

Trial Examination 2021

## VCE Psychology Unit 1

Written Examination

### Question and Answer Booklet

Reading time: 15 minutes

Writing time: 1 hour 30 minutes

Student's Name: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

#### Structure of booklet

<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	9	9	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 22 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 above on this page, and 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.**

## 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

René Descartes developed a theory called dualism.

According to this theory,

- A. the mind and body come into contact through the pineal gland.
- B. the mind could control the body, but the body could not influence the mind.
- C. the body could influence the mind, but the mind had no control over the body.
- D. the mind and body come into contact through the pituitary gland.

### Question 2

Which one of the following statements about the brain vs heart debate is true?

- A. The Ancient Egyptians believed that the brain held the mind and the soul.
- B. Empedocles identified that the brain was in the centre of the body and thus took the 'brain' side of the debate.
- C. Aristotle taught his followers that both the mind and the soul were located in the brain.
- D. Greek physician Galen argued that the mind was located in the brain.

### Question 3

Some of the first experiments on the brain include

- A. X-rays.
- B. CT scans.
- C. MRI.
- D. ESB.

### Question 4

Which one of the following would best diagnose a small, structural abnormality in the brain?

- A. MRI
- B. fMRI
- C. CT scan
- D. X-ray

**Question 5**

Stefan was involved in a head-on car collision. Following the accident, Stefan lost sensation and movement in both of his legs.

This was due to damage to his

- A. frontal lobe.
- B. motor cortex.
- C. parietal and frontal lobes.
- D. spinal cord.

**Question 6**

Marcus is a football player. After taking possession of the ball during a game, he lines up in front of the goal and kicks the football directly between the goal posts.

When Marcus kicks the football, which branch of his nervous system is active?

- A. the automatic nervous system
- B. the sympathetic nervous system
- C. the somatic nervous system
- D. the parasympathetic nervous system

**Question 7**

Identify the type of muscle that is under voluntary control of the nervous system.

- A. skeletal muscle
- B. smooth muscle
- C. cardiac muscle
- D. visceral muscle

**Question 8**

Which one of the following bodily functions is activated by the sympathetic nervous system?

- A. constriction of the pupils of the eyes
- B. slow, even breathing rate
- C. increased release of glucose from the liver
- D. slow, steady heart rate

**Question 9**

Which one of the following gives the name of the star-shaped cells that are the largest and most numerous cells in the nervous system?

- A. Schwann cells
- B. astrocytes
- C. microglia
- D. oligodendroglia

**Question 10**

Descriptive statistics

- A. provide an effective way of drawing an accurate conclusion.
- B. may only be used with qualitative data.
- C. provide an effective way of organising and summarising data.
- D. may be used to make generalisations about data.

**Question 11**

Kai was running along the decking beside a swimming pool when he slipped and hit his head. After his fall, Kai experienced disturbances in his vision.

It is likely that Kai's visual problems were due to damage sustained in his

- A. frontal lobe.
- B. parietal lobe.
- C. temporal lobe.
- D. occipital lobe.

**Question 12**

Which one of the following structures within the neuron integrates incoming information and instigates a neural impulse?

- A. soma (cell body)
- B. axon
- C. terminal branches
- D. dendrites

**Question 13**

Which part of the neuron releases neurotransmitters?

- A. dendrites
- B. myelin
- C. axon
- D. terminal branches

**Question 14**

Efferent neurons transmit information away from the brain to other parts of the body.

What is the name given to efferent neurons?

- A. sensory neurons
- B. interneurons
- C. motor neurons
- D. association neurons

**Question 15**

The primary motor cortex forms a band-like structure within one of the lobes of the brain. Areas of the body are not represented equally within the primary motor cortex.

Which area of the body has the greater representation in the primary motor cortex?

- A. the fingers
- B. the legs
- C. the feet
- D. the back

**Question 16**

Two structures that are located in the hindbrain are the

- A. hypothalamus and reticular formation.
- B. thalamus and pons.
- C. cerebellum and pons.
- D. cerebrum and medulla.

**Question 17**

The role of the corpus callosum is to

- A. coordinate motor movements.
- B. form memories.
- C. exchange neural information between the two hemispheres of the brain.
- D. create neural information to transfer to the two hemispheres of the brain.

**Question 18**

Both hemispheres of the brain are coordinated in most functions. However, it has been proposed that each hemisphere has certain specialisations.

The left hemisphere of the brain is said to specialise in

- A. creative thinking.
- B. solving mathematical problems.
- C. recognition of melodies.
- D. appreciation of art.

**Question 19**

In the first two years of life there are two important processes that increase the volume of the human brain.

These two processes are

- A. the creation of new neurons and myelination.
- B. the creation of new neurons and synaptogenesis.
- C. synaptogenesis and myelination.
- D. synaptogenesis and synaptic pruning.

