

# VCE Psychology

## Written examination – November

### Examination specifications

#### Overall conditions

The end of year examination will be sat at a time and date to be set annually by the Victorian Curriculum and Assessment Authority.

There will be 15 minutes reading time and 1 hour 30 minutes writing time. VCAA examination rules will apply. Details of these rules are published annually in the *VCE and VCAL Administrative Handbook*.

The examination will be marked by a panel appointed by the VCAA.

The examination will contribute 33 per cent to the Study Score.

#### Content

All outcomes of Unit 4 will be assessed in the examination. All key knowledge, including research methodologies and ethical principles, and key skills are examinable. Each examination will assess a representative sample of the key knowledge, including research methodologies and ethical principles, which underpins the outcomes of each unit.

The research methodologies and ethical principles examinable in Unit 4 include the research methodologies and ethical principles in Unit 3.

The assessment of the key skills which underpin all units of the *VCE Psychology Study Design 2011–2014* will be integrated within questions assessing the key knowledge.

The weightings of questions in the examination will reflect the weightings in the outcomes in the study design.

**Area of Study 1 Learning** will be worth approximately 50% of the available marks.

**Area of Study 2 Mental Health** will also be worth approximately 50% of the available marks.

#### Format

Each examination will be presented in a question and answer book and will consist of three sections.

**Section A** will consist of 45 multiple-choice questions worth 1 mark each. A separate answer sheet is provided for students to mark their answers in pencil.

**Section B** will consist of a set of short answer questions. Students will be required to provide answers to Section B within the spaces allocated in the examination paper. The number of lines provided after each question, together with the number of marks allocated, will indicate the approximate length of the response. However, if students require more space they may continue their answers in the space provided at the end of the book. Section B will be worth 30–35 marks.

**Section C** will consist of one extended answer question. This question may require students to comment on experimental design, or write up the results of a case study/experiment, or to write an extended response to a question or case study or experiment. This question will be worth 10–15 marks.

Questions in the examination will not be organised according to areas of study.

In Sections A, B and C, questions may be asked which cover individual areas of study and/or which cover more than one area of study, as well as key skills and research methodologies and ethical principles.

#### Approved materials and equipment

Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, rulers.

Students are NOT permitted to bring into the examination room: blank sheets of paper and/or whiteout liquid/tape.

## Criteria

The extended answer question in Section C will be marked according to the following criteria.

In response to the specific question requirements, students will demonstrate an ability to

1. identify and describe the key terms/theories/issues
2. explain the relevant terms/theories/issues and make connections between psychological concepts/theories and data and research
3. use appropriate examples/evidence/data to support the response
4. interpret and analyse the issues/data/information
5. evaluate issues/data/information and draw appropriate conclusions.

## Advice

In the *VCE Psychology Study Design 2011–2014*, research methodologies and ethical principles are integrated throughout all areas of study in Unit 4. Consequently, questions on research methodologies and ethical principles may be asked as part of questions covering one or both areas of study and will be integrated throughout the examination paper for Unit 4. These questions may be based on one or more case studies and/or research scenarios. Multiple-choice, short answer questions and the extended answer question may be asked in relation to research methodologies and ethical principles. Students will be required to use the knowledge and skills gained throughout Unit 4 when answering questions about psychological investigations and associated research methodologies and ethical principles.

The dot point in Outcome 2 of Unit 4: *The application of a biopsychosocial framework to understanding one mental disorder and its management (major depression, gambling or schizophrenia)* will be assessed in Section B only. There may be a choice of questions based on each of the three disorders **or** there may be a question which can be answered with reference to the mental disorder studied by the student. Both alternatives are provided as examples in the sample material. Students should answer the question(s) related to the disorder they have studied in Unit 4.

The extended answer question (Section C) may require students to comment on experimental design, or to write up the results of a case study/experiment, or to write an extended answer in response to a question/case study/experiment.

It may require students to respond to a question about content from either or both of the areas of study for the unit being examined. The extended answer question may draw on students' knowledge of research and research skills. The question may ask students to draw on examples from their study of psychology and from experiments and case studies they have studied. The question may relate to case studies and/or research and/or experiments. When case studies/research experiments are used, they may be either familiar or unfamiliar to the students. Where unfamiliar material is used, students will be expected to apply key knowledge and skills and research methodologies and ethical principles to answer the question.

Student responses to Section C may include any one, or a combination of: diagrams, charts, tables, bullet points, paragraphs or other appropriate communication formats. Although acceptable, a formal essay is not expected.

