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 Letter

PSYCHOLOGY

Unit 3 Written examination

2020

Reading time: 10 minutes
Writing time: 1 hour 40 minutes

QUESTION AND ANSWER BOOK

Structure of book

Section	Number of questions	Number of questions to be answered	Number of marks
A	35	35	35
B	5	5	45
			Total 80

- 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 allowed in this examination.

Materials supplied

- Question and answer booklet.
- 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 **student number** in the space provided above on this page.
- Check that your **name** on your answer sheet for multiple-choice questions is correct.
- 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.

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.

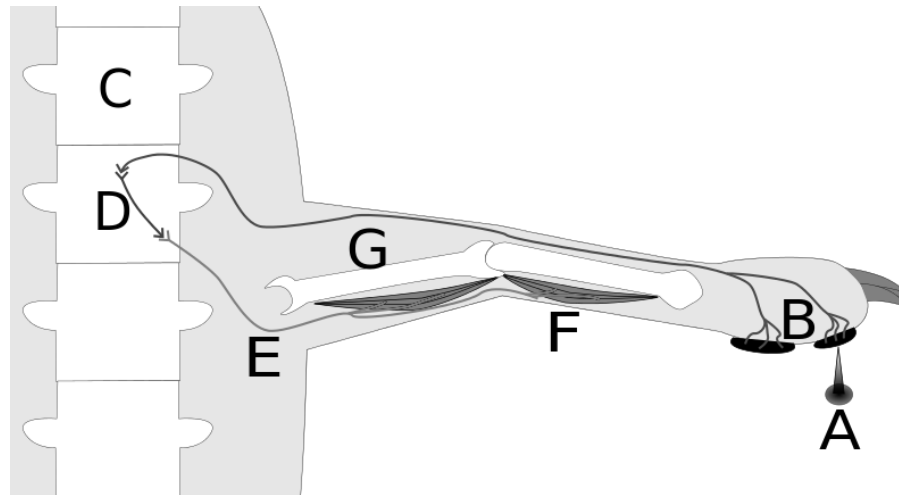
A correct answer scores 1; an incorrect answer score 0.

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

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

Use the following information to answer Questions 1- 3.

Tim was walking in the park with his dog Sandy. All of a sudden, Sandy yelped in pain after standing on a sharp object. The image below is a diagram of a reflex arc, with structure A being the sharp object.



https://commons.wikimedia.org/wiki/File:Reflex_Arc.svg

Question 1

Which of the following is structure B (the first structure that receives an environmental input) in the diagram above?

- A. an effector
- B. a receptor
- C. a sensory neuron
- D. a motor neuron

Question 2

A message is sent up an afferent pathway carried by structure G which is _____; the message is sent down an efferent pathway carried by structure E which is _____.

- A. a sensory neuron; a motor neuron
- B. a motor neuron; a sensory neuron
- C. an effector; a receptor
- D. a receptor; an effector

Question 3

During a reflex response, structure D allows an immediate response to occur at the spinal cord. Structure D in the diagram is a/n

- A. sensory neuron.
- B. motor neuron.
- C. interneuron.
- D. neuron.

Use the following information to answer Questions 4-6.

Before commencing a new Area of Study, Ms Glum set her VCE Psychology class a short topic test to see how much each student could remember.

Question 4

The students' performance on the topic test is dependent on three key processes of memory. These processes are

- A. sensory register, processing, storage.
- B. sensory memory, short-term memory, long-term memory.
- C. storage, processing, retrieval.
- D. encoding, storage, retrieval.

Question 5

The questions on the topic test were in multiple choice form. Which method of retrieval did these questions use?

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

Question 6

After marking the test, Ms Glum noticed that one of her students performed poorly. When asked, the student informed her that they were not coping with the VCE workload due to procrastination. If Ms Glum was to suggest an approach coping strategy to this student, it would involve

- A. efforts that evade a stressor and deal indirectly with it.
- B. efforts to confront a stressor and deal with it directly.
- C. taking steps to avoid the stressor.
- D. distancing oneself from the stressor.

Use the following information to answer Questions 7-9.

Carol was gifted a skydiving experience for her birthday. On the day of her skydive, she is feeling excited but also terrified. Her heart is racing, her pupils are dilated, the muscles in her legs are tense and she is sweating even though it is a cold day.

Question 7

Which of the following changes that Carol experienced are controlled by the activity of the somatic nervous system?

- A. dilated pupils
- B. increased heart rate
- C. tensed leg muscles
- D. increased production of sweat

Question 8

Carol is so scared that she is unable to move or even talk when it is her turn to jump. This state is known as

- A. paraplegia.
- B. paralysis.
- C. a freeze state.
- D. an immobility state.

Question 9

Eustress, such as Carol's excitement for her skydiving experience is a positive _____ response that will activate her _____ nervous system.

- A. psychological; sympathetic
- B. physiological; sympathetic
- C. psychological; parasympathetic
- D. physiological; parasympathetic

Use the following information to answer Questions 10-12.

Jasmine was cooking dinner in the kitchen when Finn, her three-year-old son, came in and accidentally put his hand on the hot oven – he quickly pulled his hand away and cried in pain.

