



Victorian Certificate of Education 2002

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Letter

Figures

Words

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PSYCHOLOGY Written examination 1

Tuesday 11 June 2002

Reading time: 9.00 am to 9.15 am (15 minutes)

Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

Section	Area of study	Number of questions	Number of questions to be answered	Number of marks
A	1. Biological Bases of Behaviour	15	15	15
	2. Visual Perception	15	15	15
	3. States of Consciousness	15	15	15
B	1. Biological Bases of Behaviour	6	6	15
	2. Visual Perception	6	6	15
	3. States of Consciousness	6	6	15
				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 white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question and answer book of 21 pages.
- Answer sheet for multiple-choice questions.

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 electronic communication devices into the examination room.

SECTION A – Multiple-choice questions**Instructions for Section A**

There are 15 questions for each of the three areas of study.

Answer all questions in pencil on the answer sheet provided for multiple-choice questions.

A correct answer scores 1, an incorrect answer scores 0. Marks will **not** be deducted for incorrect answers. No mark will be given if more than one answer is completed for any question.

AREA OF STUDY 1 – Biological Bases of Behaviour**Question 1**

A common **physiological** effect of prolonged arousal is _____, while a common **psychological** effect of prolonged arousal is _____.

- A. aggression; fatigue
- B. dizziness; headaches
- C. stomach ulcers; anxiety
- D. forgetfulness; heart palpitations

Question 2

The **General Adaptation Syndrome** has three stages.

Which of the following statements gives these stages in the **correct** order?

- A. resistance, alarm, exhaustion
- B. alarm, resistance, exhaustion
- C. exhaustion, resistance, alarm
- D. resistance, exhaustion, alarm

Question 3

Which of the following bodily functions is **not** activated by the **sympathetic** nervous system?

- A. dilated pupils
- B. reduced salivation
- C. decreased perspiration
- D. increased release of sugar in the blood

Question 4

Gertrude is able to speak clearly and can put together long sentences. However, when she speaks the words are mostly meaningless, and she has trouble understanding others. Gertrude's symptoms are consistent with brain damage to

- A. Broca's area in the frontal lobe.
- B. the auditory cortex in the parietal lobe.
- C. Wernicke's area in the temporal lobe.
- D. the visual cortex in the occipital lobe.

Question 5

Jennifer suffered a severe blow to the **right** side of her head, causing injury to that side of her brain.

Which one of the following symptoms is Jennifer **most likely** to suffer?

- A. poorer performance at jigsaw puzzles
- B. difficulty in carrying out logical thinking
- C. trouble recognising the meaning of words
- D. poorer ability to solve mathematical problems

Question 6

Jim has blind spots in his vision after suffering a head injury in a sporting accident.

The **most likely** explanation for his symptoms is damage to his

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

Question 7

Which of the following processes is under the control of the **autonomic** nervous system?

- A. the production of saliva when eating a sandwich
- B. performing a simple mathematical calculation
- C. hand-eye coordination when catching a ball
- D. recognising a tune you have heard before

Question 8

Which of the following symptoms is **consistent** with damage to **Broca's** area?

The patient is not able to

- A. produce clear and fluent speech.
- B. do simple mathematics.
- C. sense temperature.
- D. recognise faces.

