

2017

PSYCHOLOGY

Written examination

Reading time: 15 minutes

Writing time: 2 hours 30 minutes

STUDENT NAME:

QUESTION AND ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	50	50	50
B	9	9	70
			Total 120

- Students are permitted to bring the following items into the examination: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring sheets of paper or white-out liquid/tape into the examination.
- Calculators are not permitted in this examination.

Materials provided

- Question and answer book of 35 pages
- Answer sheet for multiple-choice questions
- Additional writing space is provided at the end of this book.

Instructions

- Write your **name** in the box provided above and on the multiple-choice answer sheet.
- You must answer the questions 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 or any other unauthorised electronic devices into the examination.

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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

Dane accidentally stood barefoot on a pin. He immediately pulled his foot away.

Which of the following sequences most accurately represents the transmission of neural information when Dane withdraws his foot?

- A. receptors in the sole of his foot → spinal cord → sensory areas of his brain
- B. receptors in the sole of his foot → spinal cord → muscles in his foot and leg
- C. sensory areas of the brain → spinal cord → muscles in his foot and leg
- D. receptors in the sole of his foot → sensory areas in the brain → muscles in his foot and leg

Question 2

The transmission of neural impulses from the brain to the muscles in the hand when someone is writing on a piece of paper involves which of the following?

A.	chemical signals within neurons	chemical signals between neurons
B.	electrical signals within neurons	electrical signals between neurons
C.	electrical signals within neurons	chemical signals between neurons
D.	chemical signals within neurons	electrical signals between neurons

Question 3

In terms of the lock-and-key process of neural transmission, which of the following is true?

- A. The neurotransmitter (the key) is released by the pre-synaptic neuron, moves across the synapse and fits a specific receptor site (the lock), either inhibiting or exciting the post-synaptic neuron.
- B. The neurotransmitter (the lock) is released by the pre-synaptic neuron, moves across the synapse and fits a specific receptor site (the key), either inhibiting or exciting the post-synaptic neuron.
- C. The neurotransmitter (the key) is released by the post-synaptic neuron, moves across the synapse and fits a specific receptor site (the lock), either inhibiting or exciting the pre-synaptic neuron.
- D. The neurotransmitter (the key) is released by the pre-synaptic neuron, moves across the synapse and fits a specific receptor site (the lock), exciting the post-synaptic neuron.

Use the following information to answer Questions 4–8.

Penelope is quite anxious because she has just broken up with her boyfriend, and her mother has recently been diagnosed with cancer. In addition, Penelope is not sleeping well. During the day, she consumes at least four cups of coffee to increase her alertness. At night, she drinks two glasses of wine to help herself relax and settle down for sleep. Drinking a lot of coffee during the day and drinking wine at night have become regular habits for Penelope.

Question 4

The learning principle associated with Penelope drinking wine to help herself sleep is

- A. positive punishment.
- B. negative punishment.
- C. classical conditioning.
- D. reinforcement.

Question 5

When Penelope drinks wine to relax before she goes to sleep, it is likely that she experiences

- A. an increase in beta waves.
- B. an increase in theta waves.
- C. an increase in delta waves.
- D. a decrease in beta waves.

Question 6

When Penelope drinks coffee during the day to increase her alertness, it is likely that she experiences

- A. an increase in beta waves.
- B. an increase in theta waves.
- C. an increase in delta waves.
- D. a decrease in beta waves.

Question 7

Which of the following best describes Penelope's brain waves when she is alert?

	Amplitude	Frequency
A.	higher	higher
B.	lower	higher
C.	higher	lower
D.	lower	lower

Question 8

Penelope's growing dependency on coffee and wine to help cope with her anxiety and sleeping issues suggests that, in relation to the mental health continuum,

- A. Penelope has a mental health disorder.
- B. Penelope is mentally healthy and has a high sense of wellbeing.
- C. Penelope is developing a mental health problem and has a lower sense of wellbeing.
- D. Penelope is normal.

Question 9

Ryoji is running late for the train. He runs to the station as quickly as he can. The movement of Ryoji's leg muscles is due to the

- A. autonomic division of the peripheral nervous system.
- B. somatic division of the peripheral nervous system.
- C. spinal cord of the central nervous system.
- D. somatic division of the central nervous system.

