NAME: ____________________________

VCE*PSYCHOLOGY

Units 3 and 4 Practice Examination

Reading time: 15 minutes
Writing time: 2 hours 30 minutes

QUESTION AND ANSWER BOOK

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- 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 or calculators.

Materials supplied
- Question and answer book of 35 pages.
- Answer sheet for multiple-choice questions.
- Additional space is available at the end of the book if you need to complete an answer.

Instructions
- Write your name in the space provided above on this page.
- Write your name on the answer sheet for multiple-choice questions.
- All written responses must be in English.

At the end of the examination
- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

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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

It is easier to wiggle individual fingers than it is to wiggle individual toes because

A. toes are further away from the brain so do not receive neural massages as quickly as the fingers do.
B. the primary motor cortex occupies a larger area for fingers than it does for toes allowing for greater control over fingers.
C. the primary somatosensory cortex occupies a larger area for fingers than it does for toes allowing for greater control over fingers.
D. the primary motor cortex occupies a larger area for toes than it does for fingers allowing greater control over toes.

Question 2

Cam cannot remember much about his first trip overseas when he was eight years old. According to decay theory this is because

A. sufficient retrieval cues are not available at the time of recall.
B. interference from other trips has caused him to forget most of his first trip.
C. neurodegeneration has occurred over time affecting his memory.
D. the memory trace has faded over time because it has not been accessed regularly.

Question 3

One of the main findings of Hermann Ebbinghaus’s work on forgetting is that there is a consistent pattern of forgetting which involves

A. a rapid rate of forgetting initially with a gradual decline later.
B. a gradual decline of forgetting initially with a rapid decline after.
C. a consistent rate in forgetting over time.
D. important information being forgotten at a more rapid rate.
Question 4
Elizabeth Loftus’s work on reconstructive memory has suggested that when participants are asked leading questions they will

A. answer how they think the experimenter wants them to answer.
B. integrate the new information into their original memory experience.
C. often become confused and fabricate their responses.
D. still be able to recall exactly what they saw.

Question 5
Will suffered a traumatic brain injury after a car accident and as a result he can no longer remember his wedding day but can still remember how to ride his bike. The area of his brain that has most likely been damaged is his

A. frontal lobe
B. Broca’s area
C. Wernicke’s area
D. Hippocampus

Question 6
Truc is studying Behavioural Neuroscience at university and is currently learning about behaviours that are not dependent on learning. She has just learnt about the process of maturation in her lecture this afternoon. When she arrives home her sister is trying to teach her 11 month old daughter how to walk by demonstrating it repeatedly. Truc explains to her that this is a waste of time because

A. walking is a fixed action pattern meaning that humans are predetermined to all walk at the same age.
B. walking is a reflex action that babies perform in response to brain development.
C. walking occurs as a result of maturation and is dependent on physical growth and development.
D. babies will only walk at the same age that their parents first did and Truc’s sister didn’t walk until she was 18 months old.

Question 7
According to the Semantic Network Theory

A. LTM is a complex area that consists of a network of semantic ideas.
B. LTM is organised hierarchically so that when nodes are activated to retrieve information, other related nodes are also activated.
C. information is retrieved by an extensive search through the limitless information stores in LTM.
D. LTM is activated by nodes that link it to STM.
Question 8

According to the DSM, which Axis will a phobia be listed in?

A. Axis I  
B. Axis II  
C. Axis III  
D. Axis IV

Question 9

Stage 4 sleep is often characterised by

A. Rapid Eye Movements  
B. K-Complexes  
C. sleep spindles  
D. delta waves

Question 10

Meg is talking on the telephone whilst washing the dishes. Talking on the telephone is an example of a(n)

A. content limitation  
B. selective attention  
C. automatic process  
D. controlled process

Use the following information to answer Questions 11-15.

Question 11

Sharna visited her local doctor because she was experiencing difficulty falling asleep. Her doctor recommended that she keep a sleep diary over the following month and report back to the doctor at the end of the month. This is an example of a(n)

A. observational study  
B. single-blind study  
C. self-report  
D. survey

Question 12

The type of data gathered in a sleep diary is

A. qualitative  
B. quantitative  
C. qualitative and quantitative  
D. neither qualitative nor quantitative
Question 13

One of the disadvantages of this type of measure is that

A. if it is not used in conjunction with other physiological measures, then the assessment and diagnosis of sleep disorders and problems is difficult.
B. it is highly objective.
C. the data is quantitative, thus making it difficult to interpret.
D. it is highly unreliable to expect participants to know when they will fall asleep.

Question 14

After a month of keeping a sleep diary, Sharna returns to visit her doctor and he decides to monitor her sleep in a sleep laboratory. The doctor will most likely monitor Sharna’s sleep using the following apparatus

A. EEG, EMG, ESP
B. EEG, EMG, EOG
C. EEG, EOG, ESP
D. EEG, GSR, ESP

Question 15

When the doctor is monitoring Sharna’s sleep, which of the following will indicate that Sharna is truly asleep?