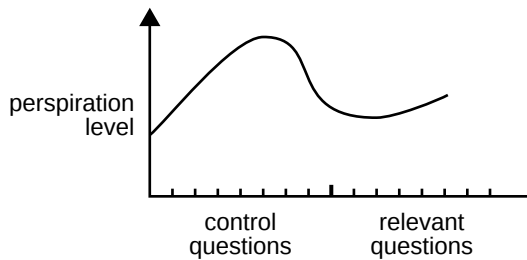
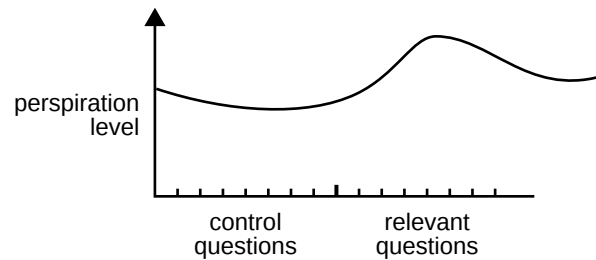
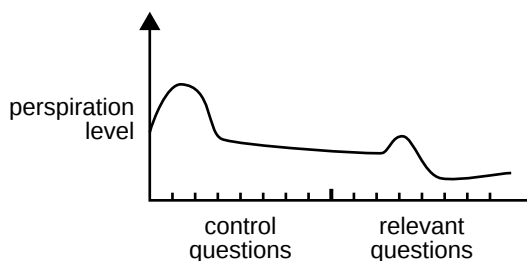
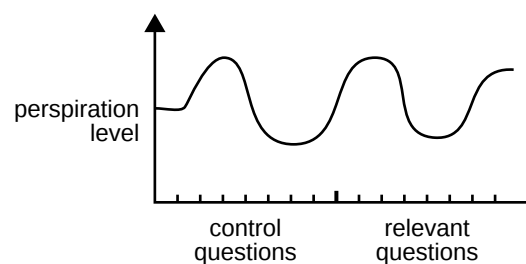
Question 9

Which of the following statements **best describes** the relationship between **verbal** and **non-verbal** functions of the brain?

- A. Verbal functions are controlled by the right hemisphere, while non-verbal functions are controlled by the left hemisphere.
- B. Verbal functions are controlled by the left hemisphere, while non-verbal functions are controlled by the right hemisphere.
- C. Verbal functions are associated with Broca's area and non-verbal functions are associated with Wernicke's area.
- D. Both verbal and non-verbal functions take place in the occipital lobe.

Question 10

Which of the following graphs from a polygraph test would **most likely** indicate that a person may be lying?

A.**B.****C.****D.****Question 11**

Which of the following statements about the cerebral cortex is **correct**?

- A. The cerebral cortex is a bundle of nerves connecting the left and right hemispheres of the brain.
- B. The cerebral cortex covers the human brain in a layer approximately 10 mm thick.
- C. The cerebral cortex is a major division of the peripheral nervous system.
- D. The cerebral cortex is divided into four lobes.

Question 12

Which of the following statements **best** describes the **somatic** nervous system?

The somatic nervous system

- A. has two main branches, the sympathetic and parasympathetic systems.
- B. is responsible for the regulation of sweat production.
- C. is another name for the central nervous system.
- D. is involved in voluntary movements.

Question 13

Which of the following statements about the **autonomic** nervous system is **correct**?

The autonomic nervous system

- A. affects the contraction rate of skeletal muscles.
- B. affects the contraction rate of non-skeletal muscles.
- C. is required to begin each contraction in skeletal muscles.
- D. is required to begin each contraction in non-skeletal muscles.

Question 14

Alfred is usually a healthy man who is able to carry out work very well. Alfred has been very stressed over the past three months because he has been trying to organise his wedding and complete a large project at work. Which of the following statements about Alfred's response during this period is **most likely** to be correct?

- A. Alfred improves his skills of making decisions quickly.
- B. Alfred's level of alertness will increase, causing him to be less accident-prone.
- C. Alfred finds that as time goes on his ability to concentrate gets worse.
- D. Alfred's pupils are constantly dilated and his pulse is always racing.

Question 15

In an experiment, Angie is asked to look at a dot painted on the centre of a screen. Individual words appear on the right or left side of the screen. As soon as she recognises the word Angie says it out loud. The time between when the word appears and when Angie responds is recorded.

Which one of the following predictions would you make about the results of the experiment?

- A. Angie will respond more slowly to words shown on the left side of the screen.
- B. Angie will respond more slowly to words shown on the right side of the screen.
- C. There will be no difference in the time it takes Angie to respond to words shown on the left or right side of the screen.
- D. Angie will respond to words shown on the right side of the screen but she will not be able to respond to words shown on the left side of the screen.