Question 10

The role of the spinal cord is to

- A. carry information from the left hemisphere of the brain to the right hemisphere of the brain.
- B. only carry information from the brain to the peripheral nervous system.
- C. only carry information from the peripheral nervous system to the brain.
- D. carry information to and from the brain and the peripheral nervous system.

Question 11

Which of the following is **not** a reflex action?

- A. slapping at a mosquito on your hand
- B. salivating when you are hungry
- C. flexing your hand due to a burn on the skin
- D. contraction of the pupils in your eyes due to bright light

Question 12

In terms of the Atkinson–Shiffrin multi-store model of memory, sensory memory

- A. has a smaller capacity than short-term memory.
- B. has a greater duration than short-term memory.
- C. has the same function as short-term memory.
- D. has a greater capacity than short-term memory.

Question 13

In terms of methods of retrieval, which of the following is the most effective?

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

Use the following information to answer Questions 14–18.

When driving home from work, Meg hits a cat. She pulls to the side of the road and sees that the cat has died. The cat has a collar but no contact details for the owner, so Meg leaves the cat at the side of the road in the hope that someone will recognise the pet and let the owners know. Meg feels terrible and is so shaken up that she has trouble sleeping and keeps replaying the accident in her head for the next three days.

Question 14

When Meg hit the cat she experienced a stress response. In terms of Meg's autonomic nervous system functioning, it is likely that she would experience short-term physiological responses including

- A. decreased heart rate and decreased blood pressure.
- B. increased heart rate and increased blood pressure.
- C. an increase in adrenaline and noradrenalin, and a decrease in cortisol.
- D. a decrease in epinephrine and norepinephrine, and a decrease in cortisol.

Question 15

As a source of stress, hitting the cat for Meg was a

- A. daily pressure.
- B. hassle.
- C. catastrophe.
- D. life event.

Question 16

The neurohormone involved in the consolidation of Meg's memory of the accident is

- A. adrenaline.
- B. glutamate.
- C. gamma-amino butyric acid (GABA).
- D. serotonin.

Question 17

Meg's emotional reaction to the death of the cat (and the memory of her emotional response) is likely due to the role of the

- A. hippocampus.
- B. amygdala.
- C. cerebellum.
- D. cerebral cortex.

Question 18

Meg's recollection of specific details, such as the colour of the cat's fur, is an explicit memory and is likely due to the role of the

- A. hippocampus.
- B. amygdala.
- C. cerebellum.
- D. cerebral cortex.

Use the following information to answer Questions 19 and 20.

Marcus decides to investigate the impact of stress on memory recall. He asks five peers from his class to participate.

In the first condition, Marcus gives the participants a list of 20 words to learn in 45 seconds. He then makes them wait 12 seconds before allowing them to write down as many as they can remember.

In the second condition, Marcus gives the participants a different list of 20 words, but this time gives them only 15 seconds to learn the words. He then makes them wait 12 seconds before allowing them to write down as many as they can remember.

Marcus' results are shown below.

Participants	Number of words recalled after Test 1 (45 seconds to memorise)	Number of words recalled after Test 2 (15 seconds to memorise)
Participant 1	7	6
Participant 2	8	5
Participant 3	9	7
Participant 4	13	7
Participant 5	10	10
Mean	9.4	7.0
Standard deviation	2.3	1.9

Question 19

Marcus made his participants wait 12 seconds before they were allowed to write down as many words as they could remember. It is likely Marcus was investigating

- A. sensory memory.
- B. short-term memory.
- C. long-term memory.
- D. declarative memory.

Question 20

What are the operations of the independent variable in Marcus' study?

- A. The independent variable is time and the operations are learning words in 45 seconds and 15 seconds.
- B. The independent variable is recall and the operations are the number of words correctly recalled.
- C. The independent variable is relearning and the operations are the number of words recalled.
- D. The independent variable is stress and the operations are learning words in 45 seconds and 15 seconds.

Use the following information to answer Questions 21–23.

Christina's cat, Peggy, is ruining the furniture by scratching it with her claws. Peggy wants to sharpen her claws and does not know that scratching the furniture upsets Christina. To prevent Peggy from scratching, Christina mixes water with lemon juice and sprays Peggy in the face every time she scratches the furniture. After scratching the furniture four times, and being sprayed with the lemon juice mixture each time, Peggy stops scratching the furniture. Christina thinks that the problem behaviour has been solved. Soon Peggy begins scratching the furniture again.

