonstrated in behaviour, whereas in observational learning, the behaviour is not always demonstrated by the learner.
- d. Before phase – in the before phase, the neutral stimulus (car keys) elicited no response. The unconditioned stimulus (going for a trip in the car) naturally caused the unconditioned response (excitement due to going in the car) (**1 mark**).
- During phase – in the during phase, the neutral stimulus (car keys) was presented prior to the unconditioned stimulus (going for a trip in the car) multiple times (**1 mark**).
- After phase – the neutral stimulus has now become the conditioned stimulus (car keys) which causes the conditioned response (excitement due to car keys) (**1 mark**).

Question 5 (12 marks)

- a. A mnemonic device is a technique used to aid in the encoding, storage and retrieval of information (**1 mark**).
- b. Professor Crosby used a Within Subjects design (**1 mark**).
- A strength of this design (any of the following for **1 mark**):
- It eliminates individual participant differences.
 - Fewer participants are required.
 - It's good for real world phenomena to determine the impact of a new method (such as a mnemonic device).
- A limitation of this design (any of the following for **1 mark**):
- It can produce order effects such as practise and boredom.
 - Higher participant dropout rates.
 - If participants do drop out, two data points are lost (1 from each condition).

- c. Students can choose either acronyms or acrostics as another mnemonic device. Suggested answer is as follows:
Acrostic **(1 mark)**.
The first letters of items create a phrase, rhyme, or poem to aid memory **(1 mark)**.
The first letter of each word in the acrostic acts as a retrieval cue for the words that are to be remembered, bringing it from long term to short term memory **(1 mark)**.
or
Acronym **(1 mark)**.
The first letters of items to be remembered create a pronounceable word to aid memory **(1 mark)**.
Each letter of the acronym acts as a retrieval cue to retrieve information from long term to short term memory **(1 mark)**.
- d. It is hypothesised that people who use the Method of Loci when trying to recall a list of 15 words, will have greater recall compared to those people who do not use the Method of Loci **(3 marks for a similar response)**. Note that IV, DV and Direction must all be included. Population is not required.
- e. Students can choose any **two** of the following differences for **(1 mark)** each. Any other relevant difference should also be accepted:
- Songlines are transmitted orally, whereas Method of Loci is not.
 - Songlines are used to remember vast amounts of complex information, whereas Method of Loci is used to remember small amounts of simple information.
 - Songlines may incorporate stories and dances as a person travels through Country, whereas Method of Loci does not.
 - Songlines are used by Aboriginal and Torres Strait Islander peoples and therefore have cultural significance, whereas Method of Loci does not.

Question 6 (6 marks)

- a. In terms of the SEWB framework, the term “multidimensional” means that the framework consists of many different components (7 in total), which includes connection to body and connection to culture, as examples **(1 mark)**. The term “holistic” means that the framework considers the whole person, which includes their mental, physical, spiritual and social needs **(1 mark)**.
- b. Connection to body – this refers to Bayan’s ability to connect with his physical body and health, enabling him to fully participate in all aspects of life **(1 mark)**. For example, Bayan maintaining a healthy weight would enable Bayan to keep healthy and physically active, which would increase his social and emotional wellbeing **(1 mark)**.
Connection to mind and emotions – this refers to Bayan’s ability to effectively manage his thoughts and feelings **(1 mark)**. For example, Bayan having a high level of confidence would increase his level of social and emotional wellbeing **(1 mark)**.

Question 7 (10 marks) – *Extended Response Question*

This question should be marked in terms of a global perspective. Therefore, the suggested answer below should be marked in accordance with the marking grid that follows. This answer is open to interpretation and therefore students may not necessarily include all levels of detail and still achieve full marks.

Information that may be included in the response:

The Lazarus and Folkman Transactional Model of Stress and Coping is a model designed to evaluate the psychological responses made when confronted with a stressor. It consists of two appraisal stages: primary and secondary. In the primary appraisal stages, Anthony would have appraised the divorce as being stressful and then further appraised it as either harm/loss, threat or challenge. He may have appraised the divorce as harm/loss, as he sees that some form of damage has already been done. Should Anthony have primarily appraised the divorce as threat, he would have done so because he sees the possibility of some form of damage or loss occurring in the future. This is evident in the scenario when he is concerned that he may not be able to afford to pay bills in the future.

There is a slight possibility that Anthony's primary appraisal was that of challenge. He will make this appraisal if he sees the divorce as being the opportunity for growth and the ability to move on with his life. Anthony would not make a primary appraisal of either irrelevant or benign positive as it is evident in the scenario that he is feeling stressed.

Anthony would then experience secondary appraisal where he would evaluate the resources he has to cope with the stressor. During secondary appraisal, Anthony may use different coping strategies, including emotion focussed (avoidance) and problem focussed (approach). Example of avoidance strategies could include turning to alcohol, removing himself from family and friends and distracting himself through work. In terms of approach strategies, Anthony may seek counselling and join support networks for recently divorced people.

