

Student Name: _____

**2019****UNITS 3 & 4 PSYCHOLOGY****WRITTEN EXAMINATION****Reading time: 15 minutes****Writing time: 150 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	50	50	50
B	8	8	70
			Total 120

- Students are permitted to bring the following items into the examination: pens, pencils, erasers, sharpeners and rulers
- Students are not permitted to bring into the exam: electronic devices such as phones or calculators or liquid paper (or similar) or any paper(s)

Materials provided

Question and answer booklet of 26 pages & an answer sheet for multiple-choice questions

Instructions

Write your name in the space provided on both the question book and multiple-choice response sheet

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SECTION A: Multiple-choice questions

Use the following information to answer questions 1 to 3

Zach is at the beach contemplating having a swim, he removes his shoes and wanders out into the shallow water to feel the temperature of the water. Once the water hits his feet, he quickly retreats back to land as the water is uncomfortably cold.

Question 1

Which division of Zach's nervous system is responsible for the initial transmission of information regarding the temperature of the water from the skin of his feet?

- A. somatic
- B. sympathetic
- C. parasympathetic
- D. central

Question 2

Which part of the Zach's neuron is responsible for conducting the neural impulse in terms of the information about the temperature of the water from his feet towards his spinal cord?

- A. soma
- B. axon
- C. myelin sheath
- D. axon terminals

Question 3

Zach's response of retreating back to shore due to the coldness of the water is an example of a

- A. fight-flight-freeze response
- B. Voluntary response
- C. spinal reflex
- D. classically conditioned response

Use the following information to answer questions 4 to 7

Jay is suffering from the effects of Parkinson's disease. He has been referred to a specialist who has prescribed him a 12-week supply of the drug carbidopa.

Question 4

Parkinson's disease is specifically caused by degeneration of the dopamine producing neurons in the

- A. motor neurons
- B. skeletal muscles
- C. somatic nervous system
- D. central nervous system

Question 5

In terms of the lock and key effect, the Carbidopa would mimic the effects of dopamine by acting as a

- A. lock that when 'opened' would result in an inhibitory effect on the targeted cells
- B. lock that when 'opened' would result in an excitatory effect on the targeted cells
- C. key that would target the dopamine receptors and would have an inhibitory effect on the targeted cells
- D. key that would target the dopamine receptors and would have an excitatory effect on the targeted cells

Question 6

The carbidopa would act as a dopamine

- A. antagonist at the presynaptic axon terminals
- B. agonist at the presynaptic axon terminals
- C. antagonist at the postsynaptic receptors
- D. agonist at the postsynaptic receptors

Question 7

In terms of medication that has been used to treat Parkinson's disease, which of the following is the most accurate statement.

- A. there are numerous forms of medication that have cured victims of Parkinson's disease.
- B. they just treat the symptoms of Parkinson's disease.
- C. no medication has been found that has successfully treated the symptoms of Parkinson's disease.
- D. no medication has been tested on patients who suffer from Parkinson's disease.

Question 8

Life events can be a source of stress

- A. only when they cause acculturative stress.
- B. only when they cause distress.
- C. only when they cause eustress.
- D. when they cause either distress or eustress.

Use the following information to answer questions 9 to 13

Lilli's elderly parents lived together in Germany. Her father was a full-time carer for her mother who was living with the advanced stages of Alzheimer's disease. When Lilli received the unexpected news that her father had suddenly passed away, Lilli went into shock. Shortly thereafter, Lilli, despite being grief-stricken, became stressed about her how she would manage her mother's care. Lilli who is a single mother with two young children, then spent several hours over the next few days trying to organise a plane flight to London, finding short-term care for her mother, as well as someone to mind her children whilst she was away. Lilli started experiencing migraines and fatigue due to the stress of the demands placed on her. Despite the pressure, she was still able to work productively through the list of requirements before her boarded a flight to London.

Question 9

When Lilli was experiencing her initial period of shock

- A. adrenaline would have flooded into her bloodstream.
- B. her blood pressure would have dropped.
- C. her heart rate would have rapidly increased
- D. she would have felt energised.

Question 10

According to Selye's General Adaptation Syndrome, cortisol would have first been released when she reached which of the following stages?

- A. exhaustion
- B. resistance
- C. alarm-countershock
- D. alarm-shock

Question 11

According to Selye's General Adaptation Syndrome, when Lilli was experiencing migraines and lethargy, she would have most likely have reached which of the following stages?