**Question 20**

Risk-taking behaviour occurs at a higher frequency in adolescents than it does in people in their twenties. The reason for this behaviour is believed to be biological.

Which one of the following areas of the brain is underdeveloped in adolescents and therefore thought to be responsible for risk-taking behaviour?

- A. frontal lobe
- B. prefrontal cortex
- C. parietal lobe
- D. auditory cortex

**Question 21**

Which one of the following is an important process of adaptive plasticity?

- A. rerouting
- B. synaptic pruning
- C. myelination
- D. synaptogenesis

**Question 22**

Psychological development refers to an individual's growth across several domains as they grow older.

Learning how to respond to others and engage in productive discussions is considered

- A. social development.
- B. cognitive development.
- C. emotional development.
- D. physiological development.

*Use the following information to answer Questions 23–27.*

Jodi's father was diagnosed with Parkinson's disease. Her family was provided with information pamphlets to help them understand the disorder.

**Question 23**

Which one of the following symptoms is classified as a non-motor symptom?

- A. problems with verbal fluency
- B. resting tremors
- C. shuffling gait
- D. muscle rigidity

**Question 24**

The area of the brain that is most affected by Parkinson's disease is the

- A. cerebellum.
- B. frontal lobe.
- C. hindbrain.
- D. substantia nigra.

**Question 25**

One of the information pamphlets states that Parkinson's disease is a neurodegenerative disease. It also states that, due to neurodegeneration, individuals with this disorder have low levels of a certain neurotransmitter.

Which one of the following neurotransmitters do individuals with Parkinson's disease have low levels of?

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

**Question 26**

There are several treatment methods for Parkinson's disease.

The least invasive, most widely used method is

- A. deep brain stimulation.
- B. deep tissue massage.
- C. medication.
- D. radiation therapy.

**Question 27**

The neuroimaging technique that can be used to measure the amount of neurotransmitter released in the section of the brain affected by Parkinson's disease is

- A. MRI.
- B. X-ray.
- C. CT scan.
- D. fMRI.

**Question 28**

Erik Erikson developed a theory regarding the psychosocial development of humans.

According to his theory, during which period of an individual's lifespan does the stage 'industry versus inferiority' occur?

- A. late infancy
- B. middle childhood
- C. adolescence
- D. late adulthood

**Question 29**

Which one of the following situations describes an individual going through a developmental change?

- A. Nine-month-old Wayne cries when his father leaves the room.
- B. Jana loses her memory for 10 minutes after being knocked out by a cricket ball.
- C. Jill learns to use an online video platform to join in with her classes at school during remote learning.
- D. Sam wears a new style of shoe that he saw advertised by a famous athlete.

**Question 30**

Psychologists study both critical and sensitive periods within human development.

Sensitive periods

- A. are periods during an individual's development when that individual is most vulnerable to being deprived of environmental stimuli.
- B. are periods of development with definite beginnings and ends.
- C. last for short periods of time for both physiological developments and psychological developments.
- D. contain skill development that can still occur at a later age, but the learning will take longer and may not be as successful.

**Question 31**

When psychologists investigate the influences of nature and nurture on human development, they often study twins and adopted children. The IQ score representation of intelligence is an aspect of human development that has been studied.

Which one of the following statements about studies of intelligence is true?

- A. Identical twins raised in the same family yield very similar IQ scores to each other, supporting the idea that nature is more important than nurture.
- B. Identical twins raised in the same family yield very similar IQ scores to each other, supporting the idea that nurture is more important than nature.
- C. Identical twins adopted and raised in different family environments yield very similar IQ scores to each other, supporting the idea that nurture is more important than nature.
- D. Identical twins adopted and raised in different family environments yield very similar IQ scores to each other, supporting the idea that nature is more important than nurture.



*Use the following information to answer Questions 32 and 33.*

Mary Ainsworth was a developmental psychologist who studied attachment patterns between infants and their caregivers. The standardised test that she developed was called the Strange Situation test. In the Strange Situation test, the infant and the caregiver are initially in a room together, without anyone else present. The caregiver then leaves the room for a short time. When the caregiver returns to the room the reunion is observed closely.

A psychologist studies two infants, Patty and Kai, using Ainsworth's test.

**Question 32**

Patty's father leaves her in an observation room for a short time, then returns. Patty does not seek closeness or any form of contact with him.

According to Ainsworth's test, Patty is showing

- A. secure attachment.
- B. insecure resistant attachment.
- C. insecure avoidant attachment.
- D. secure disorganised attachment.

**Question 33**

When Kai's caregiver returns after a short absence from the observation room, Kai looks excited and happy, and seeks to be picked up.