According to the General Adaptation Syndrome (GAS), Anthony would experience three stages, Alarm, Resistance and Exhaustion. Initially, when the decision was first made for Anthony and his wife to divorce, Anthony would have entered the Alarm stage. During this stage, Anthony would have experienced shock, followed by countershock. During the shock phase, Anthony's body would act as though it was injured with his blood pressure and body temperature both dropping. His ability to deal with the stressor would also drop below normal levels. Anthony's parasympathetic nervous system would dominate during this time.

Anthony would then enter the Countershock phase of the Alarm stage, where his sympathetic nervous system would now dominate. Cortisol begins to be released during this phase which helps to repair the body. Anthony's ability to deal with the stress rises above normal levels.

As the prospect of divorce has not dissipated, and the stressor is still present, Anthony now enters the Resistance stage of GAS. During this stage, the prolonged release of cortisol weakens the immune system and Anthony is likely to suffer from minor illnesses such as colds and flu. Anthony's resistance to stress remains above normal levels.

The fact that Anthony is suffering from high blood pressure and sleep deprivation suggests that he has entered the third stage of GAS, Exhaustion. During this stage, Anthony's resources to cope have become depleted and he is more likely to suffer from more serious illnesses. His resistance to stress has dropped below normal levels.

Due to his sleep deprivation, Anthony is now experiencing affective, behavioural and cognitive effects of sleep deprivation. Affective effects may include irritability, negative emotions, mood swings and an impaired ability to appropriately respond to situations. In terms of behavioural effects, Anthony may experience sleep inertia, excessive sleepiness during the day and an increased likelihood of engaging in risk taking behaviours. Finally, the cognitive effects that Anthony may experience include reduced concentration, issues relating to short term memory, lapses in attention and diminished creativity. These effects of sleep deprivation can considerably contribute towards Anthony’s level of mental health. Lack of sleep is a biological risk factor according to the biopsychosocial model, which, in turn, means that it is also a protective biological factor to maintain good mental health. Should Anthony suffer from sleep deprivation, his level of mental health will suffer, and he will most likely find himself experiencing a mental health problem or even a mental disorder according to the mental health continuum.

Standard	Marks	Suggested marking grid
Very High	9-10	<ul style="list-style-type: none"> - a detailed explanation of Lazarus and Folkman’s Transactional model of stress and coping (Primary Appraisal) - a detailed explanation of Lazarus and Folkman’s Transactional model of stress and coping (Secondary Appraisal) - a detailed explanation of the 3 stages of the General Adaptation Syndrome relating to the physiological responses that occur at each stage - a detailed explanation of the affective, behavioural and cognitive effects of sleep deprivation - a detailed explanation as to how sleep deprivation contributes towards mental health
High	7-8	<ul style="list-style-type: none"> - a thorough explanation of Lazarus and Folkman’s Transactional model of stress and coping (Primary Appraisal) - a thorough explanation of Lazarus and Folkman’s Transactional model of stress and coping (Secondary Appraisal) - a thorough explanation of the 3 stages of the General Adaptation Syndrome relating to the physiological responses that occur at each stage - a thorough explanation of the affective, behavioural and cognitive effects of sleep deprivation - a thorough explanation as to how sleep deprivation contributes towards mental health

Standard	Marks	Suggested marking grid
Medium	5-6	<ul style="list-style-type: none"> - a moderate explanation of Lazarus and Folkman’s Transactional model of stress and coping (Primary Appraisal) - a moderate explanation of Lazarus and Folkman’s Transactional model of stress and coping (Secondary Appraisal) - a moderate explanation of the 3 stages of the General Adaptation Syndrome relating to the physiological responses that occur at each stage - a moderate explanation of the affective, behavioural and cognitive effects of sleep deprivation - a moderate explanation as to how sleep deprivation contributes towards mental health
Low	3-4	<ul style="list-style-type: none"> - a low-level explanation of Lazarus and Folkman’s Transactional model of stress and coping (Primary Appraisal) - a low-level explanation of Lazarus and Folkman’s Transactional model of stress and coping (Secondary Appraisal) - a low-level explanation of the 3 stages of the General Adaptation Syndrome relating to the physiological responses that occur at each stage - a low-level explanation of the affective, behavioural and cognitive effects of sleep deprivation - a low-level explanation as to how sleep deprivation contributes towards mental health
Very Low	0-2	<ul style="list-style-type: none"> - a limited/non-existent explanation of Lazarus and Folkman’s Transactional model of stress and coping (Primary Appraisal) - a limited/non-existent explanation of Lazarus and Folkman’s Transactional model of stress and coping (Secondary Appraisal) - a limited/non-existent explanation of the 3 stages of the General Adaptation Syndrome relating to the physiological responses that occur at each stage - a limited/non-existent explanation of the affective, behavioural and cognitive effects of sleep deprivation - a limited/non-existent explanation as to how sleep deprivation contributes towards mental health