In the sample material, there are two possible questions in Section C – one which requires students to comment on and write up a case study/experiment, and one which requires students to write an extended answer to a question. In the examination there will be one question only.

The examinable key skills are listed on page 13 of the Study Design, whilst examinable research methodologies and ethical principles are listed specifically on pages 22–23, and on page 28 of the Study Design.

In the examination, students will be expected to have an understanding of tests of statistical significance. They will be expected to understand the significance of p-values and mean, median and mode and to draw conclusions and make generalised findings when these statistics are given. Students will not be expected to calculate these specific statistical measures in the examination.

The following sample examination questions provide an indication of the types of questions which teachers and students can expect on the VCE Psychology examination. They do not constitute a full examination paper.

There is an emphasis on new content in the sample questions.

Answers to multiple-choice questions are provided on page 34.

Answers to other questions are not provided.

## Sample questions

### SECTION A – Multiple-choice questions

#### Question 1

'Plasticity of the brain' refers to

- A. changes in the folds and creases that are seen on the cerebral cortex.
- B. the way humans adapt to the world by learning reflex responses to threats.
- C. white matter and grey matter, which are forms of soft tissue in the brain.
- D. the changes to connections between neurons that occur in response to environmental stimuli.

#### Question 2

Which one of the following statements concerning plasticity of the brain is accurate?

- A. Childrens' brains show developmental plasticity only.
- B. Only older, healthy, adult brains show adaptive plasticity.
- C. Childrens' brains show developmental plasticity and adaptive plasticity.
- D. Older, healthy, adult brains show developmental plasticity and adaptive plasticity.

#### Question 3

The discriminative stimulus is also referred to as the

- A. behavioural outcome.
- B. reinforcer or punisher.
- C. antecedent condition.
- D. reward.

*Use the following information to answer Questions 4–6.*

Jimmy has a new dog called Deefer. Each week, Jimmy and his dog visit Jimmy's grandmother who loves dogs. When they arrive, Jimmy's grandmother tells Deefer to lie down and roll over, then she gives him a doggy treat. This has happened for a number of weeks and on each visit the same thing happens.

After some time, Jimmy is surprised when on one visit they open the front door of his grandmother's house and Deefer immediately lies down and rolls over without being told! Jimmy's grandmother thinks this is wonderful and gives Deefer another treat.

One day, Jimmy takes Deefer to see his aunt. Jimmy is really surprised when Deefer enters his aunt's house, lies down and rolls over!

**Question 4**

At Jimmy's grandmother's house, when first being trained, Deefer is being given

- A. partial reinforcement.
- B. negative reinforcement.
- C. continuous reinforcement.
- D. fixed interval reinforcement.

**Question 5**

When Deefer rolls over without being told, immediately on entering the grandmother's front door, the entry to the house has been a

- A. consequence.
- B. positive reinforcer.
- C. behavioural response.
- D. discriminative stimulus.

**Question 6**

Deefer's action when visiting the aunt is an example of

- A. response generalisation.
- B. stimulus generalisation.
- C. response discrimination.
- D. stimulus discrimination.

**Question 7**

While studying for his Year 12 mathematics examination, Sven made many attempts to answer a particular problem, but he could not solve it. He decided to have a break and make himself a snack. As he was preparing his snack, Sven suddenly realised how to solve the mathematics problem.

This is an example of

- A. latent learning.
- B. insight learning.
- C. operant learning.
- D. trial and error learning.

### Question 8

Jess has decided that she eats too many chocolates. She develops a program to modify her eating behaviour. Every time she goes through a whole day without eating a chocolate, she makes herself a chocolate smoothie before going to bed. Every day that she **does** eat a chocolate, she **does not** eat dessert after dinner.

In terms of operant conditioning, Jess's behaviour modification involves

- A. positive reinforcement – smoothie and negative reinforcement – no dessert.
- B. negative reinforcement – smoothie and punishment – no dessert.
- C. positive reinforcement – smoothie and response cost – no dessert.
- D. negative reinforcement – no dessert and response cost – smoothie.

### Question 9

Which one of the following programs is likely to be the most effective in increasing the number of boxes of oranges picked by workers in an orange orchard?

- A. Give a bonus of 10 dollars to each worker every time 10 boxes are picked.
- B. At the end of the picking season, give a bonus to the workers who pick above the average number of boxes.
- C. At the end of each day, reduce the payment per box of those workers who pick less than the average number of boxes.
- D. At the end of the picking season, reduce the payment of those workers who pick less than the average number of boxes.