Question 21

In terms of the three-phase model for Peggy,

- A.** scratching the furniture is the antecedent, spraying the lemon mixture is the behaviour and not scratching the furniture is the consequence.
- B.** the unconditioned stimulus is the lemon mixture, the unconditioned response is flinching to the lemon mixture and the conditioned response is not scratching the furniture.
- C.** scratching the furniture is the antecedent, needing to sharpen her claws is the behaviour and being sprayed in the face with the lemon mixture is the consequence.
- D.** needing to sharpen her claws is the antecedent, scratching the furniture is the behaviour and being sprayed in the face with the lemon mixture is the consequence.

Question 22

The lemon mixture sprayed into Peggy's face is a

- A.** punisher because it has the effect of decreasing the response rate.
- B.** negative reinforcer because it has the effect of increasing the response rate.
- C.** negative reinforcer because it has the effect of decreasing the response rate.
- D.** punisher because it has the effect of increasing the response rate.

Question 23

Once Christina stopped spraying Peggy in the face with the lemon mixture, Peggy began scratching the furniture again due to a process known as

- A.** stimulus discrimination.
- B.** association.
- C.** stimulus generalisation.
- D.** extinction.

Question 24

As we grow older it is likely that

- A. the amount of sleep we need will increase.
- B. our time spent in REM sleep will drop from 50% of our sleep to 20–25% of our sleep.
- C. our time spent in REM sleep will increase from 50% of our sleep to 75% of our sleep.
- D. NREM stages 3 and 4 will increase.

Question 25

Max loves watching his favourite cartoons on television. When Max is naughty, his mum switches off the television. Max then stops being naughty.

Which of the following best describes the television being switched off for Max?

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

Use the following information to answer Questions 26–28.

Dr Smith is interested in the neural changes that occur when a memory is formed. Dr Smith investigates these changes in octopuses because their neurons are quite large and changes can be easily detected.

Dr Smith uses electric shocks to cause discomfort and applies the electric shocks to the legs of the octopuses, causing them to reflex their legs inwards. Dr Smith observes the octopuses' reflexes and records how long it takes them to relax their legs outwards again.

Examples of Dr Smith's results are shown below.

Animal subject	Trial 1 First shock (seconds)	Trial 2 Second shock (seconds)	Trial 3 Third shock (seconds)	Trial 4 Fourth shock (seconds)
Octopus 1	11	45	63	95
Octopus 2	8	29	54	79
Octopus 3	13	41	60	88

Question 26

What structural changes will Dr Smith observe in the octopuses' neurons when a memory is formed?

- A.** an increase in the number of neurotransmitters released into the synapse
- B.** an increase in the number of axon terminals on the pre-synaptic neurons
- C.** a decrease in the number of dendrites on the post-synaptic neurons
- D.** an increase in the number of axon terminals on the post-synaptic neurons

Question 27

What functional (activity) changes would Dr Smith observe in the octopuses' neurons when a memory is formed?

- A. There would be a decrease in activity at the synapse due to more neurotransmitters being released into the synapse.
- B. There would be an increase in activity at the synapse due to more neurotransmitters being released into the synapse.
- C. There would be an increase in the number of axon terminals on the pre-synaptic neuron.
- D. There would be a decrease in the number of dendrites on the post-synaptic neuron.

Question 28

Identify the term used to describe the structural and functional changes that occur at a neuronal level when a memory is formed and the neurotransmitter involved in this process.

- A. long-term potentiation; GABA
- B. long-term depression; GABA
- C. long-term depression; glutamate
- D. long-term potentiation; glutamate

Question 29

Alzheimer's disease is a neurodegenerative disorder. It is likely that a sufferer's brain would

- A. have a hippocampus with less volume.
- B. be a greater mass than someone who does not suffer Alzheimer's disease.
- C. show growth of the cortex.
- D. show no noticeable change.

Use the following information to answer Questions 30–32.

Simon, a deep-sea diving instructor, would like to investigate whether words are recalled better in the same environment or in a different environment to where they are learned. In particular, Simon is interested in looking at words learned and recalled either on land or under water.

Eighteen people from Simon's diving club take part in a repeated measures design consisting of four conditions:

- Condition 1: learning words on land and recalling on land
- Condition 2: learning words on land and recalling under water
- Condition 3: learning under water and recalling under water
- Condition 4: learning under water and recalling on land.