AREA OF STUDY 2 – Visual Perception

Question 16

The illusion in **Figure 1** is called the

- A. Ponzo illusion.
- B. Moon illusion.
- C. Ames room illusion.
- D. Müller-Lyer illusion.

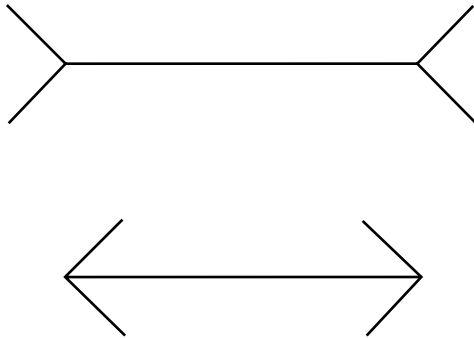


Figure 1

Question 17

Absolute threshold refers to

- A. the **total** level of stimulation or energy necessary to produce a sensation.
- B. the **average** level of stimulation or energy necessary to produce a sensation.
- C. the **minimum** level of stimulation or energy necessary to produce a sensation.
- D. the **maximum** level of stimulation or energy necessary to produce a sensation.

Question 18

Cones are the specialised photoreceptors in the retina that

- A. only respond to green-yellow light.
- B. do not assist colour vision.
- C. are necessary to focus on objects in the distance.
- D. are necessary for daylight vision and visual acuity.

Question 19

Which of the following provides the **correct** sequence of processes involved in **visual perception**?

- A. reception, transduction, transmission, selection, organisation and interpretation
- B. transmission, reception, selection, transduction, organisation and interpretation
- C. reception, transmission, transduction, organisation, selection and interpretation
- D. selection, organisation, interpretation, transduction, transmission and reception

Question 20

When Isabella rides her bike in the backyard, she perceives the back door as a rectangle no matter where she is in the yard.

She can do this because of the processes associated with

- A. size constancy.
- B. shape constancy.
- C. brightness constancy.
- D. orientation constancy.

Question 21

When Christie looks at the diagram in **Figure 2** she sees the group of circles as belonging together and the rectangles as belonging together.

This is due to the Gestalt principle of

- A. closure.
- B. similarity.
- C. proximity.
- D. figure-ground.

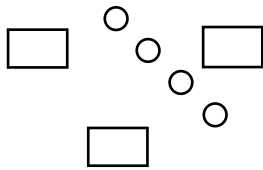


Figure 2

Question 22

Alfonzo notices that when he walks into a dimly lit room after being outside in the sun, he finds it difficult to see where he is going and bumps into things.

What process (or processes) should take place to enable Alfonzo to see the room clearly?

- A. dark adaptation
- B. light adaptation
- C. texture gradient
- D. light and dark adaptation

Question 23

The **fovea** contains

- A. the iris.
- B. only rods.
- C. only cones.
- D. rods and cones.

Question 24

As Allison watches a bus leaving a bus stop, she perceives it as staying the same size as it gets further and further away.

This perceptual experience is an example of

- A. proximity.
- B. a movement illusion.
- C. visual size constancy.
- D. visual brightness constancy.

Question 25

Five-year-old Jack was lost in the supermarket and could not find his father. At one point he thought he had found him because he saw a man in a suit with a briefcase in his hand.

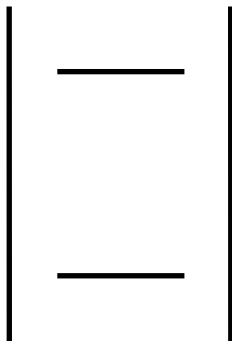
The factor that may have influenced Jack's perception is

- A. accommodation.
- B. size constancy.
- C. visual illusion.
- D. perceptual set.

