



2019 Trial Examination

STUDENT
NUMBER

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Letter

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PSYCHOLOGY

Unit 3 – Written examination

Reading time: 15 minutes

Writing time: 1 hour and 30 minutes

QUESTION & 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	30	30	30
B	7	7	45
			Total 75

- 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 white out liquid/tape.
- No calculator is permitted in this examination.

Materials supplied

- Question and answer book of 23 pages.

Instructions

- Print your name in the space provided on the top of this page.
- All written responses must be in English.

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

SECTION A – Multiple-choice questions

Instructions for Section A

Answer **all** questions in this section.

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 structure of the neuron that insulates the electrical message and speeds up the rate of transmission along the axon is the

- A. Myelin.
- B. Dendrite.
- C. Axon.
- D. Axon terminal.

Question 2

What area of the brain is associated with the skill formation associated with striking a soccer ball?

- A. Hippocampus
- B. Cerebral cortex
- C. Cerebellum
- D. Amygdala

Question 3

Anthea teaches her dog to shake by giving her a treat whenever she lifts her paw on command. Anthea has used _____ to train her dog.

- A. Response cost
- B. Negative reinforcement
- C. Positive reinforcement
- D. Cognitive behavioural therapy

SECTION A - continued

Question 4

The neural process that would be responsible for assisting a tennis player to adjust an incorrect service action would be

- A. Long term depression to strengthen the incorrect connection and long term potentiation for weakening the new correct connection.
- B. Long term depression to weaken the incorrect connection and long term potentiation for establishing the new correct connection.
- C. Long term potentiation to weaken the incorrect connection and long term depression for establishing the new correct connection.
- D. Synaptic pruning to strengthen the new correct skill.

Question 5

Zane and Imani have just migrated to Australia. They have visited many times as they have relatives that live there. Despite this, Imani finds it difficult to learn and keep track of the everyday customs. Zane has not had this issue, and is both excited and energetic about the move to Australia. In terms of Psychological responses to stress, it is likely that Zane and Imani's experiences are the result of

- A. Eustress and major stress respectively
- B. Benign appraisal and acculturative stress respectively
- C. Eustress and daily pressures respectively
- D. Eustress and acculturative stress respectively

Question 6

All of the following are examples of neurotransmitters, with the exception of?

- A. Acetylcholine
- B. Dopamine
- C. Adrenaline
- D. Glutamate

Question 7

Feeling a pen in your hand is an example of a _____ response. Feeling your stomach grumble when hungry is an example of a _____ response.

- A. Conscious; unconscious
- B. Conscious; reflexive
- C. Unconscious; conscious
- D. Reflexive; unconscious

SECTION A - continued
TURN OVER

Question 8

Sabrina is watching a movie. She is hungry and decides to make a popcorn snack while she watches. At one point in the movie, one of the characters jumps out and scares another character. This was unexpected, and this also startles Sabrina. She felt her heart rate increase and her breathing accelerate. However, after a minute or two, she feels calm again and can breathe normally.

Which nervous systems were responsible for coordinating the process of eating, increased heart rate and normal regulated breathing, respectively?

	Eating popcorn	Increased heart rate	Regulated breathing
A.	Autonomic	Somatic	Sympathetic
B.	Central	Autonomic	Parasympathetic
C.	Somatic	Sympathetic	Parasympathetic
D.	Somatic	Sympathetic	Autonomic

Question 9

Jacob has just been told that there are a number of redundancies that will soon be made at his place of employment. This worries him because he has many financial commitments, including a new mortgage. This experience would most likely be appraised as

- A.** Harm/loss.
- B.** Threat.
- C.** Benign.
- D.** Eustress.

Question 10

Neurotransmitters have an excitatory or inhibitory effect on the nervous system. This means that

- A.** Excitatory neurotransmitters such as glutamate will bind to the receptor sites of postsynaptic neurons making them more likely to fire.
- B.** Excitatory neurotransmitters such as GABA will bind to the receptor sites of postsynaptic neurons making them more likely to fire.
- C.** Inhibitory neurotransmitters such as glutamate will bind to the receptor sites of postsynaptic neurons making them more likely to fire.
- D.** Inhibitory neurotransmitters such as GABA will bind to the receptor sites of postsynaptic neurons making them more likely to fire.