The underwater condition is set at 15 metres below the surface. There are 24 hours between conditions and the study is conducted over four days.

Participants have to learn **38 unrelated words** that they **hear twice** during the learning stage. The words are read aloud in blocks. Participants then wait for 60 seconds before saying aloud the words they remember. When under water, the words and responses of participants are played through a diving communication device.

Results are shown below.

Average recall of 38 unrelated words

Condition 1	Condition 2	Condition 3	Condition 4
23.5	12.6	19.8	10.2

Question 30

In this study, Simon's four experimental conditions suggest that he is investigating

- A. context-dependent cues.
- B. iconic memory.
- C. elaborative rehearsal.
- D. state-dependent cues.

Question 31

According to the Atkinson–Shiffrin model of memory, which type of memory is Simon measuring in his study?

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

Question 32

Which of the following conclusions could Simon draw from his results?

- A. Learning words on land and recalling under water is less effective than learning on land and recalling on land.
- B. Learning words on land and recalling under water is more effective than learning on land and recalling on land.
- C. Learning words under water and recalling on land is more effective than learning under water and recalling under water.
- D. Learning words under water and recalling on land is more effective than learning on land and recalling under water.

Use the following information to answer Questions 33–36.

Helen is taking part in research that involves sorting coins into groups while wearing a blindfold. Task 1 involves Helen picking up each coin and deciding whether it is a ten-cent piece, twenty-cent piece or fifty-cent piece. Task 2 involves Helen placing the coin into its correct group.

Question 33

What type of neuron is responsible for enabling Helen to determine if a coin is a ten cent piece, twenty cent piece or fifty cent piece?

- A. efferent neuron
- B. motor neuron
- C. afferent neuron
- D. interneuron

Question 34

Which type of neuron is responsible for allowing Helen to place each coin into the correct group?

- A. afferent neuron
- B. efferent neuron
- C. sensory neuron
- D. interneuron

Question 35

Which of the following is the main function performed by Helen's nervous system while she carries out Task 1?

- A. The somatic nervous system carries information to the central nervous system, which processes sensory information about the size and texture of each coin.
- B. The central nervous system initiates a voluntary motor response through the somatic nervous system to enable Jude to place the coin into the correct group.
- C. The somatic nervous system carries information to the peripheral nervous system, which processes sensory information about the size and texture of each coin.
- D. The peripheral nervous system initiates a voluntary motor response through the somatic nervous system to enable Jude to place the coin into the correct group.

Question 36

Which of the following is the main function performed by Helen's nervous system while she carries out Task 2?

- A. The somatic nervous system carries information to the central nervous system, which processes sensory information about the size and texture of each coin.
- B. The somatic nervous system carries information to the peripheral nervous system, which processes sensory information about the size and texture of each coin.
- C. The peripheral nervous system initiates a voluntary motor response through the somatic nervous system to enable Jude to place the coin into the correct group.
- D. The central nervous system initiates a voluntary motor response through the somatic nervous system to enable Jude to place the coin into the correct group.

Question 37

The biopsychosocial framework for mental health assumes that

- A. biological factors are more important than psychological factors in influencing mental health.
- B. psychological factors are more important than social factors in influencing mental health.
- C. social factors are less important than biological factors in influencing mental health.
- D. biological, psychological and social factors combine and interact to influence mental health.

Use this information to answer Questions 38–41.

For Native Americans, inducing an altered state of consciousness through non-drug methods is a fundamental part of their healing process. For example, Plains Indians have a healing ritual known as a vision quest where a link is made to the spiritual world. The quest usually involves isolation in a sacred spot, such as a mountain peak or plain, without food or water for four days and four nights. The fasting induces an altered state of consciousness.

Question 38

As a Plains Indian moves along the consciousness continuum from normal waking consciousness to an altered state of consciousness (when they are fasting), their brain waves will

- A. not change.
- B. increase in frequency and increase in amplitude.
- C. decrease in frequency and increase in amplitude.
- D. decrease in frequency and decrease in amplitude.

Question 39

Which type of brain wave will occur more frequently when someone enters an altered state of consciousness, such as that induced by fasting?

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

Question 40

Plains Indians report visions (hallucinations) while they are fasting. This is possible because they have

- A. consumed a hallucinogenic drug.
- B. experienced a change in awareness.
- C. a decreased perception of time.
- D. distorted sensory perception.