- A. exhaustion
- B. resistance
- C. alarm-countershock
- D. alarm-shock

Question 12

In terms of Lilli's evaluation of the news of her father's death and the consequential demands placed on her as a result of the death

According to the Lazarus and Folkman model of stress and coping, Lilli has most likely made a primary appraisal that the stressor was

- A. benign-positive
- B. insignificant
- C. a significant-challenge
- D. a significant-threat

Question 13

The most effective means of dealing with the source of Lilli's stress of how-to best deal with the care of her mother is to

- A. use an approach coping strategy
- B. use an avoidant coping strategy
- C. exercise
- D. using breathing retraining

Use the following information to answer questions 14 to 16

Zahara returned from a school exchange to France over the summer holidays. She received an email from her school's deputy principal instructing her that she would be required to give a 5-minute presentation to the school at the first school assembly for the year. Initially, she felt excited about talking about her experience to the school. However, this feeling wore off as she thought about her presentation, which caused her to feel a degree of unease as she became worried that her presentation would be boring and that her school peers would lose respect for her.

Question 14

Initially Zahara's level of excitement was an example of

- A. eustress
- B. distress
- C. a fight-flight-freeze response
- D. shock

Question 15

Zahara's level of unease about the presentation can be best labelled as

- A. a fight-flight-freeze response
- B. anxiety
- C. stress
- D. a phobic response

Question 16

Which of the following is a psychological factor that Zahara could employ in order to enhance her resilience in dealing with the negative thoughts about her presentation?

- A. sleep
- B. CBT
- C. family support
- D. rumination

Use the following information to answer questions 17 to 21

Drew was coaching his daughter, Xavian's, basketball team. Every time Xavian was called for a foul during the game she would throw her arms up in the air in disgust. Xavian claimed that she learned this behaviour by watching her favorite players from the WNBA who would typically throw their arms up in disgust in response to a referee's call against them. Drew wasn't happy with his daughter's behaviour, thus every time she threw her arms up in the air due to a referee's decision Drew would substitute Xavian out of the game and put her on the bench.

Question 17

Xavian's throwing her arms up in disgust due to the referee's decision is an example of a/an

- A. conditioned response
- B. unconditioned response
- C. operantly conditioned behaviour
- D. vicariously conditioned response

Question 18

In terms of the three-phase model of operant conditioning, in relation to Xavian's benching by her coach for arm gesture in response to the referee's decision; which of the following most accurately depicts the antecedent? (from Xavian's perspective)

- A. Xavian fouling an opposition player
- B. the referee calling a foul on Xavian
- C. Xavian being 'benched' by her coach
- D. Xavian learning that her arm gestures were not in the best interests of the team

Question 19

In terms of the three-phase model of operant conditioning, in relation to Xavian's benching by her coach for arm gestures in response to the referee's decision; which of the following most accurately depicts the consequence? (applied to Xavian)

- A. Xavian fouling an opposition player
- B. the referee calling a foul on Xavian
- C. Xavian being 'benched' by her coach
- D. Xavian learning that her arm gestures were not in the best interests of the team

Question 20

Xavian being 'benched' for her arm gestures is an example of(from Xavian's perspective)

- A. response cost
- B. positive punishment
- C. negative reinforcement
- D. positive reinforcement

Question 21

The coach learned that benching players for rude arm gestures was an effective means of avoiding the referee's getting angry with the team during the game, thus the coach plans to keep using this approach during the game.

The coach's behaviour is being

- A. negatively punished
- B. positively punished
- C. negatively reinforced
- D. positively reinforced

Use the following information to answer questions 22 to 27

A researcher at Deakin University was interested in investigating the effects of heavy 'phone' use on the STM capacity of young adults.

An advertisement was placed on various platforms at Deakin e.g. social media - calling for participants aged between 18 and 25 to participate in an experiment testing the effects of phone use on cognition. The email asked interested parties to take a screenshot of their average phone screen time statistics (for the last seven days). Based on the statistics from the potential participants two groups were selected.

Group A: heavy phone users, averaged four hours plus of phone use per day (over the last seven days)

Group B: light phone users, who averaged less than one hour per day.

The selected participants were informed that they would be required to come to a Deakin Tutorial room at 9.00pm on a particular weeknight for testing. In addition to this, the participants in Group A were also asked to aim to spend at least 4 hours on their phones during the day (for the purpose of the experiment) and that their phone use would be verified via the screen time app in their phone settings. Likewise, Group one were required to spend less than 1 hour on their phones during the day.