According to Ainsworth's test, Kai is showing

- A. secure attachment.
- B. insecure resistant attachment.
- C. insecure avoidant attachment.
- D. secure disorganised attachment.

**Question 34**

Savesh loved playing on his scooter. One afternoon his scooter went missing from his front yard, which upset him. Savesh's father bought him a bike to replace his old scooter. When the bike was given to Savesh, he was very excited and immediately asked his father to come outside so he could play. Even though it was a bike, Savesh asked to play on his 'new scooter'.

According to Piaget, the process Savesh is using is called

- A. assimilation.
- B. accommodation.
- C. schema.
- D. adaptation.

**Question 35**

According to Piaget, individuals first develop the ability to think abstractly in the

- A. pre-operational stage.
- B. sensorimotor stage.
- C. concrete operational stage.
- D. formal operational stage.

**Question 36**

Greta's friend Julia has recently not been attending the gym or meeting up with their friends. She has also not been attending lectures and classes at university. She has been going to her part-time job as she needs the money to pay rent and bills. Greta has become concerned about Julia.

According to the mental health continuum, Julia may be

- A. mentally healthy.
- B. experiencing a mental disorder.
- C. experiencing a mental health problem.
- D. mentally injured.

**Question 37**

An example of an anxiety disorder is

- A. depression.
- B. bipolar disorder.
- C. a specific phobia.
- D. schizophrenia.

**Question 38**

An individual's mental health is affected by both internal and external factors.

An example of an internal factor could be the

- A. number of members in the individual's family.
- B. genes inherited from the individual's parents.
- C. position the individual holds within the company where they work.
- D. individual's level of education.

**Question 39**

Dr Asher was studying the influence that regular dance had on intelligence. She conducted a series of experiments where she measured participants' numerical scores on memory tests, then collated the data that she had collected.

The results Dr Asher collected would be considered

- A. primary qualitative data.
- B. primary quantitative data.
- C. secondary qualitative data.
- D. secondary quantitative data.

**Question 40**

A research hypothesis always includes the

- A. sample, independent variable and dependent variable.
- B. sample, independent variable and confounding variable.
- C. population, independent variable and confounding variable.
- D. population, independent variable and dependent variable.

**SECTION B****Instructions for Section B**

Answer **all** questions in the spaces provided.

**Question 1** (4 marks)

Anari was walking home one afternoon. As she passed a house on her street, a dog leapt up at the fence and began barking loudly. Anari jumped back in alarm, frightened by the dog.

- a.** Identify the branch of Anari's nervous system that was activated by her encounter with the dog and give **one** physiological change that would have occurred. 2 marks

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- b.** Anari realised that the dog was behind a fence and could not harm her. She relaxed and continued walking home.
- Identify the branch of Anari's nervous system that was activated when she realised she was safe from the dog and give **one** physiological change that would have occurred. 2 marks

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**Question 2** (2 marks)

Joel was struck on the back of his head, which resulted in his death.

Identify which structure in the hindbrain must have been damaged and explain why damage to this area of the brain resulted in Joel's death.

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**Question 3** (5 marks)

In the mid-nineteenth century, Phineas Gage was a construction foreman working on a new railway. While breaking up large pieces of rock with an iron rod and explosive powder, the powder detonated and the rod shot through Gage's left cheek, exiting through the top of his skull. Gage suffered enormous damage to his frontal lobe, but survived the injury.

- a.** Identify **one** biological change, **one** psychological change and **one** social change that occurred because of the damage to Gage's frontal lobe. 3 marks

Biological change: \_\_\_\_\_

Psychological change: \_\_\_\_\_

Social change: \_\_\_\_\_

Gage's story has become a case study used by psychologists.

- b.** What is a 'case study'? 1 mark

\_\_\_\_\_

\_\_\_\_\_

- c.** Identify **one** limitation of case studies. 1 mark

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\_\_\_\_\_

**Question 4** (3 marks)

Kristina took her son Alec to a playground. After cuddling the cheerful, smiling Alec, she placed him on the ground with the other toddlers. Alec was happy to play close to his mother, exploring the area around him.

Identify the type of attachment that exists between Alec and his mother and describe **two** factors that may have influenced the development of this type of attachment.

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\_\_\_\_\_

\_\_\_\_\_

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**Question 5** (8 marks)

Daiki was watching television with his wife when she noticed that Daiki had slumped in his chair and was not responding to her questions. Daiki was taken to hospital with a suspected stroke. At the hospital, medical staff asked Daiki several questions. Although he appeared to understand their questions, he had great difficulty in forming fluent sentences, instead answering in short sentences with mostly nouns and verbs. Daiki underwent several medical tests to establish the damage to his brain.