Question 41

The vision quest can be useful for Plains Indians who are unwell and in pain. While fasting and in an altered state of consciousness, it is likely that Plains Indians would experience

- A. muscle tension that decreases their experience of pain.
- B. muscle relaxation that decreases their experience of pain.
- C. an euphoric state that increases their experience of pain.
- D. focused attention that decreases their experience of pain.

Question 42

If Watson and Rayner proposed their Little Albert experiment to an ethics committee today, the ethics committee would not approve it because it breaches the role of the experimenter.

How did Watson and Rayner breach the role of the experimenter?

- A. They published information about the experiment that revealed Little Albert's identity.
- B. They deceived Little Albert's mother about the nature and purpose of the experiment.
- C. They did not extinguish Little Albert's fear of white fluffy objects.
- D. They did not prioritise the physical and psychological welfare of Little Albert.

Question 43

The NREM/REM sleep cycle observed over a period of 90 minutes is known as

- A. an ultradian rhythm.
- B. a circadian rhythm.
- C. an infradian rhythm.
- D. a diurnal rhythm.

Question 44

A person's first sleep cycle for the night would be likely to follow the pattern of

- A. NREM stages 1, 2, 3, 4 then REM.
- B. REM then NREM stages 1, 2, 3, 4.
- C. NREM stages 1, 2, 3, 2, 1 then REM.
- D. NREM stages 1, 2, 3, 4, 3, 2 then REM.

Question 45

The restorative theory of sleep differs from the evolutionary (circadian) theory of sleep because it proposes that sleep

- A. protects organisms from predators, whereas the evolutionary theory proposes that sleep occurs at particular times of the day.
- B. enables damaged cells to be repaired, whereas the evolutionary theory proposes that sleep allows organisms to conserve energy.
- C. allows organisms to conserve energy, whereas the evolutionary theory proposes that sleep protects organisms from predators.
- D. occurs at particular times programmed by the brain, whereas the evolutionary theory proposes that sleep enables damaged cells to be repaired.

Question 46

Stan sometimes gets out of bed during the night and walks around the house. He appears to be asleep, even when brushing his teeth, before going back to bed.

Stan is experiencing a _____, which usually occurs during _____ sleep.

- A. parasomnia; stage 4 NREM
- B. dyssomnia; REM
- C. parasomnia; stage 2 NREM
- D. dyssomnia; stage 4 NREM

Question 47

Motor symptoms that a person with Parkinson's disease is likely to experience include

- A. involuntary muscle tremors.
- B. brain seizures.
- C. memory problems.
- D. depression.

Question 48

Which of the following best describes the change in neurotransmitters in the nervous system of someone with Parkinson's disease?

- A. increase in dopamine levels
- B. decrease in dopamine levels
- C. no change to dopamine levels
- D. no evidence of dopamine in synapses

Use the following information to answer Questions 49 and 50.

Festim is a 45-year-old man who was born in Albania. He arrived in Australia with his parents when he was 12 years old. Festim's mother and sister experienced periods of clinical depression while he was growing up.

Festim was a good student. At university, he was very social and enjoyed parties. In the final year of his degree, he began drinking large amounts of alcohol regularly. Festim had his first experience with clinical depression soon after this and was admitted to the local hospital for two weeks. Following this, Festim was discharged from hospital with a six-month treatment plan including medication and therapy. During this time, Festim successfully completed his degree and obtained a job at a well-known firm in the city. Unfortunately, two months later Festim was made redundant and lost his job. Festim then experienced another extended depressive episode.

Question 49

A precipitating factor for Festim's mental health issues would be

- A. his mother's and sister's experiences with depression.
- B. drinking a large amount of alcohol at university.
- C. a genetic predisposition towards mental health issues.
- D. losing his job at the city firm.

Question 50

A perpetuating factor for Festim's mental health issues would be

- A. his mother's and sister's experiences with depression.
- B. drinking a large amount of alcohol at university.
- C. a genetic predisposition towards mental health issues.
- D. losing his job at the city firm.

**END OF SECTION A
TURN OVER**

SECTION B**Instructions for Section B**

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

Question 1 (3 marks)

Jude and Tom have been married for 50 years. At their anniversary celebration, Jude and Tom reminisce about their very first date. Jude remembers Tom picking her up in his brand-new car but Tom insists that he picked Jude up on his father's old motorbike. In terms of the process of memory reconstruction, suggest why Jude and Tom's memories of their first date may not match.