On the night of the testing, the students screen time was checked and recorded, students who failed to meet the specified timed criteria not included in the descriptive statistics tabulated below.

All participants then undertook a series of 5 STM capacity experimental tests via exposure to a series of symbols, letters, numbers, words and nonsense syllables. Each test involved 20 seconds of exposure to 20 items via a data projector. At the end of the exposure time (for each trial), participants had two minutes to retrieve as many of the items as they could (in any order).

The results were summarised in the table below.

	Average phone use per day for the previous 7 days (including the day of testing)	Mean STM capacity on the 5 tests	Standard deviation
Heavy phone user (36 participants)	5.2 hrs. per day	7.5 items	1.3 items
Light phone users (39 participants)	0.52 hrs. per day	5.9 items	3.6 items

The researcher concluded that heavy phone use diminishes the capacity of STM in young adults.

Question 22

The professor has used which of the following forms of sampling and allocation respectively?

- A. random; random
- B. random; non-random
- C. convenience; random
- D. convenience; non-random

Question 23

The professor has used which of the following research designs?

- A. repeated-measures
- B. matched-participants
- C. cross-sectional study
- D. dependent-groups

Question 24

Which of the following measures provided the best measure of the central tendency in this case?

- A. a table of the raw data
- B. the mean scores
- C. the standard deviation of the scores
- D. a bar graph of each participants' STM capacity represented on the same y axis

Question 25

Which of the following techniques would be the most helpful for retaining the tested items in STM during the test?

- A. the use of context-dependent cues
- B. the use of state-dependent cues
- C. maintenance rehearsal
- D. the reconstruction of memory

Question 26

Which method of retrieval is being used in the experiment?

- A. free recall
- B. serial recall
- C. cued recall
- D. relearning

Question 27

Which of the following measures provided the best measure of the reliability of the scores?

- A. a table of the raw data
- B. the mean scores
- C. the standard deviation of the scores
- D. a bar graph of each participants' STM capacity represented on the same y axis

Question 28

A victim of a brain trauma that is suffering anterograde amnesia would still have be able to form new

- A. explicit memories
- B. semantic memories
- C. classically conditioned emotional responses
- D. episodic memories

Question 29

According to past research on the comparison of the effects of 24 hours of sleep deprivation on cognition compared to the effects of alcohol, the effects of 24 hours of sleep deprivation are similar to a BAC (blood alcohol content) of approximately

- A. 0.10
- B. 0.05
- C. 0.01
- D. 1.0

Question 30

According to past research on the effects of a blood alcohol concentration (BAC) of 0.10 and the effects of 24 hours sleep deprivation on cognition, concentration and mood. The greatest variation occurs with

- A. affective symptoms
- B. cognitive symptoms
- C. attention
- D. all of the above are equally affected.

Use the following to answer questions 31 to 35

An Australian sleep researcher was interested in investigating the effects of a US product, 'RediNite', in treating adult insomniacs. The drug claimed to suppress stress-related hormones late in the evening so that naturally occurring sleep-inducing hormones could help patients fall asleep more rapidly.

60 participants were recruited via a newspaper advertisement calling for volunteers aged between 21 and 65 who had been treated for insomnia in the last five years or who believed that they were suffering from the effects of insomnia.

All participants were informed that they would consume either a placebo or the 'RediNite' drug for two months. The experiment was counterbalanced, thus for the first month participants would unknowingly either consume the placebo or 'RediNite' and then would swap over to the other form of treatment for the second month of the study.

The participants would be required to keep a sleep diary which required them to note:

- An estimation of how long it took them to go to sleep.
- An estimation of their sleep duration.
- A rating of the quality of their sleep.
- A rating of their energy rating during the day.
- A rating of their level of awareness 15 minutes after they had awoken.

During the second phase of the experiment, 5 participants were recruited to come into a sleep laboratory for two nights: one-night following consumption of a placebo and one night following the consumption of the RediNite. For both nights, the participants' muscle tension and brain wave activity were monitored.

Question 31

The experiment was generating which of the following two types of data?

- primary; quantitative
- primary; qualitative
- secondary; quantitative
- secondary; qualitative

Question 32

Which type of sleep disorder was the RediNight intended to treat?

- dysomnia
- parasomnia
- circadian-phase disorder
- all of the above

Question 33

Which of the following is the most likely extraneous variable in this experiment?