Question 10

The reflex response of quickly pulling his hand away would be considered a/an _____ process, involving _____.

- A. conscious; an interneuron
- B. unconscious; an interneuron
- C. conscious; the brain
- D. unconscious; the brain

Question 11

Whenever Finn enters the kitchen, he now knows not to touch the oven due to making the association between the hot oven and the pain he experienced. Which of the following chemicals is important for the formation of Finn's memory of the hot oven?

- A. dopamine
- B. GABA
- C. serotonin
- D. glutamate

Question 12

When they went away for a family holiday the next summer, Jasmine noticed that Finn showed signs of fear of the oven in the holiday house. In terms of classical conditioning, this is an example of

- A. stimulus generalisation
- B. stimulus discrimination
- C. extinction
- D. spontaneous recovery

Use the following information to answer Questions 13-15.

Millie's father started to teach her to play the piano. However, after a few years, Millie grew bored of the piano and decided to play the guitar instead.

Question 13

When learning occurs, such as when learning to play the piano, which of the following changes are said to occur?

- A. a decreased number of neurons
- B. dendritic sprouting and the formation of new synapses
- C. an increased myelination of dendrites
- D. re-routing of neural impulses

Question 14

Millie learning to play the guitar primarily occurs through the process of

- A. an action potential.
- B. long term potentiation.
- C. long term depression.
- D. neural inhibition.

Question 15

Years later, Millie decided to take up playing the piano again. She realised that she was able to learn the piano a lot quicker than when she originally learnt to play with her father as a child. This saving of time was likely due to the process of

- A. reconstruction.
- B. cued recall.
- C. recognition.
- D. relearning.

Use the following information to answer Questions 16 and 17.

Georgia was running some errands for things that she needed for a trip overseas. As she was driving, she picked up a call using hands-free Bluetooth from her partner who listed 15 things from the chemist they needed. Not being able to write anything down, she did her best to remember the items, and arrived at the chemist ten minutes later.

Question 16

When she arrived at the chemist ten minutes later, Georgia would be more likely to remember the items from the _____ of the list.

- A. start and the end
- B. start
- C. end
- D. middle

Question 17

The serial position effect provides evidence to support the notion that _____ is a distinct store of memory to _____.

- A. working memory; short-term memory
- B. short-term memory; sensory memory
- C. sensory memory; long-term memory
- D. short-term memory; long-term memory

Use the following information to answer Questions 18-20.

George was watching a game of football when two players collided into one another on the field. One was knocked unconscious and the other had broken his arm. Blood had gone everywhere. This was over ten years ago, but George can still picture every detail of what he witnessed.

Question 18

After the match, a paramedic asked George, "How fast were they running when they smashed into each other?" He is most likely to give

- A. underestimations of the players' speed.
- B. overestimations of the players' speed.
- C. accurate estimates of the players' speed.
- D. all of the above are equally likely

Question 19

George's vivid memories are likely due to the sudden release of _____ into the bloodstream.

- A. glutamate
- B. dopamine
- C. acetylcholine
- D. adrenaline

Question 20

Explicit memories, such as remembering the details of the football match, are permanently stored in which part of the brain?

- A. cerebral cortex
- B. hippocampus
- C. parietal lobe
- D. amygdala

Use the following information to answer Questions 21-23.

Julia's grandmother had recently been diagnosed with Alzheimer's disease, so she was surprised when her grandmother was able to recall her 60th birthday party, which was ten years ago.

Question 21

Julia's grandmother remembering her 60th birthday party would be considered a _____ long-term memory.

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

Question 22

Julia did some research about Alzheimer's disease and found out that it is thought to be caused by interference with the transmission of neural impulses caused by _____.

- A. amyloid tangles
- B. glutamate molecules
- C. amyloid plaques
- D. neurofibrillary plaques

Question 23

She also discovered that late-stage Alzheimer's disease is characterised by

- A. an inability to form new memories and loss of procedural memories.
- B. extreme difficulty recalling explicit memories and loss of self-awareness.
- C. an inability to recognise even the closest relatives.
- D. all of the above.

Use the following information to answer Questions 24 and 25.

Daisy suffers from back pain. When the pain appears after a long day at work, she takes medication, and the pain goes away.

Question 24

The behaviour of taking the medication is strengthened by

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

Question 25

Daisy's back pain is an example of a/an

- A. antecedent.
- B. behaviour.
- C. consequence.
- D. conditioned response.

Use the following information to answer Questions 26 and 27.

Kitty the cat is fed her meal each evening next to the kitchen bench. Harry first uses the can opener to open the tin of cat food on top of the bench, while Kitty rubs up against his legs, purring with excitement.

Question 26

In terms of classical conditioning, the unconditioned stimulus in this case is the

- A. cat food.
- B. can opener.
- C. purring with excitement.
- D. bench top.

Question 27

Kitty the cat has now started to jump onto the kitchen bench and steal food. Whenever Harry gets home from work and notices that food is missing from during the day, he yells and locks Kitty out of the kitchen. This strategy is _____ to be successful in teaching Kitty not to steal food, because _____.