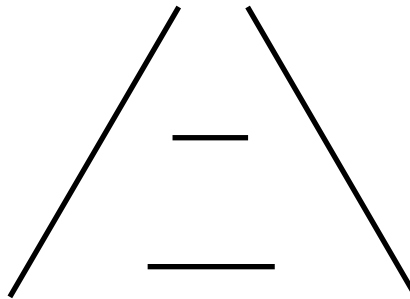
Question 26

Which of the following diagrams **correctly** identifies the **Ponzo** illusion?

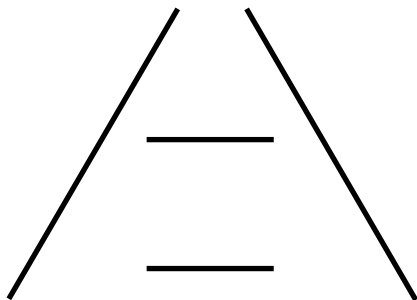
A.



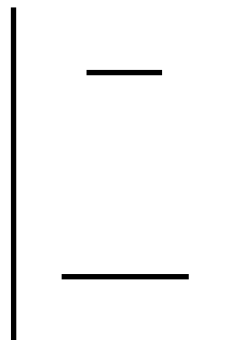
B.



C.



D.



Question 27

Alcohol affects visual perception by

- A. making objects appear larger than normal.
- B. making it difficult to distinguish colours.
- C. increasing the field of vision.
- D. contracting the pupils.

Question 28

What is the most important feature of the Ames room that creates the illusion?

- A. the colour of the floor
- B. the slant of the back wall
- C. the size of the people in the room
- D. the furnishings in the room

Question 29

The expansion and contraction of the pupil is controlled by the

- A. iris.
- B. lens.
- C. cornea.
- D. ciliary muscle.

Question 30

Friends at a party are playing a game of bocce. Luigi cannot decide whether his ball or Maria's is closer to the 'marker', so he asks his friend Joe for his opinion. Maria is one metre away from the marker and Joe is eight metres away.

What binocular depth cue can be used by Maria and not by Joe in determining which ball is closer to the marker?

- A. convergence
- B. retinal disparity
- C. accommodation
- D. linear perspective

AREA OF STUDY 3 – States of Consciousness

Question 31

Consciousness can be described as

- A. voluntary and changing.
- B. continuous and unchanging.
- C. continuous and changing.
- D. involuntary and unchanging.

Question 32

William James likened consciousness to a stream or river because

- A. it does not involve thought.
- B. the contents of consciousness rarely change.
- C. the contents of consciousness are continuously moving.
- D. it mainly involves daydreaming.

Question 33

Whilst completing this examination, you are most likely focusing your awareness on specific stimuli (the questions) and ignoring others (supervisor walking by). This is a **characteristic of normal waking consciousness** known as

- A. divided processing.
- B. selective attention.
- C. controlled attention.
- D. automatic processing.

Question 34

Sophie was bored in class. She started to think about the weekend, imagining herself shooting the winning goal for her netball team.

Sophie was **most likely** experiencing

- A. a daydream.
- B. controlled processing.
- C. a perceptual distortion.
- D. ordinary waking consciousness.

Question 35

Meditation can **decrease** a person's experience of pain by

- A. releasing adrenaline into the blood stream.
- B. stimulating sensory receptors.
- C. reducing physiological arousal.
- D. activating the sympathetic nervous system.

Question 36

Louis underwent hypnosis as a treatment to help him quit smoking. Afterwards, he was surprised to learn he had been under hypnosis for half an hour because it seemed to him that only 15 minutes had passed.

Louis had **most likely** experienced

- A. a state of normal waking consciousness.
- B. an altered state of consciousness.
- C. a stream of consciousness.
- D. an automatic process.

Question 37

A researcher investigating changes in physiological arousal is measuring electrical activity in the muscles.

He is **most likely** using a device called an

- A. electroencephalograph.
- B. electro-ocular graph.
- C. electrocardiograph.
- D. electromyograph.

Question 38

Which of the following statements is **true** of the cycles in a typical night's sleep?