### Question 10

A primary school teacher was trying to encourage her students to read more. She decided to reward them by placing a star on a chart for each book they read. When the students had achieved ten stars they were allowed to play games on the class computer for 20 minutes.

What was the teacher using to encourage her students to read?

- A. shaping
- B. insight learning
- C. a token economy
- D. partial reinforcement

### Question 11

Bill catches the bus to school every day. One day, the regular bus driver is sick. The new bus driver does not know how to get to the school. In order to get to school that day, Bill successfully directs the new driver along the route that the regular driver takes.

Bill's ability to direct the new driver to the school is an example of

- A. latent learning.
- B. a fixed action pattern.
- C. stimulus generalisation.
- D. spontaneous recovery.

### Question 12

Animal trainers use a number of steps to teach dolphins how to dive through a hoop. First they give the dolphin some food when it swims **near** the hoop in the water. Then, after the dolphin has done this for a while, they only give the dolphin some food when it swims **through** the hoop in the water.

The conditioning principle the animal trainers are using in order to teach the dolphins to dive through a hoop is called

- A. shaping.
- B. a token economy.
- C. trial and error learning.
- D. systematic desensitisation.

### Question 13

In classical conditioning the learned response is

- A. voluntary, while in operant conditioning the learned response is reflexive.
- B. reflexive, while in operant conditioning the learned response is voluntary.
- C. involuntary, while in operant conditioning the learned response is reflexive.
- D. spontaneous, while in operant conditioning the learned response is involuntary.

*Use the following information to answer Questions 14 and 15.*

Garcia and Koelling (1966) examined the concept that species will tend to avoid poisonous foods in order to assist survival. Garcia and Koelling used classical conditioning to show certain associations in a group of rats.

### Question 14

In the Garcia and Koelling study, which of the following is an example of an unconditioned stimulus (UCS) and a conditioned stimulus (CS) respectively?

- A. electric shock; light
- B. sound; light
- C. sweetened water; electric shock
- D. light; sound

### Question 15

In this study, the rats which had experienced nausea showed an aversion to

- A. sound stimuli, while those that had been exposed to electric shocks avoided light stimuli.
- B. light stimuli, while those that had been exposed to electric shocks avoided sweetened-water stimuli.
- C. sweetened-water stimuli, while those that had been exposed to electric shocks avoided painful stimuli.
- D. sweetened-water stimuli, while those that had been exposed to electric shocks avoided light and sound stimuli.

### Question 16

Which one of the following elements is associated with learning by operant conditioning, but not by classical conditioning?

- A. extinction
- B. punishment
- C. acquisition
- D. stimulus discrimination

**Question 17**

Some of the **key** areas of the brain which are involved in learning include the

- A. hippocampus, amygdala and the cerebral cortex.
- B. hippocampus, amygdala and the corpus callosum.
- C. corpus callosum, amygdala and the cerebral cortex.
- D. corpus callosum, amygdala and the cerebellum.

**Question 18**

Synapse formation can be described as

- A. circuit pruning.
- B. proliferation of dendrites.
- C. the process of myelination.
- D. the creation of new neural pathways.

**Question 19**

The term 'adaptive plasticity' refers to changes in the brain in

- A. size.
- B. a newborn baby.
- C. response to hormones.
- D. response to learning and experience.

**Question 20**

A key neurotransmitter important in the mechanism of learning is

- A. adrenaline.
- B. glutamate.
- C. melatonin.
- D. noradrenaline.

**Question 21**

Studies have shown that in animals learning often results in relatively permanent changes in the

- A. synapses of animals' neurons.
- B. blood flow of animals' neurons.
- C. perception of animals' neurons.
- D. neurotransmitters of animals' neurons.

**Question 22**

Research suggests that when learning occurs the hippocampus plays a role in

- A. emotional learning, while the amygdala has a role in response learning.
- B. classical conditioning, while the amygdala has a role in emotional learning.
- C. processing declarative information, while the amygdala has a role in classical conditioning.
- D. classical conditioning, while the amygdala has a role in processing declarative information.

**Question 23**

The stages in the process of ‘developmental plasticity’ include

- A. preparation, incubation and verification.
- B. attention, reproduction and motivation.
- C. migration, pruning and myelination.
- D. pruning, migration and allostasis.

**Question 24**

Timing of experiences in learning is important because the brains of children and adolescents become less plastic as they become older.

As a person ages it is

- A. easier for some important experience-expectant learning to occur.
- B. easier for some important experience-dependent learning to occur.
- C. more difficult for some important experience-expectant learning to occur.
- D. more difficult for any form of important learning to occur.