- A. likely; Kitty's inappropriate behaviour is being negatively reinforced
- B. likely; Kitty's inappropriate behaviour is being positively reinforced
- C. unlikely; a punisher must precede the unwanted behaviour
- D. unlikely; a punisher should come very soon after the unwanted behaviour

Question 28

A behaviour that is acquired through classical conditioning compared to operant conditioning is more likely to be

- A. a voluntary action.
- B. resistant to extinction.
- C. involuntary and reflexive.
- D. resistant to spontaneous recovery.

Use the following information to answer Questions 29 and 30.

Paul was riding his scooter home when a car suddenly reversed out of the driveway and collided with him. He fell from his bike and bumped his head on the pavement. He lay there for a few minutes unable to move.

Question 29

With reference to Selye's General Adaptation Syndrome, which of the following statements would be true for Paul immediately after the accident occurred?

- A. Paul would have entered the shock sub-stage and his resistance would be above normal
- B. Paul would have entered the resistance stage and his resistance would be below normal
- C. Paul would have entered the shock sub-stage and his resistance would be below normal
- D. Paul would have entered the resistance stage and her resistance would be above normal

Question 30

Following the accident, Paul's doctor diagnosed him with anterograde amnesia due to damage to his hippocampus. This means that Paul could

- A. remember events before the accident but could not form new implicit and explicit memories.
- B. remember events before the accident and could form explicit memories but not implicit memories.
- C. remember events before the accident and could form implicit memories but not explicit memories.
- D. not remember events before the accident but could form new implicit and explicit memories.

Question 31

Which of the following memory stores has the smallest capacity?

- A. iconic memory
- B. echoic memory
- C. short-term memory
- D. long-term memory

Use the following information to answer Questions 32 and 33.

For the past few months, Laura has been experiencing a lot of stress with the arrival of her new baby and being a single mother. When she first brought her baby home, she felt like she was coping; however, after a few months of sleep deprivation and no support, she was experiencing daily migraines, which prevented her from being able to care for her baby properly.

Question 32

In terms of Selye's General Adaptation Syndrome (GAS), it is most likely that when Laura first brought her baby home, she was in the _____ stage; however, her inability to care for her baby properly due to her daily migraines is indicative of the _____ stage.

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

Question 33

When Laura's friends and family asked her if she needed help, she denied the fact that she was not coping. Laura's response is an example of a/an

- A. primary appraisal.
- B. secondary appraisal.
- C. approach strategy.
- D. avoidance strategy.

Use the following information to answer Questions 34 and 35.

Pat was sitting in his Psychology class when the teacher asked him to identify the types of sensory memory. His heart rate immediately increased, and he started to sweat. He was unable to answer the teacher's question in class, but when he was home in his room later that day, he had no problem recalling the answer.

Question 34

The physiological reaction that Pat experienced was under the control of which division of the nervous system?

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

Question 35

Pat had initially learned about the types of sensory memory in his room at home, and therefore his _____ acts as a _____ cue for the recall of that information.

- A. classroom; state dependent
- B. room; state dependent
- C. room; context dependent
- D. classroom; context dependent

SECTION B**Instructions for Section B**

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

Question 1 (9 marks)

Many years ago, Max was diagnosed with Parkinson's disease which has now progressed to its later stages.

- a.** Prior to his diagnosis, Max was an avid tennis player. 4 marks

Identify the roles of the different divisions of Max's nervous system when watching a ball coming towards him, deciding how to hit it, and hitting the ball back towards his opponent.

- b.** What are two possible motor symptoms that Max might now be showing since his diagnosis? 2 marks

- c.** With reference to the brain area and neurotransmitter involved, explain why Max was experiencing the motor symptoms outlined in 1b. 3 marks

Henry has been playing basketball for several years, but this season, he has a new coach who has identified some errors in his existing shooting technique. His coach is teaching him a new technique that involves holding the ball above his head and keeping his feet placed together on the ground.

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- [illegible]

- d.** Name and explain the type of memory involved in the consolidation of the new shooting technique, and identify the relevant brain area that encodes this information. 3 marks

Question 3 (8 marks)

Watson and Rayner demonstrated with 'Little Albert' that it is possible to condition an emotional response, such as fear.

- a.** Using the language of classical conditioning, explain how Little Albert's fear was acquired. 6 marks

- b.** Explain how the ethical principle of informed consent should have been carried out in the Little Albert experiment. 2 marks

Ella has suffered from severe epileptic seizures since she was born. Unfortunately, her epilepsy has been resistant to medication, so a decision was made to remove her amygdalae (the amygdala on each side of her brain), which had been identified as the area causing the seizures.

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[illegible]

END OF QUESTION AND ANSWER BOOK

Clearly number all responses in this space.

[illegible]



VCE PSYCHOLOGY
Written Examination
ANSWER SHEET – 2020

**STUDENT
NAME:**

Use a **PENCIL** for **ALL** entries. For each question, shade the box which indicates your answer.
Marks will **NOT** be deducted for incorrect answers.
NO MARK will be given if more than one answer is completed for any question.
If you make a mistake, **ERASE** the incorrect answer – **DO NOT** cross it out.

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