The following information refers to Question 11-14

Dr Blume wanted to investigate the effects of alcohol on an individual's cognitive state. She recruited 20 participants (12 female and 8 male) who were aged between 25 and 30. She advertised her study on the back of toilet doors in several bars and pubs within 15km of her home with information on how to contact the researcher if interested in participating. Her method was as follows:

Condition 1: 10 participants were given 5 standard drinks to consume within 60 minutes and then completed a problem-solving task

Condition 2: The remaining 10 participants were given water to consume within 60 minutes and completed the same problem-solving task

Question 11

The sampling technique used was

- A. Matched participants.
- B. Stratified.
- C. Random.
- D. Convenience.

Question 12

What type of research design did Dr Blume use?

- A. Independent groups
- B. Random groups
- C. Matched participants
- D. Repeated measures

Question 13

The independent variable in this study was

- A. The effect of alcohol on problem solving.
- B. The score on the problem solving task.
- C. Whether or not participants consumed alcohol.
- D. The effect alcohol had on each participant.

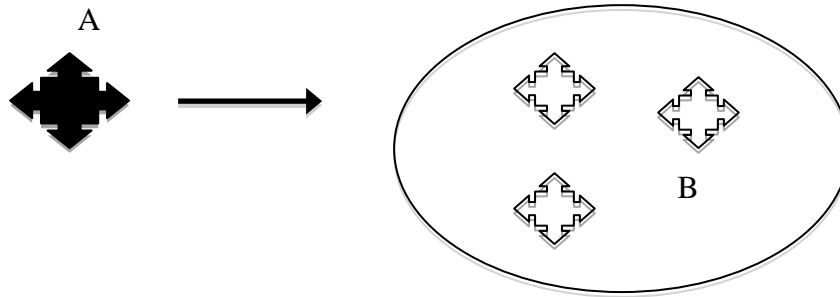
Question 14

By providing potential participants with basic information about the study, and giving contact details if they are interested in participating, Dr Blume is upholding

- A. Informed consent.
- B. Withdrawal rights.
- C. Voluntary participation.
- D. Debriefing.

SECTION A - continued

Question 15



With reference to the lock and key process, as illustrated by the diagram above, A would represent _____ and B would represent _____.

- A. Dendrites; axon terminals
- B. Neurotransmitters; receptor sites
- C. Neurotransmitters; myelin
- D. Neurotransmitters; dendrites

Question 16

When comparing classical and operant conditioning, a key difference is

- A. Classical conditioning is an active process and operant conditioning is passive.
- B. Extinction cannot occur in classical conditioning but can in operant conditioning.
- C. Classical conditioning is passive and operant conditioning is an active process.
- D. Extinction is voluntary in classical conditioning but involuntary in operant conditioning.

Question 17

By failing to inform Little Albert's mother about the true nature of the experiment that her son was to participate in, an aspect of _____ was violated.

- A. Informed consent
- B. Debriefing
- C. Voluntary participation
- D. Withdrawal rights

SECTION A - continued

Question 18

Stephanie has just had her second baby. Her husband works as a fly in, fly out miner and is only home for a week every month. Her first-born is 2 years old and has a developmental disorder and requires additional support. She lives several hundred kilometres from her mother, but she does have a few friends who live close by. At the moment, Stephanie sleeps when her new baby sleeps and when her first born is having his lunchtime nap. This is not enough and Stephanie has now asked for her mother to come and stay with her for a while to help.

The ability for Stephanie to find an appropriate way to manage the stress relating to her situation shows she has _____ and to use different strategies to assist her when others are not working shows high levels of _____.

- A. problem focused approaches; coping flexibility
- B. coping flexibility; problem focused approaches
- C. context-specific effectiveness; coping flexibility
- D. context-specific effectiveness; problem focused approaches

Question 19

Betty visits the doctor to get a blood test. When she visits there is a training doctor who tries to draw blood. Several times he struggles to find a vein and this is painful for Betty. She leaves with a bruised arm and is a little shaken up from the pain. Now whenever Betty is at the doctor she feels shaken up and can feel pain in her arm. The unconditioned stimulus in this example is

- A. The visit to the doctor's surgery.
- B. The training doctor.
- C. Feeling shaken up.
- D. The blood test.