**Question 25**

Imaging technologies have been helpful to researchers in the identification of localised changes of the brain as a result of learning specific tasks.

This is because researchers are able to

- A. observe changes to the structure of the brain.
- B. observe a live brain during the learning process.
- C. perform surgery to the brain as the person is learning.
- D. compare and observe changes to the brain before, during and after learning.

**Question 26**

A dolphin learns to perform a somersault in the air when a trainer blows a high-pitched whistle. The dolphin is given a piece of fish after it does the somersault.

Based on the three-phase model of operant conditioning, the discriminative stimulus is the

- A. somersault.
- B. piece of fish.
- C. sight of the trainer.
- D. sound of the whistle.

**Question 27**

The dimensional approach to classifying mental disorders

- A. has high inter-rater reliability.
- B. provides a label for a person’s mental disorder.
- C. assists psychologists to decide whether a person has a mental disorder.
- D. recognises that symptoms of a mental illness exist along a continuum which may change over time.

**Question 28**

Graduated exposure refers to

- A. pairing a feared stimulus with a new, more negative response.
- B. the gradual use of anaesthetics to remove a fear response.
- C. gradually building up tolerance to threatening stimulus.
- D. an irrational fear of a specific object or situation.

**Question 29**

Michael has an extreme fear of heights. To help him overcome this fear, a psychologist takes him to the top of the highest building in the city and offers him little comfort or guidance for managing his anxiety.

This is a form of behavioural therapy called

- A. flooding.
- B. extinction.
- C. aversion therapy.
- D. graduated exposure.

**Question 30**

The DSM approach to classifying mental disorders

- A. uses a categorical system.
- B. uses a dimensional system.
- C. involves measuring symptoms along a continuum.
- D. relies on objective physiological measures of wellbeing.

**Question 31**

The biopsychosocial framework is best described as the study of

- A. genes to understand mental illness.
- B. an individual's psychological background.
- C. an individual's social and cultural background in order to understand and treat their mental illness.
- D. the interaction of the biological, sociocultural and psychological influences in the diagnosis of mental illness and management.

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

Serena has been nursing her elderly mother, Rita, who has had Alzheimer's disease for four years. Serena finds that caring for her mother takes much of her time and she often feels very tired by the end of the day when her mother is finally in bed. Serena feels that she is trapped by this situation because she has no other family members who are able to assist her in the care of Rita. Recently, she has found that she has been unable to overcome a head cold which she has had for two months, and she is unable to sleep because she worries so much about what will become of her mother if she can no longer care for her.

**Question 32**

According to Selye's General Adaptation Syndrome, Serena is likely to be at the stage of

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

**Question 33**

Serena's head cold and poor quality sleep are likely to be symptoms of

- A. distress.
- B. eustress.
- C. allostasis.
- D. learned helplessness.

*Use the following information to answer Questions 34–36.*

Jenna is suffering from fear of flying. She seeks the help of a clinical psychologist so that she might overcome this fear and be able to travel interstate on a plane with her family for a holiday. The psychologist explains one possible treatment that Jenna could try.

**Question 34**

In this suggested treatment Jenna would have several treatment sessions with the psychologist where she would gradually be helped to overcome her fear of flying.

It is most likely that the psychologist is suggesting

- A. electro-convulsive therapy.
- B. systematic desensitisation.
- C. aversion therapy.
- D. flooding.

**Question 35**

The psychologist could also use a therapy in which Jenna would be taught to change the way she was thinking about flying – so that she can begin to feel that it is pleasurable excitement rather than fear that is contributing to her arousal.

To do this the psychologist could use

- A. cognitive behavioural therapy (CBT).
- B. transactional analysis (TA).
- C. relaxation therapy.
- D. psychoeducation.

**Question 36**

Gamma-aminobutyric acid (GABA) is a neurotransmitter that can be used in the management of phobic anxiety. Jenna could be treated with a medication that increases the amount of GABA available in her brain.

This would have the effect of

- A. sedating Jenna so that she becomes sleepy.
- B. relaxing Jenna by reducing muscle tension and decreasing brain activity.
- C. making Jenna's muscles numb so that she has little feeling.
- D. increasing the production of neurotransmitters that cause Jenna to feel happy.

**Question 37**

Phobias are complex behaviours because they tend to have their origins in

- A. modelling and are maintained by operant conditioning.
- B. modelling and are maintained by classical conditioning.
- C. classical conditioning and are maintained by operant conditioning.
- D. operant conditioning and are maintained by classical conditioning.