- boredom effect
- placebo effect
- practice effect
- non standardised procedures



Question 34

Which of the following devices would measure the participants' muscle tension?

- A. EEG
- B. EOG
- C. ECG
- D. EMG

Question 35

Which of the following stress-related hormones would the RediNite medication ideally suppress in the evening?

- A. GABA
- B. melatonin
- C. acetylcholine
- D. cortisol

Question 36

For which of the following age groups are sleep-wake cycles the least likely to regularly follow a circadian cycle?

- A. infants
- B. adolescents
- C. adults
- D. the elderly

Use the following information to answer questions 37 to 39

Laz is a 17-year-old who is experiencing delayed sleep phase onset. After spending a night in a sleep laboratory to learn more about his condition, a hypnogram indicated that he is experiencing an inadequate duration of NREM sleep. This could explain some of the behavioural symptoms that he has reported to his GP during the diagnostic process.

Question 37

The incidence of NREM sleep follows

- A. a circadian rhythm.
- B. an ultradian rhythm.
- C. both a circadian and ultradian rhythm.
- D. neither a circadian nor ultradian rhythm.

Question 38

Delayed sleep phase onset for adolescents

- A. only occurs for adolescents who maintain an erratic sleep-wake cycle due to conflicting social and school demand (in terms of the timing).
- B. can be attributed to a natural maturation process resulting in a delayed release of cortisol in the evening.
- C. can be attributed to a natural maturation process resulting in a delayed release of melatonin in the evening.
- D. typically leads to parasomnia.

Question 39

An example of a behavioural symptom of sleep deprivation in Laz's case is

- A. difficulty concentrating in a Math's class.
- B. impaired motor control in PE.
- C. irritability with his friends at lunchtime.
- D. poor decision making when out with his friends on the weekend.

Question 40

A 25-year-old shift worker who for a seven-day period worked from 11.00 pm to 7.30 am. During the week, she used bright light therapy in order to help reset her body clock to suit the demands of her night shift.

If the goal of the bright light therapy was to help the shift worker to finish the shift with a high level of melatonin so that she could go to sleep after finishing her shift, then the best time for exposure to the bright light would be?

- A. in the middle of the shift
- B. at the end of her shift
- C. just after she wakes up in the afternoon following her morning sleep after her night shift
- D. all of the above

Question 41

Controlled processes are generally performed using

- A. either divided or selective attention
- B. divided attention
- C. selective attention
- D. implicit memory

Question 42

Which of the following states would tend to have the lowest amplitude brain waves as measured by an EEG?

- A. a daydreaming episode
- B. under the influence of a legal BAC
- C. a relaxed drowsy normal waking consciousness
- D. a state of selective attention

Question 43

Sleepwalking episodes tend to

- A. be well remembered by the sleepwalker.
- B. involve aggressive and violent activities.
- C. have a higher incidence of occurrence for young children compared to adults.
- D. occur during REM sleep.

Use the following information to answer questions 44 to 46

Jethro is a middle-aged divorcee who has suffered from a phobia of the outdoors for most of his life. He has a satisfying job designing websites from his home which enables him to be productive in terms of his work practices. His wife has sole custody of his three children who are aged between 9-15. His mental condition limits the amount of time he can spend with his children. He would like to overcome his phobic disorder, but the stigma associated with it has acted as a barrier for seeking help. Due to this, he does not feel ready to start the process of change.

Question 44

In terms of the transtheoretical model of behavioural change, Jethro is currently experiencing which of the following stages?

- A. precontemplation
- B. contemplation
- C. preparation
- D. termination

Question 45

In terms of the transtheoretical model of behavioural change, once Jethro has committed to changing his behaviour within the next few weeks, he has reached which of the following stages?

- A. precontemplation
- B. contemplation
- C. preparation
- D. termination

Question 46

Jethro's parents have been exposed to psychoeducation, this relies on the principles of _____ in order to prevent the perpetuation of his condition.

- A. classical conditioning
- B. operant conditioning
- C. social learning
- D. all of the above

Question 47

Stigma is classified as a _____ factor contributing to the progression of a mental disorder.

- A. biological
- B. psychological
- C. social
- D. biopsychosocial

Question 48

Which of the following is not considered a characteristic of a mentally healthy person?