- A. About 80% of the night is spent in Rapid Eye Movement (REM) sleep.
- B. Each cycle of sleep lasts for approximately 20 minutes.
- C. Periods of Stage 4 sleep occur more frequently as the night progresses.
- D. Periods of REM sleep get longer and closer together as the night progresses.

Question 39

A psychologist was treating an individual who complained of frequent nightmares. After investigation, the psychologist concluded that rather than having nightmares the patient was experiencing **night terrors**.

The psychologist came to this conclusion because

- A. the bad dreams usually occurred close to morning.
- B. the patient remembered the dreams very clearly.
- C. the bad dreams occurred during NREM sleep.
- D. the bad dreams occurred during REM sleep.

Question 40

According to the **survival theory** of sleep, the purpose of sleep is to enhance the survival of the organism by

- A. causing it to attract less attention to itself while asleep.
- B. conserving energy in order to escape from predators.
- C. reducing the amount of energy it needs.
- D. rejuvenating the body and mind.

Question 41

A researcher was investigating the effects of **sleep deprivation**. The participants were deprived of sleep for a period of seven days.

Which of the following statements would **best** describe the findings of the investigation?

- A. Sleep deprivation had no psychological effect on the participants.
- B. Some of the participants suffered severe physical effects for several weeks following the sleep deprivation.
- C. After sleep deprivation, participants found it difficult to perform complex tasks but were able to perform more simple tasks successfully.
- D. After sleep deprivation, participants found it difficult to perform simple tasks but were able to perform more complex tasks successfully.

Question 42

On falling asleep we enter **Stage 1** of the sleep cycle. During Stage 1 of sleep an EEG recording consists of _____.

- A. delta and theta waves
- B. alpha and theta waves
- C. beta and alpha waves
- D. delta and beta waves

Question 43

A **beta** brain wave pattern is characterised by waves of _____ **amplitude** and _____ **frequency**.

- A. high; low
- B. low; low
- C. low; high
- D. high; high

Question 44

Peter frequently wakes up during the night and has difficulty getting back to sleep.

Peter is **most likely** suffering from

- A. hypersomnia.
- B. sleep apnea.
- C. narcolepsy.
- D. insomnia.

Question 45

Simon sometimes gets out of bed during the night and walks through the house. He appears to be asleep and does not respond when his parents speak to him.

Simon is experiencing a _____ which usually occurs during _____ sleep.

- A. sleep phenomenon; Stage 1 REM
- B. sleep phenomenon; Stage 4 NREM
- C. lucid dream; Stage 1 REM
- D. nightmare; Stage 4 NREM

END OF SECTION A

SECTION B – Short-answer questions**Instructions for Section B**

There are 6 questions for each of the three areas of study.
Answer all questions in the spaces provided.

AREA OF STUDY 1 – Biological Bases of Behaviour**Question 1**

Sound stimuli are processed by the _____, located in the _____ lobe of the brain.
2 marks

Question 2

Phillip had an operation during which the connection between his right and left cerebral hemispheres was cut to help control his epileptic seizures. Afterwards, Phillip took part in an experiment where he was asked to look at a dot painted on the centre of a screen while a picture of an apple was projected onto the left side of the screen.

- i. What is the name of the structure that was cut during the operation?

1 mark

- ii. What will happen when Phillip is asked to name the picture on the screen?

1 mark

- iii. **Explain** how the operation affected Phillip's ability to respond to the picture on the screen.

1 mark

Question 3

Describe the difference between sensory neuron activity and motor neuron activity.

2 marks

Question 4

Pam is taking part in an experiment that involves sorting beads into two groups while wearing a blindfold. The **first** part of this task involves Pam picking up each bead and deciding whether it is rough or smooth. The **second** part of this task involves Pam placing the bead in its appropriate group.

- i. What type of neuron is responsible for enabling Pam to tell if a bead is rough or smooth?

1 mark

- ii. **Identify** the main functions performed by Pam's central nervous system while she carries out each task.

Task 1

Task 2

2 marks

Question 5

- i. What is the name of the body's response to an emergency situation?