**Question 38**

The psychodynamic model proposes that simple phobia is due to

- A. unresolved physiological trauma.
- B. innate biological and genetic factors.
- C. unresolved conflicts that emerge during the phallic stage of development.
- D. anger towards a person's mother or father that is transferred to an object, animal or situation.

**Question 39**

Which group of the following brain structures is involved in initiating and processing the fear response?

- A. amygdala, hippocampus, thalamus
- B. amygdala, thalamus, adrenal gland
- C. hippocampus, adrenal gland, amygdala
- D. amygdala, hippocampus, corpus callosum

**Question 40**

Stress that results from a positive psychological state, such as being accepted into the tertiary course of your choice, is called

- A. eustress.
- B. distress.
- C. fight-flight response.
- D. General Adaptation Syndrome.

**Question 41**

After his final examination was over, Liam became increasingly stressed. When he thought about what his results might be, he worried more and more that he would not be able to cope if he did not obtain the results that would enable him to get into the course of his choice.

Liam's stress was

- A. social.
- B. environmental.
- C. psychological.
- D. physiological.

**Question 42**

One strength of the Lazarus and Folkman's Transactional Model of Stress and Coping is that it

- A. is easy to test objectively.
- B. ignores physiological responses to stress.
- C. does not rely on cognitive interpretations.
- D. emphasises the individual's interpretation of their situation.

**Question 43**

According to the Lazarus and Folkman's Transactional Model of Stress and Coping, a person's experience of stress in a particular situation depends on their

- A. level of eustress.
- B. appraisal of the situation.
- C. perceived social support.
- D. physiological response to the situation.

**Question 44**

One night, Simon came home later than the time he had agreed with his parents. As punishment, Simon's parents confiscated his mobile phone for a month. Because he was out of contact with his friends, Simon experienced considerable stress during this time.

The factor responsible for this stress was

- A. social.
- B. cultural.
- C. psychological.
- D. environmental.

**Question 45**

While waiting to audition for a role in a play, Gareth constantly told himself 'I am not feeling stressed'.

According to the Lazarus and Folkman's Transactional Model of Stress and Coping, Gareth's self-talk is an example of

- A. primary appraisal.
- B. secondary appraisal.
- C. emotion-focused coping.
- D. problem-focused coping.

**Question 46**

Allostasis is the process whereby the

- A. body's resources are depleted as a result of stress.
- B. brain directs the body to maintain stability by rejecting stressors.
- C. brain directs the body to maintain stability by adapting to changes caused by stressors.
- D. body directs the brain to maintain stability by adapting to changes caused by stressors.

**Question 47**

Biofeedback assists people to cope with stress by

- A. initiating allostasis.
- B. electrically stimulating the stress control centres in the brain.
- C. providing them with information about the level of mental activity in the brain.
- D. providing them with information about the level of a particular physiological response.

**Question 48**

Yolande is chosen as one of the four finalists for the Young Australian of the Year. She is required to present a speech to an audience of 500 people. She talks to her drama teacher at school about strategies for coping with being nervous prior to and during the speech.

Seeking advice from her teacher is an example of

- A. eustress.
- B. allostasis.
- C. social support.
- D. cultural support.

**Question 49**

Edward Tolman described the concepts of 'latent learning' and 'cognitive maps' when testing rats in mazes. Which one of the following statements best describes these two concepts of latent learning and a cognitive map?

- A. Latent learning is learning that has occurred but is not currently evident in behaviour while a cognitive map is a mental representation of an area.
- B. Latent learning is the type of learning shown in a mental representation of an area while a cognitive map relates to the type of learning that occurred in the brain.
- C. Latent learning is the type of learning shown when there is an enduring change to behaviour as a result of experience while a cognitive map is a physical representation of an area.
- D. Latent learning is the sudden understanding of the relationship between a problem and solution whereas a cognitive map is a map of the brain showing where cognition is actually located.

## SECTION B – Short answer questions

### Question 1

Lucy has started to teach her daughter Susie, aged 5, to tie her shoe laces.

Describe how Lucy might use the shaping principle of operant conditioning to teach her daughter.

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2 marks

### Question 2

Koala airline uses a system to reward travellers with a free flight when they reach 100 flight points. Eagle airline uses a flight reward system whereby travellers receive a free flight after every 12 months of membership.