A. K-complex
B. Stage 4 sleep
C. Hypnic jerk
D. Sleep spindle

Question 16

Ramon is seventeen years old and regularly goes to bed very late at night. As a result, he finds it difficult to wake up each morning. His parents have banned him from using all technology after 8.30 at night, so he reads in bed at night. Despite this “wind-down” time, he still finds it difficult to fall asleep at night. This is most likely caused by

A. anxiety
B. delayed release of melatonin
C. an excess of melatonin caused by hormones
D. circadian rhythms
Question 17
Ramon’s grandfather also complains of sleep problems. He feels tired most mornings because he has continuously woken up over night. His disturbed sleep is most likely because he

A. is too physically inactive during the day so is not tired enough to sleep through the night.
B. is experiencing a delayed release of melatonin.
C. rarely progresses through to the deep stages of sleep.
D. needs to go to the toilet frequently.

Question 18
Support for the restorative theory of sleep is provided by evidence that has found that

A. during sleep the muscles become relaxed and body functions slow down.
B. animals who don’t have many natural predators sleep during the day.
C. humans sleep at night because they do not need to find food at that time.
D. our hair grows faster when we are asleep.

Question 19
During certain Altered States of Consciousness (ASC), body temperature can fluctuate. Which of the following statements accurately describes some of the changes that can occur during an ASC?

A. Taking illicit drugs, such as ecstasy, can increase your core body temperature.
B. Taking illicit drugs, such as ecstasy, can decrease your core body temperature.
C. During REM sleep, your core body temperature can increase.
D. During NREM sleep, your core body temperature can increase.

Question 20
The system that is responsible for providing feedback to the brain from internal organs and glands is the

A. Autonomic Nervous System
B. Automatic Nervous System
C. Sympathetic Nervous System
D. Peripheral Nervous System
Question 21

Shaq was in a car accident and suffered severe damage to his body as well as a traumatic brain injury. He spent the following four months in rehabilitation. His physiotherapist would come each day to work on certain activities with him to increase his mobility. However, despite these daily visits, Shaq was never able to remember the name of his physiotherapist. The type of amnesia that Shaq is most likely experiencing is

A. retrograde amnesia
B. neurodegenerative amnesia
C. anterograde amnesia
D. dementia

Use the following information to answer Questions 22-23.

Question 22

Phineas Gage suffered a massive head injury when he was 25 years old. His frontal lobes were seriously damaged in an accident that involved an iron rod passing through his brain.

Which of the following traits is Phineas Gage most likely to exhibit after the accident?

A. Gentle
B. Affectionate
C. Impatient
D. Unaware of surroundings

Question 23

Phineas Gage’s doctor wrote a detailed account of the symptoms that he experienced. His is now a very well documented case study. Which of the following statements describes an advantage of using a case study to gather information?

A. The data is easily generalisable.
B. Extraneous variables can be controlled.
C. They can be replicated to test the reliability of results.
D. They allow the collection of detailed information on rare and unusual disorders.

Question 24

Incoming sensory visual information is selected, organised and integrated in which lobe?

A. Frontal lobe
B. Parietal lobe
C. Temporal lobe
D. Occipital lobe
Use the following information to answer Questions 25-26.

Jack suffered a stroke. The main area that experienced damage was his temporal lobe.

**Question 25**

Jack is no longer able to

A. recognise someone he knows.
B. describe someone’s facial features.
C. estimate someone’s age.
D. identify someone’s gender.

**Question 26**

After the stroke, Jack couldn’t recall how he felt during his recent marriage ceremony. The part of Jack’s temporal lobe that is most likely leading to this experience is the

A. neuron
B. hippocampus
C. amygdala
D. memory cortex

**Question 27**

Which of the following statements does not describe a fixed action pattern?

A. The behaviour of a fixed action pattern is simple.
B. The behaviour of a fixed action rarely changes.
C. A fixed action pattern does not involve learning.
D. All species members will perform that same behaviour.

**Question 28**

The Parasympathetic Nervous System is responsible for

A. goosebumps
B. blushing
C. calming
D. sweating
Question 29

Sherry was studying for a Psychology test with her friend, Max. Max decided to create a concept map for the topic they were studying. Sherry decides to read the chapter summary and repeat each sentence to herself before moving on to the next sentence.

Respectively, the type of rehearsal that each student is using is

A. maintenance; elaborative
B. elaborative; maintenance
C. long-term rehearsal; short-term rehearsal
D. short-term rehearsal; long-term rehearsal.

Use the following information to answer Questions 30-34.

In a Psychology class, Marcus’s teacher split the class into two groups. Both groups listened to the same word list read out by the teacher. Group One was asked to write out the words immediately after hearing the word list, while Group Two watched a small film clip before being asked to recall the word list.

Question 30

Which of the following components of Baddeley and Hitch’s model of working memory would have been used when recalling the words on the word list?

A. Phonological loop, visuo-spatial sketchpad, episodic buffer.
B. Phonological loop, episodic buffer, central executive.
C. Phonological loop, visuo-spatial sketchpad, central executive.
D. Visuo-spatial sketchpad, central executive, episodic buffer.

Question 31

Group Two, who were required to watch the small film clip before recalling the words, could have used which of the following strategies to help them recall the words?

A. Chunking
B. Narrative chaining
C. Acronyms
D. Acrostics

Question 32

The participants using strategies to help them remember information is an example of a(n)

A. independent variable
B. dependent variable
C. interfering variable
D. extraneous variable.

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Question 33

When conducting a test of significance for the results, the teacher found the level of significance to be \( p<0.04 \). This means that

A. there was less than a 0.4\% chance that the difference in mean scores obtained was most likely due to chance.
B. there was less than a 4\% chance that the difference in mean scores obtained was most likely due to chance.
C. there was less than a 40\% chance that the difference in mean scores obtained was most likely due to chance.
D. there was less than a 4 in 1000 chance that the difference in mean scores obtained was most likely due to chance.