1 mark

- ii. Which branch of the autonomic nervous system controls this response?

1 mark

Question 6

Barry is taking part in an experiment where the activity of his brain is measured while a pressure stimulus is applied to his hands, arms, legs and feet. Information is recorded about how the brain responds when the stimulus is applied.

- i. **Name** the part of Barry's brain that responds to the pressure stimulus.

1 mark

- ii. **Name** the body part listed above that would cause the largest area of Barry's brain to respond when the stimulus is applied.

1 mark

- iii. Why does this part of Barry's body cause such a large response to the pressure stimulus?

1 mark

AREA OF STUDY 2 – Visual Perception

Question 7

Name two functions of the retina.

1. _____
2. _____

2 marks

Question 8

Defence forces use camouflaged uniforms so that their members are **less** likely to be visible.

- i. **Name** and **explain** the Gestalt principle that is applied in this context.

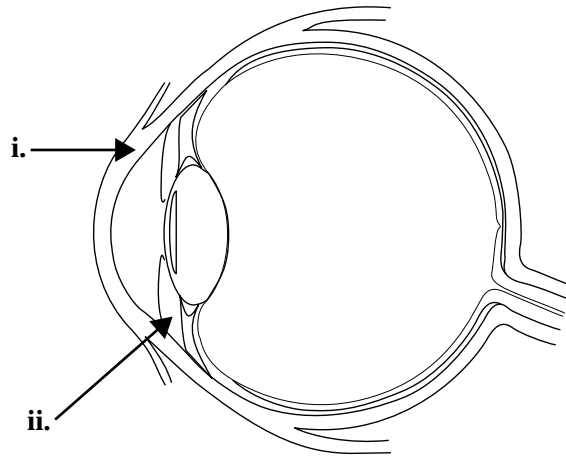
2 marks

- ii. **Provide** an example where defence forces use this principle so that their members are more likely to be identified.

1 mark

Question 9

Figure 3 is a diagram of the structure of the human eye. **Name** the parts of the eye that are labelled in the diagram.

**Figure 3**

i.

ii.

2 marks

Question 10

Older people often report that they find it more difficult to focus and that their vision is blurred.

- i. **Name** the structure of the eye that is affected by this visual deterioration.

1 mark

- ii. **Explain** why the deterioration of this structure affects vision in the elderly.

2 marks

Question 11

Define the term 'just noticeable difference'.

2 marks

Question 12

Grace has been asked to do a painting of sunflowers for the foyer of a plant nursery. **Name** and **describe** three ways that Grace can create the appearance of depth in her painting.

Students must **name** and provide the correct description to be awarded each mark.

1.

2.

3.

3 marks

AREA OF STUDY 3 – States of Consciousness

Question 13

Define the term ‘automatic processing’.

2 marks

Question 14

Marco has been learning to meditate and reported that he entered an altered state of consciousness.

Name and **describe** three psychological characteristics which Marco is likely to experience while in this altered state. Your answers **must** identify how these characteristics differ from normal waking consciousness.

Students must **name** and provide the correct description to be awarded each mark.

1.

2.

3.

3 marks

Question 15

REM sleep is characterised by _____ brain wave patterns and a _____ heart rate.

2 marks

Question 16

Tang is suffering from a sleep disorder which causes him to fall asleep suddenly and uncontrollably. He has fallen asleep at the dinner table and even while working at his computer.

- i. **Name** the sleep disorder that Tang is most likely suffering from.

1 mark

- ii. **Describe** two physiological symptoms of this disorder.

Symptom 1

Symptom 2

2 marks

Question 17

- i. During which stage of sleep does sleepwalking mostly occur?

1 mark

- ii. What is a **lucid dream**?

1 mark

Question 18

You are conducting research in a sleep laboratory, investigating how much time the average person spends in REM sleep. In order to detect whether a person is in REM sleep you need to measure physiological changes.

Name three pieces of equipment and **explain** how each device will indicate that the person is in REM sleep.

1.

2.

3.

3 marks