Question 2 (2 marks)

Why is consciousness considered a psychological construct, and how might it be measured?

Question 3 (2 marks)

Tenille is planning to carry out a study that considers the effects of alcohol on sleep. She plans to have two groups of participants. One group will consume a low dose of alcohol while the other group will consume a high dose of alcohol.

Name and define the effect that could occur if participants knew which group they have been allocated to.

Question 4 (4 marks)

‘Driving while drunk is much riskier than driving when sleep deprived.’

Do you agree with this statement? Justify your answer.

Question 6 (9 marks)

Mario is a single father who takes the kids to school every morning before going to work. Mario often relies on his mum to pick the kids up from school in the afternoons and she helps to get dinner ready at night. Unfortunately, Mario’s mum falls down the stairs and breaks her hip. Mario now needs to make alternative arrangements for his kids. Mario is also worried about his mum, who is recovering slowly from her hip surgery. In addition, Mario’s boss has asked him to work on a big project that could lead to a promotion for Mario at work. Mario works late at home and often does not get into bed until after midnight because he really wants the promotion.

Mario soon develops a bad cold and cough and goes to see his doctor.

- a.** Describe how the stress associated with Mario’s family life and work may have contributed to his illness. You should refer to Hans Selye’s General Adaptation Syndrome (GAS) model of stress in your answer.

3 marks

- b.** Mario's doctor warns him that the lack of sleep will not be helping him cope with his workload and caring for the family.

State **two** emotional and **two** cognitive effects that Mario may be experiencing from his lack of sleep.

4 marks

emotional _____

cognitive _____

Mario's mum is worried about Mario and encourages him to talk to his boss about dropping out of the project.

Mario disagrees with his mum. He wants to continue working on the new project.

- c.** In terms of primary appraisal in Lazarus and Folkman's Model of Stress and Coping, explain how Mario's evaluation of the new work project would differ from his mum's.

2 marks

Question 7 (17 marks)

Patrick is a nurse at a local medical clinic. Indy, an eight-year-old girl, attends the hospital each fortnight for treatment. On her first visit, Patrick gave her an injection that was very painful. Now Indy screams when she is approached by a nurse, even if she does not need an injection.

- a.** According to the classical conditioning theory of learning, identify the following.
- i.** unconditioned stimulus 1 mark

 - ii.** neutral stimulus 1 mark

 - iii.** conditioned stimulus 1 mark

 - iv.** unconditioned response 1 mark

 - v.** conditioned response 1 mark

- b.** Indy develops a phobia of nurses. Name a neurotransmitter that would have been involved in the development of Indy's phobia. 1 mark

d. Name and explain two evidence-based interventions that may assist Indy with her phobia.

4 marks

Question 8 (15 marks)

Miss Mia is a primary school teacher who is also completing her doctorate degree. Her research topic is recall abilities in children. Miss Mia asks two groups of children from her school if they would be happy to be involved in the study. Miss Mia decides to use an independent groups design. The students in Group A are given a page showing 20 images of everyday items (e.g. pencil, spoon) and are immediately tested on their recall of the images. Meanwhile, the students in Group B are given the same 20 images to learn but then play a game for ten minutes before they are tested on their recall of the 20 images.

- a.** Write a possible research hypothesis for this study.

2 marks

- b.** Identify the operationalised independent and dependent variables in this study.