Question 34

When analysing individual results for Group One participants the teacher noticed the presence of the Serial Position Effect. Which of the following statements is true for the serial position effect?

A. The recency effect occurs when words at the beginning of the list have a high recall rate.
B. The recency effect occurs when words in the middle of the list have a low recall rate.
C. The primacy effect occurs when the words at the end of the list have a low recall rate.
D. The primacy effect occurs when the words at the beginning of the list have a high recall rate.

Use the following information to answer Questions 35-36.

Margie loved going to her local club to participate in Trivia Nights. She was considered to be one of the best in her team. However, after her stroke, she found that she was no longer good at trivia.

Question 35

This type of information is stored in

A. procedural memory
B. declarative memory
C. episodic memory
D. semantic memory
Question 36

Margie finds it strange that she has become terrible at trivia but is still able to vividly recall all of the birthdays of her children and grandchildren.

This type of information is stored in

A. procedural memory  
B. declarative memory  
C. episodic memory  
D. semantic memory

Question 37

Which of the following is true? The brains of people with Alzheimer’s disease show

A. high levels of the neurotransmitter Acetylcholine.  
B. an accumulation of the protein Tau.  
C. decreased neurofibrillary tangles.  
D. very few amyloid plaques.

Use the following information to answer Questions 38-40.

Esme is an 83-year-old woman who is healthy, active and regularly completes crosswords and Sudoku puzzles in the daily newspaper.

Question 38

Which of the following statements about Esme’s STM is most likely to be true when comparing her to her 23-year-old Granddaughter, Lin?

A. Esme’s STM will continue to function as effectively as her 23 year old granddaughter.  
B. Esme’s STM will not function as effectively as her 23 year old granddaughter if the task involves automatic process.  
C. Esme’s STM will have a reduced capacity compared to her 23 year old granddaughter.  
D. Esme’s STM will not function as effectively as her 23 year old granddaughter if the task involves controlled process.

Question 39

Lin invited Esme around to her new apartment for lunch one afternoon. Lin also invited her new boyfriend, who Esme had met once before at a cafe with Lin. Esme was unable to remember Lin’s boyfriends name, despite meeting him once before. The most likely explanation for this is

A. retrieval failure  
B. retroactive interference  
C. proactive interference  
D. motivated forgetting
Question 40

When Esme arrives at Lin’s house, Lin presents her with a big bunch of flowers and seems very upset throughout the lunch. Esma cannot figure out why, so eventually asks Lin if she is ok. Lin reminds Esme that it is the anniversary of the death of her grandfather, Esme’s husband. Esme had completely forgotten this. The most probable explanation for Esme forgetting is

A. decay theory
B. suppression
C. repression
D. Dementia.

Question 41

Research has shown that __________ memories decline with age, however, others, such as __________ stay perfectly in tact.

A. semantic; procedural
B. procedural; semantic
C. episodic; procedural
D. procedural; semantic.

Question 42

Echoic memory has a slightly longer retention period than iconic memory. This is most likely because

A. it has to allow for enough time to perceive speech after blending sounds together to make words and sentences.
B. it has to allow for enough time to perceive vision after blending images together to make a whole picture.
C. the ears have a larger representation in the somatosensory cortex than the eyes.
D. the eyes have a larger representation in the somatosensory cortex than the ears.

Use the following information to answer Questions 43-44.

Max went out with his friends to an eighteenth birthday party. His friend who drove him home was drunk and they were in a serious car accident. Both were injured but survived. Max is now too scared to get in a car and insists on walking or catching public transport everywhere.

Question 43

Identify the conditioned stimulus and the conditioned response in the above scenario.

A. Fear; accident
B. Accident; fear
C. Car; fear
D. Fear; car.
**Question 44**

Max’s mother encouraged him to visit a Psychologist for help with his fear of cars. The Psychologist decided that the most appropriate therapy would be flooding. During this therapy, Max would

- A. have his fear response inhibited.
- B. have his fear response extinguished by remaining in direct contact with a car until he was no longer afraid.
- C. create a list of all of the scenarios involving cars that make him fearful.
- D. spend several days being exposed to different scenarios that involve cars to weaken his fear response.

**Question 45**

Finn worked late on Friday night but woke up early on Saturday morning to drive to a festival for the weekend. He slept four hours less on Friday night than he usually did. While driving to the festival it is most likely that

- A. he is perfectly safe to drive.
- B. his reaction times will be slower, potentially causing him to brake too late at traffic lights.
- C. he will experience microsleeps due to exhaustion.
- D. his reaction times will be faster, because he is aware that he needs to overcompensate for his lack of sleep.

**Question 46**

Bodhi has just moved away from his parents and into an apartment with his friends. On his first weekend in the apartment he goes to a party and meets a girl. He invites her over and makes her dinner one night later in the week. His favourite food is Pulled Pork which his father used to make in the slow-cooker. Despite Bodhi often being home and in the kitchen when his father was cooking this dish, he could not reproduce the dish at his new apartment. The most likely reason is

- A. he did not pay sufficient attention to his father when he was making the dish so is unable to reproduce the dish.
- B. he does not own a slow-cooker so can’t reproduce the dish.
- C. he is lacking in motivation so does not want to reproduce the dish.
- D. he never saw his father being rewarded for making the dish so was unable to reproduce the dish.
Use the following information to answer Questions 47-49.