**Name** the reinforcement schedule used for each airline.

Koala airline \_\_\_\_\_

Eagle airline \_\_\_\_\_

2 marks

### Question 3

Define **latent learning**.

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1 mark

### Question 4

We learn to stop at traffic lights – when they turn red.

Using the three-phase model of operant conditioning, identify the discriminative stimulus, behaviour, and consequence controlling this behaviour.

Discriminative stimulus \_\_\_\_\_

Behaviour \_\_\_\_\_

Consequence \_\_\_\_\_

3 marks

**Question 5**

Use an example to describe the four steps that occur in insight learning.

Step 1 \_\_\_\_\_

\_\_\_\_\_

Step 2 \_\_\_\_\_

\_\_\_\_\_

Step 3 \_\_\_\_\_

\_\_\_\_\_

Step 4 \_\_\_\_\_

\_\_\_\_\_

4 marks

**Question 6**

In **observational learning** there is a stage where learning has occurred, but the behaviour has not yet been shown by the learner.

a. What form of learning has occurred before the behaviour is shown?

\_\_\_\_\_

1 mark

b. Which of the processes involved in observational learning occurs to elicit the behaviour to be shown?

\_\_\_\_\_

1 mark

c. Which of the processes involved in observational learning must occur if the behaviour is to be repeated by the learner?

\_\_\_\_\_

1 mark

d. Name and explain the **first** process involved in observational learning.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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2 marks

**Question 7**

Bandura's 1963a experiment showed that social learning can occur even when an aggressive model is not directly observed by the learner.

- a. What conditions, other than direct observation, were used?

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2 marks

- b. What were the findings of this experiment?

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2 marks

**Question 8**

Bandura's 1963b experiment studied the behaviour of children after they witnessed various consequences for a model behaving aggressively.

- a. Which consequences led to the highest level of imitative behaviour?

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1 mark

- b. What did the boys who watched the aggressive model being punished learn?

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1 mark

**Question 9**

Hussein and Nadja's two-year-old son, Tolga, is beginning to learn to talk. He learns new words each day, and his knowledge of sounds and his ability to say words improves very rapidly.

Briefly describe what will happen to Tolga's neurons during this stage of his development.

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2 marks

### Question 10

In a research experiment, two groups of hungry rats were placed at the start of a maze with food at the end. The rats in Group 1 had no brain damage. The rats in group 2 had damage to the hippocampus. Experimenters recorded how long it took for the rats to reach the food at the end of the maze. The experimenters recorded the number of trials it took for the rats to learn to run the maze without making an error.

It took Group 1 rats (no brain damage) a mean of 6.5 trials to learn to run the maze without error.

After 50 trials, all of the rats in Group 2 (damage to hippocampus) still had not learned to run the maze without making one or more errors.

Explain why the rats in Group 2 were unable to learn to run the maze without making errors.

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2 marks

### Question 11

Fabian is a learner driver. He is used to practising driving in his brother's Holden. When the fuel light appears in the Holden, Fabian knows from experience that he can travel a further 80 km before running out of fuel. Fabian's parents have bought him a different car, a Corolla, for his 18th birthday. The third time Fabian drives his new Corolla, the red fuel light appears. He continues to drive the car, expecting to be able to travel for at least a further 80 km before having to refuel the car. To his surprise, the car runs out of fuel after 50 km. The next time Fabian is driving the Corolla when the red fuel light appears, he makes sure he refuels the car within the next 45 km.

Fabian has learnt about the capacity of the Corolla's fuel tank through operant conditioning.

a. Identify each of the following from the scenario.

i. discriminative stimulus

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ii. operant response (behaviour)

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iii. consequence

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3 marks

b. Using the language of the three-phase model of operant conditioning, what type of consequence does Fabian experience?

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1 mark

**Question 12**

Distinguish between the meaning of the terms **mental health** and **mental illness**.

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2 marks

**Question 13**

How do categorical approaches to classifying mental disorders differ from dimensional approaches to classifying a mental disorder?

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2 marks

**Question 14**

a. Explain what inter-rater reliability means with reference to the classification of mental disorders.

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2 marks

b. Which approach to classifying mental disorders has the highest inter-rater reliability?

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1 mark

### Question 15

The DSM describes mental disorders according to five axes (or categories). In the table below name or give an example of a symptom that could be associated with each axis.

Axis number	Name	Example
i		Depression
ii	Personality disorders	
iii	Acute medical conditions	
iv		Recent relationship breakup
v		Fifty-five

5 marks

### Question 16

A researcher wishes to explore the variables affecting stress. He conducts an experiment where he recruits participants who are preparing for final examinations at university. He measures their blood pressure three weeks prior to the final examination, one week before the examination, the morning of the examination, and just after they have completed the examination.