- A. high level of social wellbeing
- B. high level of daily functioning
- C. high level of cognitive ability
- D. high level of resilience

Question 49

As a result of the Watson and Rayner Little Albert experiment, Little Albert developed which of the following types of memories?

- A. implicit
- B. episodic
- C. procedural
- D. priming

Question 50

All of the following elements are required in a research hypothesis - EXCEPT

- A. an operationalised dependent variable
- B. the population of interest
- C. a prediction
- D. an independent variable

SECTION B: Short-answer questions

Question 1 (14 marks)

Bridget and her friend Kath are two young University of Monash graduate teachers who have both been appointed to their first teaching position. The role is a three-year appointment in a remote town in the Northern Territory. Bridget is excited that she has secured a job and is experiencing a sustained level of nervous energy at the thought of achieving her life-long dream of teaching students from a rural area. Kath has a family history of anxiety and she is already feeling anxious about leaving home. Kath is worried that she will not be able to cope with the demands of teaching her class of students and is concerned that she will let a number of people down.

- a. In terms of the Lazarus and Folkman transactional model of stress and coping, identify and describe both Bridget's and Kath's primary appraisals.

4 marks

- b. Explain how Kath may have made an avoidant coping strategy for dealing with the demands of her interstate teaching role.

2 marks

- c. Describe an advantage of Kath using an avoidance coping strategy.

1 mark

- d. In terms of the Lazarus and Folkman transactional model of stress and coping, explain why Kath may have made a reappraisal, the day after first hearing the news of the teaching position.

2 marks

e. Describe two factors that would indicate that Kath has a mental health problem (as opposed to a mental illness).

2 marks

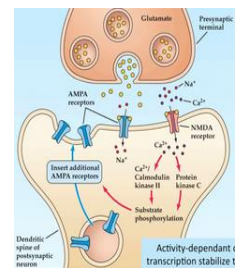
f. Evaluate Kath's cumulative risk of developing a mental condition.

3 marks

Question 2 (7 marks)

Referring to neural plasticity and changes to connections between neurons as the fundamental mechanisms of memory formation that leads to learning and in terms of the image to the right answer the following:

a. Explain how the release of glutamate affects the postsynaptic neuron in terms of the lock and key process.



4 marks

b. Explain how LTP could occur.

3 marks

Question 3 (6 marks)

Three friends have decided to meet on a daily basis at a local gym over the holidays. On one such occasion, Xavian was experiencing a period of divided attention as she pedaled at an easy cadence on a stationary bike whilst watching music videos on a big screen. Trish was daydreaming whilst performing a lengthy stretch whilst seated on a floor mat. Xander was still in an alcohol-induced state with an illegal BAC of @ 0.07 after a big night out and was holding a series of yoga poses to relieve some tension.

- a. State which of the three would be depicted at the highest level on continuum of consciousness, justify your response.

2 marks

- b. As the effects of alcohol slowly started to wear off, describe changes in Xander’s EEG activity

2 marks

- c. Explain how Trish’s daydreaming episode could result in both a cognitive and perceptual distortion.

2 marks

Question 4 (2 marks)

In terms of the evolutionary theory of sleep, provide two distinct reasons as to why a possum sleeps significantly longer than a giraffe.

b. Evaluate both the internal validity and the internal reliability of the results generated from this research investigation.

4 marks

c. Based on the results of the experiment, write an evidence-based conclusion.

3 marks

d. Explain two tasks that the researchers would have been required to perform during the debriefing process.

2 marks

e. Identify the type of research investigation used by Dr. Wafaul in this case

1 mark

Question 7 (12 marks)

Zara is a successful 25-year-old academic who suffers from an anxiety disorder and is in the middle of a six-month prescription of Intermezzo (a type of benzodiazepine). She has agreed to participate in a research investigation into the effectiveness of the use of Zalephon (an alternative type of benzodiazepine).

The research investigation will run for 12 weeks and will require Zara to cease taking her existing medication and substitute it with Zalephon for the duration of the study.

Unknowingly Zara was randomly allocated to the control group and will be consuming placebos for the 12 weeks of the study.

- a. List two biological perpetuating risk factors that could affect Zara’s mental condition (apart from the Zalephon).

2 marks

- b. Describe the purpose of exposing participants to placebos for this experiment.

2 marks

- c. Identify three distinct ways that the research investigation will potentially breach Zara’s informed consent.

3 marks

- d. Explain how Benzodiazepines such as Intermezzo can be used to treat anxiety/phobic disorders.

3 marks