Paris suffered a stroke and has been diagnosed with spatial neglect.

**Question 47**

Which of the following behaviours is Paris not likely to exhibit?

A. Ignoring the food on the left side of the plate.
B. Only putting on her right shoe when getting dressed.
C. Only putting on her left shoe when getting dressed.
D. Not eating dinner.

**Question 48**

Paris has most likely received damage to which part of her brain?

A. Right hemisphere parietal lobe
B. Left hemisphere parietal lobe
C. Right hemisphere occipital lobe
D. Left hemisphere occipital lobe.

**Question 49**

It is believed that spatial neglect is caused by

A. attention failure
B. failed memory processes
C. impaired vision
D. impaired hearing.

**Question 50**

John Watson, in his classic study on conditioning a fear response in ‘little Albert’, failed to make Albert’s mother fully aware of the experimental aims. This is an ethical breach of

A. debriefing
B. right to withdraw
C. informed consent
D. no lasting harm.
Use the following information to answer Question 51-54.

Kim, Lonnie and Vivian are good friends who play together in a Soccer team on Saturday mornings. Their mothers take them each week and while the girls are playing their mothers have a coffee and a chat. They usually complain about having to tidy up after the girls. They decide that they will each use a different strategy to encourage their girls to keep their rooms tidy and report back on which is the most effective after 4 weeks.

**Question 51**

Kim’s mother decides to use a fixed-ratio schedule of reinforcement where she

A. gives Kim extra pocket money if her room is tidy when she checks it each week on Sunday.
B. checks the room daily but won’t always give Kim extra pocket money, even if she finds the room tidy.
C. checks the room daily and rewards Kim at irregular intervals, as long as the room is tidy.
D. checks the room daily and always gives Kim pocket money as long as the room is tidy.

**Question 52**

Kim’s mother notices a continuing trend with the schedule of reinforcement she has chosen to use.

A. Kim’s room is always clean.
B. Kim’s room is never clean.
C. Kim’s room is cleaned on Saturday night and is dirty again by Tuesday morning.
D. Kim’s room is cleaned on Sunday night and is dirty again by Tuesday morning.

**Question 53**

Which schedule of reinforcement would be more effective in encouraging Kim to keep her room tidy throughout the week?

A. Continuous reinforcement
B. Variable-ratio
C. Fixed-interval
D. Variable- interval.
Question 54

Lonnie’s mother decided to create a ‘star chart’ for Lonnie and complete random checks on her room throughout the week. Every time the room was tidy, Lonnie would receive a star on her ‘star chart’. Once she received ten stars, she could choose a reward such as a trip to the movies.

This is an example of

A. a variable-interval schedule of reinforcement
B. shaping
C. trial and error learning
D. a token economy.

Use the following information to answer Questions 55-60.

Monica is walking home from school. She is thinking about the recent separation of her parents that has meant that it is just her and her younger sister living with her mother. Her mother works a lot so Monica is expected to care for her younger sister. Suddenly a car screeches on its brakes because Monica has walked onto the road without realising it. Feeling shocked, she notices her heart is beating very fast and she is breathing heavily as she walks back to the footpath. She stands there for a few minutes waiting to calm down again.

Question 55

Respectively, which of the following systems have been activated in this example?

A. Somatic nervous system; peripheral nervous system.
B. Peripheral nervous system; central nervous system.
C. Central nervous system; sympathetic nervous system.
D. Sympathetic nervous system; parasympathetic nervous system.

Question 56

The recent separation of Monica’s parents has left her experiencing distress. Which of the following bodily systems is likely being activated in Monica in response to her distress?

A. Parasympathetic nervous system
B. Sympathetic nervous system
C. HPA axis
D. Fight-flight response.
Question 57
Which of the following factors is most likely to be influencing Monica’s stress response?

A. Social  
B. Cultural  
C. Environmental  
D. Physiological.

Question 58
Monica’s teachers suggest that she see the student counsellor to help her cope with her parents’ separation. The counsellor gives her the opportunity to discuss how she is feeling. According to the Lazarus and Folkman Transactional Model this is an example of

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

Question 59
One of the major criticisms of the Lazarus and Folkman Transactional Model is that it overlooks

A. psychological determinants of stress  
B. cognitive determinants of stress  
C. emotional responses to stress  
D. physiological responses to stress.

Question 60
Monica’s counsellor also suggests that she attends yoga classes so she can practice meditation and relaxation techniques which will allow her to

A. improve her physical condition.  
B. block out the stressors in her life.  
C. facilitate her ability to feel calm.  
D. fall asleep.

Question 61
An individual with a mental health problem will

A. think through problems taking a logical approach.  
B. often have difficulty concentrating.  
C. exhibit symptoms of major depression.  
D. form positive relationships with others.
Question 62

Which of the following statements accurately describes the difference between allostasis and homeostasis?