The following information refers to Question 20-22

Dr Harvey conducted an experiment with two conditions;

Condition 1 – He asked participants to learn as many words as they could from a list of 15 words in two minutes and then immediately after learning to write these down

Condition 2 – Participants were asked to learn as many words as they could from a list of 15 words in two minutes and then asked them to count down by 3s from 202 for a short time before recalling.

Question 20

What do you predict would be the result of condition 1?

- A. Recall for items in the middle of the list presented will have higher recall than words at the end of the list
- B. Items at the beginning of the list will have higher recall than words in the middle of the list
- C. Items at the end of the list will have lower recall than words in the middle
- D. Recall for items will be the same regardless of their position in the list

SECTION A - continued

Question 21

What would you predict would be the result of condition 2?

- A. Recall for words at the end of the list will be higher than words at the beginning of the list
- B. Words in the middle of the list will have higher recall than words at the beginning of the list
- C. Recall for words at the beginning and end of the list will be higher than words in the middle
- D. Words at the beginning of the list will have higher recall than words at the end of the list

Question 22

According to the serial position effect, the superior recall of items at the end of a word list is known as the

- A. Recall effect.
- B. Recency effect.
- C. Primacy effect.
- D. Final effect.

Question 23

Derek is preparing for his end of year exams. He has been studying diligently in addition to working part time. Recently, his girlfriend ended their relationship and this has resulted in difficulty sleeping. He is feeling overwhelmed but he is managing to work through his commitments to work and study.

The stage in the GAS that Derek is most likely in is

- A. Shock.
- B. Exhaustion.
- C. Alarm.
- D. Resistance.

Question 24

Explicit memory comprises of

- A. Semantic and episodic memory.
- B. Semantic and procedural memory.
- C. Episodic and procedural memory.
- D. Procedural and implicit memory.

SECTION A - continued

Question 25

When an individual forms a mental representation of a skill they have observed someone else perform and they have the desire to perform it themselves, they are demonstrating

- A. Retention and reproduction stages of operant conditioning.
- B. Retention and motivation stages of observational learning.
- C. Reproduction and motivation stages of observational learning.
- D. Retention and motivation stages of operant conditioning.

The following information refers to Questions 26-28

Josie was sitting in the garden reading a book. She had read through several chapters while basking in the sun. She got thirsty so decided to go inside to get a drink. As she placed her feet on the ground, the heat from the concrete burnt her feet. She quickly moved them off the concrete.

Question 26

The sensation Josie felt when turning the pages of the book was the result of actions of _____ neurons.

- A. Motor
- B. Interneurons
- C. Sensory
- D. Reflex

Question 27

The ability for Josie to move her feet to place them on the ground to go and get a drink was the result of actions of _____ neurons.

- A. Motor
- B. Interneurons
- C. Sensory
- D. Reflex

Question 28

The response generated by Josie because of the detection of the hot concrete was

- A. Conscious.
- B. Voluntary.
- C. Spinal reflex.
- D. Motor response.

**SECTION A - continued
TURN OVER**

Question 29

A statement that is presented in a way that suggests a desired response is known as a

- A. Presupposition.
- B. Leading question.
- C. Memory manipulation.
- D. Fallibility.

Question 30

Which of the following is the most sensitive measure of memory retention from the options below?

- A. Cued recall
- B. Ordered recall
- C. Free recall
- D. Serial recall

END OF SECTION A

SECTION - Short-answer questions

Instructions for Section B
Answer **all** questions in the spaces provided. Write using blue or black pen.

Question 1 (4 marks)

Identify the functions of the following brain structures in memory, and provide an example of this form of memory.

Cerebral cortex _____

Example _____

Hippocampus _____

Example _____

Question 2 (7 marks)

Tom was driving down the freeway when the sun shone in his eyes, so he pulled his visor down. As he did he noticed a spider sitting on it. It crawled onto the car roof above him and then dropped onto his hand. He immediately screamed with fear and swerved to pull over. The spider bit him before he managed to squash it.

a. Describe the nervous system response that was likely experienced by Tom.

2 marks

SECTION B – Question 2 - continued
TURN OVER

b. Tom now avoids driving in his car. With reference to learning theory, explain how this behaviour has developed.