- a. Within the biopsychosocial framework to understanding stress, which element was the researcher measuring and recording?

\_\_\_\_\_

1 mark

- b. Name the other two aspects of the biopsychosocial framework that the researcher would need to investigate.

1. \_\_\_\_\_

2. \_\_\_\_\_

2 marks

**Question 17**

What is meant by the term ‘allostasis’?

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2 marks

**Question 18**

Describe one strength and one limitation of Lazarus and Folkman’s Transactional Model of Stress and Coping.

strength

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limitation

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2 marks

*Use the following information to answer Questions 19–21.*

Dr Smith wanted to investigate the brain structures that change during the process of learning. To do this, she recruited 15 of her daughter’s friends. Each participant attended two trials at the neuroimaging clinic at the university at which Dr Smith worked.

**Trial 1.** The participants read words written in an unfamiliar language. They then read the same words which had been mirror-reversed while scans of their brains were taken.

In this trial, the participants read the mirror-reversed words slowly and made numerous errors.

The scan indicated that the right parietal cortex was active as the participants were using spatial cognition to mentally reverse the letters.

After the scanning, the participants practised the skill of reading mirror-reversed words for one week. A week after the first trial, there was a second trial.

**Trial 2.** The same participants read a list of mirror-reversed English words.

In the second trial, the participants read the mirror-reversed words more quickly and accurately than in the first trial.

Scans from the second trial revealed that the right parietal cortex was no longer used in the reading of the words. Instead, there was activity in the left temporal cortex, the area of the brain which is responsible for interpretation of language and reading.

**Question 19**

What conclusion could be drawn about the differences in the scans between Trial 1 and Trial 2?

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2 marks

**Question 20**

a. Identify one potential confounding variable in this study.

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1 mark

b. Explain why this is a confounding variable.

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2 marks

**Question 21**

What sampling procedure did Dr Smith use in this study?

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1 mark

**Question 22**

In humans and animals, the timing of an experience can significantly influence the learning that takes place. Explain how a sensitive period in brain development differs from a critical period. Give an example of each.

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3 marks

**Question 23**

Aversion therapy was developed to deal with habits and addictions.

Using the language of classical conditioning, describe an example of how this therapy may be used to help someone give up smoking.

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3 marks

*Use the following information to answer Questions 24 and 25.*

Robyn has a phobia of spiders. Every night before she goes to bed she checks her bedroom for spiders. Even if a spider is on the outside of a window she needs to ask her neighbour, Michael, to come and take the spider away. Robyn cannot even walk into her back shed alone. If she needs anything from the shed she asks Michael to go into the shed and make sure there are no spiders.

Robyn wishes to overcome her fear of spiders and seeks the help of a psychologist.

**Question 24**

a. Explain how observational learning may have contributed to Robyn’s acquisition of the phobia.

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3 marks

b. Identify and describe a form of psychotherapy that may be suitable for Robyn.

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4 marks

**Question 25**

While waiting to be called in for her very first job interview, Maddy felt highly stressed.

Identify one biological change and one psychological change Maddy is likely to have experienced in response to her stress.

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

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

2 marks

*Use the following information to answer Questions 26 and 27.*

While standing in a crowd at the seafood stall at the Victoria Market on Christmas Eve waiting to be served, Bronwyn becomes increasingly stressed. She notices that people who arrive after her are pushing forward and are being served before her. She is reluctant to say anything and tells herself that the stall owners should have a more organised system so people get served in turn. She is also aware that the time on her parking meter is running out and that if she is not served within the next few minutes she might get a parking ticket. This makes her even more stressed.

**Question 26**

With reference to the Lazarus and Folkman Transactional Model of Stress and Coping, explain why Bronwyn is stressed in this situation.

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3 marks

**Question 27**

a. Describe one problem-focused coping strategy Bronwyn could use to reduce her stress.

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1 mark

b. Describe one emotion-focused coping strategy Bronwyn could use to reduce her stress.

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1 mark

**Question 28**

State two cultural factors that can cause stress for a person who immigrates to a new country to live.

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2 marks

**Question 29**

Allostasis is initiated when an individual perceives a situation as stressful.  
Describe the process of allostasis in a stressful situation.

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3 marks

**Question 30**

How is meditation different from relaxation?

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3 marks

**Question 31**

Describe two potential benefits of physical exercise for coping with stress.