A. Homeostasis can cause permanent damage to the body, whereas allostasis is relatively harmless.
B. Both homeostasis and allostasis aim to keep the body stable, but allostasis does so by changing the body.
C. Both homeostasis and allostasis aim to keep the body stable, but homeostasis does so by changing the body.
D. Homeostasis incorporates more bodily systems than allostasis does.

Use the following information to answer Questions 63-65.

Researchers want to compare the effectiveness of different strategies used for coping with stress. Their participants, 54 patients that they have seen at their counselling service throughout the year, are divided into three groups and are exposed to each of the three conditions. Group one are taught biofeedback first, then meditation and relaxation and lastly physical exercise. Group two are taught meditation and relaxation first, then physical exercise and lastly biofeedback. Group three use physical exercise first, biofeedback second and meditation and relaxation last. Throughout the following three months, participants keep a log of each time they used one of the strategies to help them cope with stress. The results can be seen in the following table:

Table 1: Mean number of times technique was used during a three month period

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<th>Mean number of times used</th>
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<tr>
<td>Meditation and relaxation</td>
<td>28.3</td>
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<tr>
<td>Physical exercise</td>
<td>31.4</td>
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Question 63

The mean results presented in the table above are an example of

A. inferential statistics
B. descriptive statistics
C. nominal statistics
D. qualitative statistics

Question 64

Based on the above results, the researcher could

A. conclude that physical exercise is significantly better at managing stress than biofeedback.
B. generalise these results to the wider population.
C. not draw a conclusion.
D. conclude that meditation and relaxation is significantly better at managing stress than biofeedback.
Question 65

Identify the experimental design used in this study.

A. Independent-groups design  
B. Matched-participants design  
C. Repeated-measures design  
D. Self-report.
SECTION B – Short answer questions

Instructions for Section B

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

Question 1 (6 marks)

Pamela’s three year old daughter, Beth, has just started attending kindergarten. Beth has never been separated from her mother for such long periods of time. Each morning, Pamela straps Beth into the pram and she walks her to kindergarten. On the first two days Beth becomes very upset when her mother leaves. However, on the third and subsequent days, Beth becomes very distressed as soon as her mother begins strapping her into the pram, even before they have left the house.

a. What type of learning is this an example of? 1 mark

b. Explain the process of acquisition with reference to this specific example. In your response include how long the acquisition process took. 3 marks
c. Over the weekend, Pamela straps Beth into the bike seat to ride her to swimming lessons. Usually Beth loves riding in the bike seat, however, on this occasion she starts crying uncontrollably when her mother straps her into the seat. Identify and explain the process that is occurring.

2 marks

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Question 2 (6 marks)

Shirley’s three year old son, Kien, has begun smacking other children on the head. Every time he does this, Shirley says to him “No hitting. Be gentle” and sits him in the corner facing away from everyone. However, Kien simply stands up, giggles and continues smacking other children on the head. This learning is an example of operant conditioning.

a. Describe the learning process in this scenario with reference to the three phase model of operant conditioning.

3 marks

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b. Is Shirley reinforcing or punishing Kien’s behaviour? Explain your answer.

1 mark

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c. Explain why Kien is continuing to display the undesirable behaviour despite the consequence that Shirley is imposing.  
1 mark
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d. Suggest a strategy to Shirley that encourages Kien to stop smacking other children.  
1 mark
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Question 3 (6 marks)

Draganski and colleagues (2004) investigated the brain processes involved when adults learnt a new skill. Twenty-four participants were divided into two groups; ‘jugglers’ and ‘non-jugglers’. At the beginning of the experiment, none of the participants could juggle and their brains were studied to ensure there were not major differences between the groups. The participants in the ‘jugglers’ group were taught to juggle and continued to practice this skill over a three month period. The ‘non-jugglers’ group did not learn any new skill. After the three month period, brain scans were done on all participants. It was found that those participants in the ‘jugglers’ group had changes to key areas of their brains as a result of the learning.

a. Identify the control and experimental group and explain the importance of having the two groups in this research.  
2 marks
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b. This learning is a type of adaptive plasticity. Describe this process. 1 mark

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c. Describe what would occur at the synapses when the ‘jugglers’ group was learning their new skill. 3 marks

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Question 4 (4 marks)

Jacky is completing Year 12. She is studying English, English Literature, Sociology, Psychology and Further Mathematics. She has an English test on Friday afternoon which she has been studying for all week. Immediately before the English test she has to attend an English Literature class. When she begins her English test she finds it difficult to remember the content necessary for the test.

a. Identify and explain the type of interference in this scenario. 2 marks

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b. Context and state-dependent cues could have been manipulated by Jacky’s teacher as a strategy to aid students recall when sitting the test. Give an example of each with reference to Jacky sitting the test. 2 marks

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Question 5 (3 marks)

Micky suffered severe depression and his doctors decided to treat him with electroconvulsive therapy. With reference to consolidation theory, explain why Micky is no longer able to remember anything that occurred in the short amount of time leading up to his treatment. 3 marks

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Question 6 (3 marks)

Mr Mac is writing a test for his Year 10 Psychology students. He creates the test using two different question types that are designed to measure retention of information throughout the course.

a. Identify the two measures of retention and provide an example of the type of question Mr Mac could create for that measure of retention. 2 marks

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b. Relearning, a third measure of retention, is considered to be the most sensitive. Explain why this occurs. 1 mark

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Question 7 (5 marks)

a. Describe the process of neural communication, identifying the key parts of a neuron that are involved. 
   3 marks

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b. Neurons change structurally when new memories are being formed. Explain how these structural
   changes occur. 
   2 marks

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Question 8 (4 marks)

a. Name the location of both Wernicke’s and Broca’s area. 
   2 marks

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b. Describe one difference between damage to Broca’s area when compared to Wernicke’s area. Highlight the difference using an example.  