- a. Identify the lobe and hemisphere of Daiki's brain that were most likely damaged. 2 marks

Lobe: \_\_\_\_\_

Hemisphere: \_\_\_\_\_

- b. Identify the specific area within the lobe that has been affected. Justify your answer with reference to the scenario. 2 marks

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- c. Two months after Daiki had his stroke, there were signs of improvement in his speech. A specialist explained to Daiki's family that Daiki's brain was trying to compensate for the damage that occurred from the stroke. The changes that occurred in Daiki's brain are called 'adaptive plasticity'.

Identify and describe the **two** processes that would occur in the brain to facilitate recovery during the process of adaptive plasticity. 4 marks

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

**Question 6** (4 marks)

In 1958, Harry Harlow investigated the influence of the provision of nutrition on attachment between infants and their mothers. Harlow's study involved rhesus monkeys who had been separated from their mothers at birth and reared in cages that contained two surrogate 'mothers', one made of wire and one made of cloth.

The group 1 monkeys were given a wire mother that provided milk and a cloth mother that did not provide milk. The group 2 monkeys were given a cloth mother that provided milk and a wire mother that did not provide milk.

- a. State the results of this experiment. 1 mark

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**b.** What conclusions did Harlow draw from the results of this experiment? 2 marks

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**c.** How did Harlow generalise his conclusions from this experiment to humans? 1 mark

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**Question 7** (4 marks)

Jean Piaget researched thinking and intellectual development in children and developed the theory of cognitive development in children. Year 11 student Jenna was studying developmental psychology at East Hills Secondary College. Her class was conducting their own experiments based on Piaget's theories.

Jenna decided to focus her experiment on the concept of egocentrism to determine the level of cognitive development of children aged between 3 and 4 years. She decided to work with the children attending the early learning centre next door to her school.

**a.** Explain what is meant by the term 'egocentrism'. 1 mark

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**b.** Describe a possible method that Jenna could use to test egocentrism. 1 mark

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**c.** Using the method described in your answer to **part b.**, how would Jenna determine if the participants in the study were showing egocentric thinking? 1 mark

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**d.** The children at the early learning centre were between 3 and 4 years of age. According to Piaget, at which stage would these children be in their cognitive development? 1 mark

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**Question 8** (10 marks)

At Santa Romano University, Dr Susan Thomas, the head of the counselling team, was concerned about the anxiety levels of many of the students at the university. During counselling sessions students often made comments about their poor sleep habits, so Dr Thomas decided to run an investigation looking at the relationship between sleep and anxiety. She advertised through social media for volunteers to take part in the investigation. One hundred students responded.

Dr Thomas asked the participants to attend an information session. In the session the participants were split into group A and group B and the two groups were placed in different rooms. The instructions given to both groups were identical, except that group A participants were asked to sleep for 5 hours per night, and group B participants were asked to sleep for 8 hours per night. Participants in both groups were asked to record their level of anxiety on a scale from 1 to 10 each Wednesday and Sunday morning. After four months, Dr. Thomas collected and collated the data. The results are shown in the table below.

Group	Mean score on the anxiety scale
A	4
B	8

- a. What was the independent variable in the investigation? 1 mark

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- b. What was the dependent variable in the investigation? 1 mark

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- c. Write a research hypothesis for this study. 3 marks

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- d. The method of data collection from participants in this investigation was in the form of self-reports.

With reference to the investigation, state **one** advantage and **one** limitation with this method of data collection. 2 marks

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- e. Identify the type of research design that was used in this investigation and state **one** advantage and **one** limitation of using this design. 3 marks

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## VCE Psychology Unit 1

### Written Examination

#### Multiple-choice Answer Sheet

Student's Name: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

#### Instructions

Use a **pencil** for **all** entries. If you make a mistake, **erase** the incorrect answer – **do not** cross it out. Marks will **not** be deducted for incorrect answers.

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

All answers must be completed like this example: 

A	B	C	D
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#### Use pencil only

1	A	B	C	D
2	A	B	C	D
3	A	B	C	D
4	A	B	C	D
5	A	B	C	D
6	A	B	C	D
7	A	B	C	D
8	A	B	C	D
9	A	B	C	D
10	A	B	C	D
11	A	B	C	D
12	A	B	C	D
13	A	B	C	D
14	A	B	C	D
15	A	B	C	D
16	A	B	C	D
17	A	B	C	D

18	A	B	C	D
19	A	B	C	D
20	A	B	C	D
21	A	B	C	D
22	A	B	C	D
23	A	B	C	D
24	A	B	C	D
25	A	B	C	D
26	A	B	C	D
27	A	B	C	D
28	A	B	C	D
29	A	B	C	D
30	A	B	C	D
31	A	B	C	D
32	A	B	C	D
33	A	B	C	D
34	A	B	C	D

35	A	B	C	D
36	A	B	C	D
37	A	B	C	D
38	A	B	C	D
39	A	B	C	D
40	A	B	C	D