2 marks

c. With reference to Tom’s new avoidance behaviour, identify the antecedent.

1 mark

d. Outline the function of Adrenaline on the memory of the experience Tom had with the spider in his car.

2 marks

SECTION B - continued

Question 3 (10 marks)

Exercise and list making the way to stress less

by Tiffany Gallagher

Study finds exercise can assist in reducing stress levels

A recent study has found that regular cardiovascular exercise can reduce the impact stress has on the body.

Researchers at Belford University recruited individuals working in high stress occupations to participate in one of 3 conditions. One group ran for 20 minutes 3 times weekly for 3 months. The second group ran for 20 minutes 3 times weekly for 3 months and were taught to create focus lists to prioritise activities and tasks. The final group did not prescribe to any exercise and were not taught the focus list technique.

A month after training, all participants were asked to complete a questionnaire that evaluated their level of stress in addition to whether they felt they had the ability to cope with the level of stress. There was then a further follow up at 3 months after training.

The results showed that participants in the exercise only condition had similar stress levels and coping levels to those in the exercise and focus list condition at 1 month after training. At 3 months these results were similar, however, the exercise only group reported significantly lower levels of coping skill. Those in the exercise only condition reported similar levels of coping skill to those in the control condition at 3 months.

The control group reported significantly higher levels of stress than the exercise and focus list group and also reported significantly lower levels of coping skill.

The researchers concluded that exercise and list making were helpful in managing stress.

- a. With reference to the scientific research methods used in the study above.
 - i. Identify the experimental research design used in the study and identify one advantage and disadvantage of this design.

3 marks

SECTION B – Question 3 - continued
TURN OVER

ii. Identify the population of interest in the study

1 mark

b. With reference to models of stress investigated within this study

i. Are Psychological or Biological models of stress being investigated in this study? Justify your response.

2 marks

ii. Using appropriate Psychological terminology relating to the model of stress you selected, explain the results.

4 marks

Question 4 (3 marks)

Outline **one** similarity and **two** differences between classical and operant conditioning.

Similarity _____

Difference 1 _____

Difference 2 _____

Question 5 (5 marks)

Brain trauma can have a significant impact on the brain and the way it functions.

- i. Describe the impact of anterograde amnesia on memory.

1 mark

SECTION B – Question 5 - continued
TURN OVER

- ii. Explain the impact of Alzheimer’s disease on memory. Include structural changes that occur within the brain in your response.

4 marks

Question 6 (6 marks)

Timothy witnesses a crime and is questioned by police. In the weeks leading up to his appearance in court, Timothy spends time with the prosecutor of the case in preparation for his testimony. So that the prosecutor is sure of Timothy’s statement, he takes Timothy back to the scene of the crime so that he can work through what he witnessed. When in court, Timothy’s statement doesn’t match the one he gave police the afternoon of the crime. The defence asks for the testimony to be removed, explaining that it has been manipulated and is not reliable.

- a. Explain why the prosecutor took Timothy back to the scene of the crime when reviewing his witness statement.

2 marks

SECTION B – Question 6 – continued

b. When the prosecutor asks Timothy to describe the crime that he witnessed, what method of retrieval was utilised?

1 mark

c. With reference to Loftus' research on eyewitness testimony, explain why the defence would request Timothy's testimony be removed.

3 marks

SECTION B – continued
TURN OVER

Question 7 (10 marks)

Gavin is a research assistant for Dr Burnham, who works at a prominent university. Dr Burnham is interested in investigating the processes that relate to the storage and retrieval of memory. He would like to test the ability of participants to store information by asking them to learn words by repeating them constantly or by creating a story from the words. He is also interested in understanding the impact that a range of measures used to determine participants memory of these words would have on their recall.

Gavin has been asked to write a review of the available literature to provide Dr Burnham, so that he may refine his proposed study to address gaps in the knowledge in this area.

With reference to factors that influence an individual's ability to remember, methods used to retrieve memory, and the interactions of different brain regions associated with memory, provide a detailed review of the research findings of past literature that Gavin would most likely develop to inform Dr Burnham's proposed study.

SECTION B – Question 7 - continued
TURN OVER

Extra space for responses

Clearly number all responses on this page.