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Question 9 (2 marks)

Julio suffered a stroke which affected the left hemisphere of his brain. Identify the two main functions of the left hemisphere giving examples to highlight them.  

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Question 10 (2 marks)

The research conducted by Sperry and Gazzaniga in the sixties involved cutting the corpus callosum to relieve patients of severe epileptic seizures. Describe two broad conclusions that were drawn from this research.  

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Question 11 (6 marks)

Tony has been feeling tense, irritable and angry for the past few months. He finds it difficult to fall asleep at night and has stopped socialising with most of his friends. His brother has become worried about him and suggests that he sees a doctor or a psychologist. Tony visits a psychologist who gives him an inventory and adopts a dimensional approach to diagnosing him.

a. Explain how a dimensional approach differs from a categorical approach. 2 marks

b. Describe one advantage and one disadvantage of adopting the dimensional approach rather than the categorical approach. 2 marks

c. Tony wants a second opinion after visiting the first psychologist so he visits a different one who adopts a categorical approach to his diagnosis and uses the DSM to diagnose Tony. Identify one major difference between the DSM and the ICD. 2 marks
Question 12 (5 marks)

Brothers, David and Alex, decide to have a competition about who can stay awake the longest. They start on Friday morning at 8am and continue throughout the weekend and on into the following week.

a. Name two physiological effects that they could have experienced after several days of total sleep deprivation. 2 marks

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b. David and Alex are so exhausted by day seven that they decide to declare it a draw. Describe their sleep patterns over the following week 3 marks

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Question 13 (4 marks)

Atkinson and Shiffrin proposed the multi-store model of memory in the 1960’s. Describe the processes involved in remembering information, with reference to the three separate components of memory.

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Question 14 (4 marks)

Muna runs a successful accounting business which has become very busy during the tax season. She feels very stressed and anxious and makes an appointment with a psychologist to seek help. The psychologist suggests that she receive biofeedback training to help her manage her stress.

a. Describe the biofeedback process. 3 marks

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b. Identify one disadvantage of using biofeedback.  

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1 mark
Craik and Lockhart (1972) wanted to investigate how deep and shallow processing affects memory recall. Their participants were presented with a series of 60 words about which they had to answer one of three questions. Some questions required the participants to process the word in a deep way (e.g. semantic) and others in a shallow way (e.g. structural and phonemic). For example:

Structural / visual processing: ‘Is the word in capital letters or small letters?’
Phonemic / auditory processing: ‘Does the word rhyme with . . .?’
Semantic processing: ‘Does the word go in this sentence . . . . ?

Participants were then given a long list of 180 words into which the original words had been mixed. They were asked to pick out the original words.

Participants recalled more words that were semantically processed compared to phonemically and visually processed words. The test of significance is calculated and $p<0.03$.

The researchers adhered to ethical guidelines and ensured that they had sought informed consent from participants prior to beginning the research.

**Question 1 (2 marks)**

**a.** Identify the independent variable.

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**b.** Identify the dependent variable.

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Question 2 (1 mark)

Is the test of significance an example of descriptive statistics or inferential statistics?

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Question 3 (1 mark)

What does $p<0.03$ mean?

________________________________________________________________________________

Question 4 (1 mark)

Explain why the researchers should seek informed consent from their participants.

________________________________________________________________________________

Question 5 (10 marks)

Complete the method section including:

- an appropriate method for selecting participants: justify your chosen method;
- how participants were allocated to groups: justify your chosen method;
- an appropriate experimental design: justify your chosen design.

Write a section of the discussion to include:

- conclusions; and
- generalisations.

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## Answer Sheet for All Multiple Choice Questions

*Use pencil only to shade the box with the correct answer*

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Solution Pathway

Each answer indicates the Unit, Key Knowledge dot point and (where appropriate) sub-dot point in the Study Design to which the question relates.