1. 

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2. 

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2 marks

**Question 32**

a. On which axis would 'Phobic disorder' be classified according to DSM-IV-TR?

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1 mark

b. Explain why it would be classified on this axis.

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1 mark

**Question 33**

Identify one biological factor that can contribute to the development of a phobia.

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1 mark

**Question 34**

Explain how the neurotransmitter GABA can influence simple phobia.

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1 mark

Read the following dot point.

- **The application of a biopsychosocial framework to understanding one mental disorder and its management (Mood disorder: major depression, Addictive disorder: gambling and Psychotic disorder: schizophrenia)**

In examining this dot point, there may be a number of short answer questions on each particular disorder or there may be one generic question which should be answered with reference to the disorder studied by the student.

For the purpose of the sample examination material, an example of both alternatives is included.

There will not be an extended response question that focuses on this particular dot point of the study design.

### Alternative 1

Answer one of the following.

Question 35 (**Mood disorder: major depression**) or

Question 36 (**Addictive disorder: gambling**) or

Question 37 (**Psychotic disorder: schizophrenia**)

Question answered \_\_\_\_\_

#### Question 35

Mood disorder: major depression

- a. Explain the role of serotonin in contributing to major depression.

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2 marks

- b. As well as providing psychotherapy and working with a doctor who may prescribe medication, describe two other ways a psychologist could assist a client with depression.

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2 marks

- c. Name one psychological factor that contributes to depression.

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1 mark

**OR**

**Questions 36**

Addictive disorder: gambling

- a. Name and describe an evidence-based treatment often used by psychologists in the treatment of gambling.

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2 marks

- b. Explain how the dopamine reward system influences gambling behaviour.

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2 marks

- c. Identify an aspect of operant conditioning that contributes to problem gambling.

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1 mark

**OR**

**Questions 37**

Psychological disorder: schizophrenia

- a. Drug use has been statistically linked to the onset of schizophrenia. Use the biopsychosocial framework to explain this connection.

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4 marks

- b. Of which neurotransmitter does medication for schizophrenia attempt to maintain the balance of levels?

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1 mark







## Question 2

Denise, an educational psychologist, was interested in studying the effects of different types of distractors on learning ability. Denise works at Beachside Secondary College, a coeducational secondary school. There are 200 VCE students at the college, 100 students in Year 11 and 100 students in Year 12. Both year levels comprise 60% males and 40% females, aged between 16 and 17.5 years old.

Denise randomly selected 60 VCE students at her school, ensuring that the year level and gender of the students were in the same proportion as in the school population of VCE students. Denise obtained informed consent and used three research assistants to help conduct the experiment. In the first trial, the first research assistant read participants a list of 40 words with no background noise distraction. In the second trial, the second research assistant read participants a different list of 40 words of similar difficulty, while a tape of a moderate level of verbal conversation was played. In the third trial, the third research assistant read participants a third list of 40 words of similar difficulty to the first two, while a tape of a loud level of verbal conversation was played.

Each research assistant recorded the number of times the list was read before learning had occurred. They were unaware of the other conditions and the hypothesis. The following results were obtained.

The level of significance is set at 0.05. ( $p < 0.05$ )

A < B -  $p = 0.065$

B < C -  $p = 0.055$

A < C -  $p = 0.025$

**Table 1.** Mean trials taken to learn the list of words ( $n = 60$ )

	Condition	Mean number of trials
A.	No background noise	11
B.	Moderate level of verbal conversation	14
C.	Loud level of verbal conversation	18

You are required to write two parts of a psychological report on this research – part of the introduction and part of the discussion.

**Introduction** The final section of the introduction should contain the variables to be studied, the way they are operationalised and a statement of the hypothesis (or hypotheses) that was tested.

**Discussion** The initial section of the discussion should contain a conclusion(s) based on the hypothesis(es) and a statement of the implications of this conclusion(s). Weaknesses of this experimental design and procedures to eliminate these should be described.

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## Answers to multiple-choice questions

Question	Answer
1	D
2	C
3	C
4	C
5	D
6	B
7	B
8	C
9	A
10	C
11	A
12	A
13	B
14	A
15	D
16	B
17	A
18	D
19	D
20	B
21	A
22	C
23	C
24	C
25	D

Question	Answer
26	D
27	D
28	C
29	A
30	A
31	D
32	B
33	A
34	B
35	A
36	B
37	C
38	D
39	A
40	A
41	C
42	D
43	B
44	A
45	C
46	C
47	D
48	C
49	A