2 marks

Independent variable _____

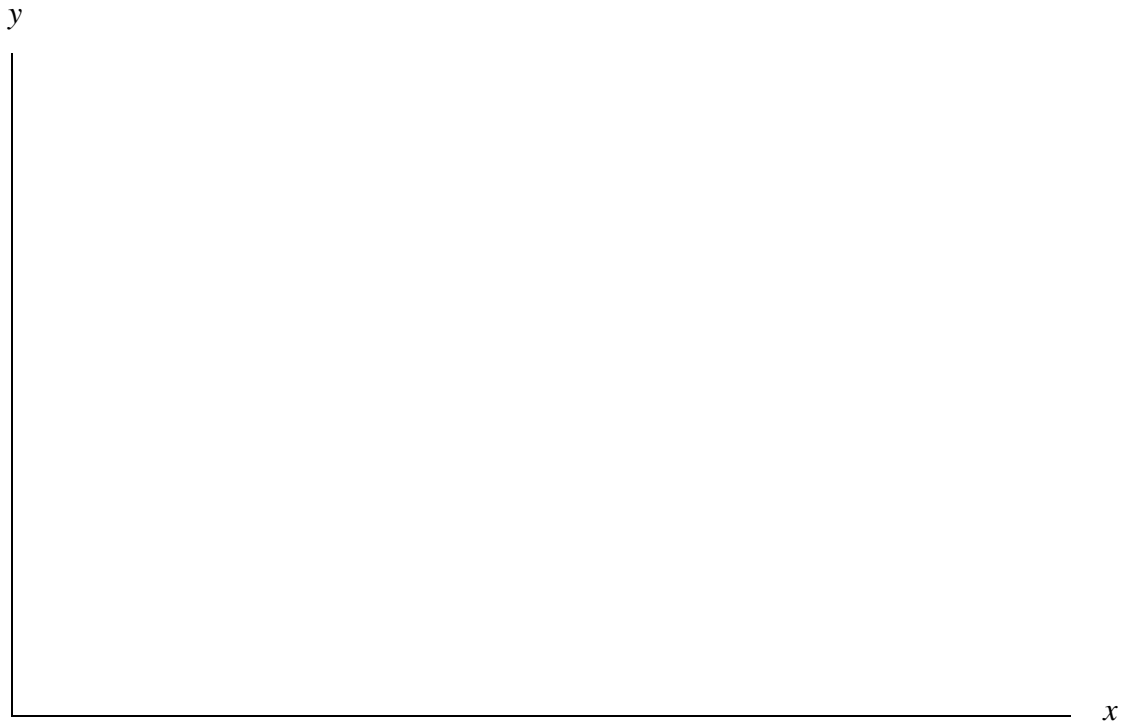
Dependent variable _____

- c.** What results would you expect for a study such as this? Refer to psychological theories of memory to support your response.

5 marks

- d. Use the axes below to draw a line graph illustrating the expected results of the study. The findings from both groups should be displayed on the one graph.

3 marks



- e. Miss Mia then decides to investigate the effect of exercise on recall ability. She decides to use a repeated measures design. In this study, participants will exercise for 25 minutes before recalling the images.

In terms of the procedure for this study, what does this mean?

1 mark

- f. A repeated measures design will minimise extraneous variables that an independent groups design will not. Name and explain one such extraneous variable.

2 marks

Question 9 (10 marks)

The staff at a local primary school are increasingly concerned about the rise of obesity in children. They organise a specialist to speak at a parent information night about encouraging healthy eating habits for children.

The information night is well attended by parents, and the presenter speaks for over an hour. At the end, a pamphlet with some tips for parents is handed out.

Below is an excerpt from the pamphlet:

Getting your children to eat healthily can be a struggle, especially if they are picky eaters. Below are some tips to allow parents to help their children make better choices about the foods they consume.

1. **Be a role model.** Children are keen observers – what they see, they do. They admire and want to be like you. Therefore, it is important for you to model healthy eating behaviours. Make sure you eat vegetables and fruit around your children and ensure you tell them how much you are enjoying the food you are eating.
2. **Sit down together for meal times.** Sit with your children while they are eating and share the meal with them. Not only do they get to watch you eating the same food, but you can also spend quality time together as a family.
3. **Turn off the TV and phones at meal times.** Get rid of any distractions so that sharing a meal is just about spending time together as a family.
4. **Involve your child in the meal planning.** It's important to involve your children in the meal planning because it will make them feel like their role is important. It is also important to ensure that every meal includes a healthy option that you know your children will eat. For example, if their favourite vegetable is corn, you should try to include corn in meals with a variety of other vegetables for them to try.
5. **Use praise as a reward, not food.** It is best not to use food as a reward. For example, avoid using ice cream or sweets as incentives for your children to eat their vegetables. Instead, offer non-food rewards such as praising them, offering one-on-one time together with you or allowing them to watch their favourite TV show.

Consider the advice provided to parents in this pamphlet.

Using psychological concepts from one theory of learning, explain the processes of learning in relation to fostering healthy eating habits in children. In your response you should make it clear which learning theory you are discussing and identify how the processes are being targeted in the pamphlet.

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