SECTION A: Multiple-choice questions

| QUESTION 1-B | U3 AOS 1 DP 5 (2) | QUESTION 19 – A | U3 AOS 1 DP 3 (1) |
| QUESTION 2-D | U3 AOS 2 DP 5 (5) | QUESTION 20-A | U3 AOS 1 DP 5 (1) |
| QUESTION 3-A | U3 AOS 2 DP 3 (1) | QUESTION 21-C | U3 AOS 2 DP 1 (5) |
| QUESTION 4-B | U3 AOS 2 DP 4 (1) | QUESTION 22-C | U3 AOS 1 DP 5 (2) |
| QUESTION 5-D | U3 AOS 1 DP 1 (2) | QUESTION 23-D | U3 AOS 1 DP 7 |
| QUESTION 6-C | U4 AOS 1 DP 1 | QUESTION 24-D | U3 AOS 1 DP 5 (2) |
| QUESTION 7-B | U3 AOS 1 DP 2 (4) | QUESTION 25-A | U3 AOS 1 DP 5 (2) |
| QUESTION 8-A | U4 AOS 2 DP 2 | QUESTION 26-C | U3 AOS 1 DP 5 (2) |
| QUESTION 9-D | U3 AOS 1 DP 2 | QUESTION 27-A | U4 AOS 1 DP 1 |
| QUESTION 10-C | U3 AOS 1 DP 1 | QUESTION 28-C | U4 AOS 1 DP 5 (1) |
| QUESTION 11-C | U3 AOS 1 DP 3 (2) | QUESTION 29-B | U3 AOS 2 DP 2 (1) |
| QUESTION 12-C | U3 AOS 1 DP 5 (1) | QUESTION 30-B | U3 AOS 2 DP 2 (2) |
| QUESTION 13-A | U3 AOS 1 DP 3 (2) | QUESTION 31-B | U3 AOS 2 DP 4 (3) |
| QUESTION 14-B | U3 AOS 1 DP 3 (1) | QUESTION 32-D | U3 AOS 2 DP 5 |
| QUESTION 15-D | B | U3 AOS 2 DP 2 (1) | QUESTION 33-B | U3 AOS 2 DP 5 |
| QUESTION 16-B | U3 AOS 1 DP 2 | QUESTION 34-D | U3 AOS 2 DP 2 (1) |
| QUESTION 17-C | U3 AOS 1 DP 4 (3) | QUESTION 35-D | U3 AOS 2 DP 2 (4) |
| QUESTION 18-A | U3 AOS 1 DP 2 | QUESTION 36-C | U3 AOS 2 DP 2 (4) |
| QUESTION 37-B | U3 AOS 2 DP 1 (5) | QUESTION 54-D | U4 AOS 1 DP 3 (7) |
| QUESTION 38-D | U3 AOS 2 DP 1 (4) | QUESTION 55-D | U4 AOS 2 DP 4 (1) |
| QUESTION 39-A | U3 AOS 2 DP 3 (2) | QUESTION 56-C | U4 AOS 2 DP 4 (1) |
| QUESTION 40-C | U3 AOS 2 DP 3 (4) | QUESTION 57-A | U4 AOS 2 DP 4 (3) |
| QUESTION 41-C | U3 AOS 2 DP 1 (4) | QUESTION 58-A | U4 AOS 2 DP 4 (2) |
| QUESTION 42-A | U3 AOS 2 DP 2 (1) | QUESTION 59-D | U4 AOS 2 DP 4 (2) |
| QUESTION 43-C | U4 AOS 1 DP 3 (1) | QUESTION 60-C | U4 AOS 2 DP 4 (5) |
| QUESTION 44-B | U4 AOS 1 DP 3 (2) | QUESTION 61-B | U4 AOS 2 DP 1 |
| QUESTION 45-B | U3 AOS 1 DP 4 (1) | QUESTION 62-B | U4 AOS 1 DP 4 (4) |
| QUESTION 46-A | U4 AOS 1 DP 3 (8) | QUESTION 63-B | U4 AOS 2 DP 9 |
| QUESTION 47-C | U3 AOS 1 DP 6 (2) | QUESTION 64-C | U4 AOS 2 DP 9 |
| QUESTION 48-A | U3 AOS 1 DP 6 (2) | QUESTION 65-C | U4 AOS 2 DP 9 |
| QUESTION 49-A | U3 AOS 1 DP 6 (2) | | |
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| QUESTION 51-A | U4 AOS 1 DP 3 (3) | | |
| QUESTION 52-C | U4 AOS 1 DP 3 (3) | | |
| QUESTION 53-B | U4 AOS 1 DP 3 (3) | | |
SECTION B: Short Answer questions

Question 1  (6 marks)

a. U4 AOS1 DP3(1)
   Classical conditioning (1 mark)

b. U4 AOS1 DP3(6)
   Acquisition is the process of Beth learning to associate two events (1 mark) – the CS
   (kindergarten) and UCS (pram ride to kinder) (1 mark). The acquisition process took three trials
   for the CR (crying) to be acquired (1 mark).

c. U4 AOS1 DP3(6)
   Stimulus generalisation (1 mark); the stimulus (bike seat) is similar to the pram (CS) and now
   produces the CR (crying) (1 mark).

Question 2  (6 marks)

U4 AOS1 DP3(4)

a. Discriminative stimulus/antecedent – interacting with other children (1 mark).
   Response/behaviour – hitting children on the head (1 mark).
   Consequence – telling off and time out (1 mark).

b. Punishment; delivering an unpleasant consequence following Kien’s response (1 mark).

c. Punishment is not appropriate; Kien is still receiving attention when he smacks others so this is
   actually reinforcing the behaviour (1 mark).

d. Shirley could praise Kien whenever he is interacting well with other children; positive reinforcement
   in promoting desired behaviours (1 mark).

Question 3  (6 marks)

a. U4 AOS1 DP5
   Control – non-jugglers, experimental – jugglers (1 mark). Control group is important as it
   provides a point of comparison (1 mark).

b. U4 AOS1 DP2(1)
   In response to learning/experiences, the brain’s neural structure changes (1 mark).

c. U4 AOS1 DP2(1)
   Every time the participants practice juggling, neurotransmitters are repeatedly transmitted
   (across the synaptic gap (1 mark) which strengthens the connections between the neurons (1
   mark), leading to long-term potentiation (1 mark).
Question 4  (4 marks)

a. U3 AOS2 DP3(3)

*Retroactive* (1 mark); *when new information interferes with old information* (1 mark).

b. U3 AOS2 DP4(2)

*Context* – dependent cues; *sitting the test in the room that the material was learnt* (1 mark).

*State-dependent cues* – *information was learnt in a calm, relaxed environment which is how students are encouraged to attend the test.* (1 mark).

Question 5  (3 marks)

U3 AOS 2 DP 1 (3)

According to consolidation theory structural/physical changes occur to neurons during and immediately after learning (1 mark). *Time* (about 30 minutes) is required for these changes to take place (1 mark), however, when Micky had his ECT, this acted as a disruption to the consolidation process so the information was not encoded to LTM (1 mark).

Question 6  (3 marks)

U3 AOS2 DP4(1)

a. *Recall* – short answer questions with no cues prompting answer (1 mark).

*Recognition* – *multiple choice/true or false – prompts are given* (1 mark).

b. *Information has not been forgotten; there is a weak association that grows rapidly* (1 mark).

Question 7  (5 marks)

U3 AOS2  DP 1(1)

a. *Dendrites receive messages from other neurons and transmit them to the soma* (1 mark). *The soma integrates neural information from dendrites and sends it to the axon* (1 mark). *The axon carries the message away from the soma and towards other neurons* (1 mark). Must include three main structural features (dendrites, soma, axon) for full marks.

b. *The synaptic connections are strengthened* (1 mark): *dendrite surface area increases leading to extra synapses which act as a place for storing memories* (1 mark).
Question 8  (4 marks)

U3 AOS 1 DP 6 (1)

a. Wernicke’s area – left (rear) temporal lobe (1 mark); Broca’s area – left frontal lobe (1 mark).
b. Any of the following (1 mark) with relevant example (1 mark).
   • People with Broca’s aphasia are aware of their condition, people with Wernicke’s aphasia usually are not.
   • People with Broca’s aphasia often have difficulty speaking, Wernicke’s aphasia patients have difficulty comprehending speech/making meaning.

Question 9  (2 marks)

U3 AOS1 DP5(3)

Verbal functions – Julio may not be able to recognise words anymore in written/spoken/understanding speech (1 mark).

Analytical functions – Julio used to be able to bake but is unable anymore to solve math problems, etc (1 mark).

Question 10  (2 marks)

U3 AOS1 DP6(2)

Each hemisphere has a specialised function (1 mark); the corpus callosum isn’t necessary for the transfer of information between hemispheres (1 mark).

Question 11  (6 marks)

U4 AOS2 DP2

a. Dimensional approach approaches illness on a continuum,(1 mark) rather than an all-or-nothing (yes or no) phenomenon like the categorical approach does (1 mark).
b. Advantage (any one of the following) – people are not pigeonholed into one category, rich and detailed description of individual’s illness, reduction in stigma associated with ‘labelling’ (1 mark).
   Disadvantage (any one of the following) – no agreement between health care professionals because of lack of standardisation as is the case with DSM & ICD (1 mark).
c. DSM used for classifying mental disorders, (1 mark) ICD is used for classifying both diseases and mental disorders (1 mark).

Question 12  (5 marks)

a. U3 AOS1 DP4
   Any of the following two; Slower heart and respiratory systems, lowered body temp, decreased immune system functioning (2 marks).

b. U3 AOS1 DP4(2)
   Similar response to the following; sleep between 8-15 hours on the first night (1 mark), a few hours less over the following two nights (1 mark), and after three days a return to normal average 8 hours per night (1 mark).

Question 13  (4 marks)

U3 AOS 2 DP 2 (1)

Information comes through sensory registers into sensory memory (1 mark), if information is attended to it will flow to STM (1 mark). If it is encoded then it will be stored in LTM (1 mark), if not, then it will be lost from LTM (1 mark).

Question 14  (4 marks)

U3 AOS 2 DP 2 (1)

a. Muna would be attached to various physical measuring devices (e.g. EEG, ECG, EMG, GSR) (1 mark) that provide feedback on physiological (or involuntary) processes linked to psychological stress (1 mark). She would then use this feedback to detect and control certain internal bodily processes such as relaxing muscles, calming thoughts etc. (1 mark).

b. Effects are not always lasting outside of the setting in which they are taught (1 mark).
SECTION C: Research Scenario

Question 1

a. Type of question asked (processing type). (1 mark)

b. Number of words recalled from the original list. (1 mark)

Question 2

Inferential (1 mark)

Question 3

There was less than a 3% chance that the difference in mean scores obtained was most likely due to chance. (1 mark)

Question 4

Informed consent; informs participants of the aims of the study and the participants rights. (1 mark)

Question 5

- Participant selection: random sampling would be most appropriate – ensuring every member of the population has an equal chance of selection.
- Allocation: random allocation, where participants have an equal chance of being in any group to allow for minimisation of individual differences.
- Experimental design could have been repeated measures – participants were exposed to each condition – overcoming the problem of individual differences between groups OR experimental design could have been independent groups – participants were exposed to only one condition - means that individual differences could be a confounding variable between the groups.
- It can be concluded that deep processing leads to a more superior rate of recall than shallower levels of processing does (p<0.03).
- The data could be generalised to the wider population if the sample was drawn from a representative sample of the population.