Neap:

Trial Examination 2016

VCE Psychology Units 3&4

Written Examination

Suggested Solutions

SECTION A – MULTIPLE-CHOICE QUESTIONS

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

Question 1 B

In terms of content limitations, the content of our minds tends to be most limited when a person is in normal waking consciousness.

Question 2 B

An elderly person would typically spend most of their nightly sleep in a light sleep (stages 1 and 2 of NREM sleep), with roughly 19% of their sleep in REM sleep and very little in slow-wave sleep (stages 3 and 4 of NREM sleep).

Question 3 D

The autonomic nervous system is responsible for autonomously regulating the activity of the visceral (non-skeletal) muscles. The other responses apply to the somatic nervous system.

Question 4 C

When under threat, an allostatic response will trigger a large increase in heart rate. Options **A** and **B** are only capable of minor variations; these are homeostatic systems and must be kept within narrow limits. The heart beat is capable of large increases in rate in order to pump blood more rapidly to the parts of the body/brain that require additional oxygen and nutrients to respond to a stressor.

Question 5 A

Claire's anxiety is a form of distress; that is, a negative psychological response to a stressor.

Question 6 B

Shaping is an application of operant conditioning.

Question 7 C

Rufus will most likely reward Cujo the first time he approximates the target behaviour and performs part of a roll (90 degrees), and will continue to reward Cujo as he edges closer to a full roll.

Question 8 A

Continuous reinforcement leads to the most rapid acquisition of behaviour, particularly with the use of shaping, as opposed to partial schedules of reinforcement (options **B**, **C** and **D**).

Question 9 D

The command is the antecedent (discriminative stimulus) which then leads to the rolling-over behaviour (the operant response).

Question 10 C

The first stage of social learning theory is attention. Xander must actively watch his father throughout his demonstration and observe key features of the process.

Question 11 A

Both groups would use free recall, endeavouring to recall the words in any order without any cues.

Question 12 C

The phonological loop is responsible for the rehearsal of verbal information, in this case, the words that have been read out in class.

Question 13 C

Memorising the fifteen words relies on semantic memory, which is the memory of facts that need to be consciously recalled when required at the end of the reading-out phase of the experiment.

Question 14 A

The effect of counting backwards by 7s from 500 (by the experimental group) for one minute is to prevent the rehearsal of the numbers and thus limit short-term memory (STM), given that STM can only hold information for approximately twenty seconds without rehearsal.

Question 15 B

The operationalised dependent variable in this case would be the percentage recall for each of the ordered words, which would assist the researchers to determine if either a primacy or recency effect is evident for the different experimental conditions.

Question 16 D

It would be expected that the control group would demonstrate both a primacy and a recency effect, but the experimental group would just demonstrate a primacy effect, with no recency effect. This is due to the restrictions of STM discussed in **Question 13**.

Question 17 B

A C+ being the most frequently occurring examination grade on the VCE Psychology exam is an example of the **mode**.

Question 18 C

The ICD-10 is a system of classification of both mental illness and physical diseases established by the World Health Organisation.

Question 19 B

Humans go through a period of synaptogenesis during infancy in response to environmental interaction. The total number of synaptic connections peaks during childhood. Then, due to synaptic pruning, many of the connections established during infancy are pruned off as a regulatory process to enable for efficient use of neural resources for future learning.

Question 20 A

Eustress is a positive psychological response to a stressor and distress is a negative psychological response to a stressor. Both increase arousal and thus heighten activity in the sympathetic nervous system.

Question 21 B

Bonnie has made a direct association between her behaviour (ignoring the warning signal of the boom gates) and the consequences of her actions (a severe injury from a speeding train), thus she has been operantly conditioned.

Question 22 A

The amygdala is responsible for fear conditioning; in this case, Clara's fear response to the dinging of the boom gates.

Question 23 D

The sympathetic nervous system is responsible for Clara's fear response to the sound of the 'dinging' of the boom gates.

Question 24 D

Clara's heart racing and tensing up to the sound of the 'dinging' gates is an example of a fight-flight response. It is an automatic response to a stressor (triggered by the sympathetic nervous system).

Question 25 C

Prior to the accident, the sound of the 'dinging' of the boom gates to Clara would be a neutral stimulus as it would not evoke a fear response.

Question 26 A

An independent-groups research design was used by BSC as the two groups were independent of each other in terms of the BYOD versus the non-BYOD group.

Question 27 A

BSC used a stratified random sample by creating a male and female strata and then randomly selecting members from each strata so that the gender proportion of the sample matched the gender proportion of the population.

Question 28 D

A potential extraneous variable in this experiment is participant-related variables, such as the potential learning disorders, type of use of BYOD or access to tutoring. A sample size of 120 is quite sufficient and the age of the students represents the population that the research is targeting. An order effect does not apply to an independent-groups research design.

Question 29 C

In order to make an experimental conclusion, an inferential statistic (p-value) needs to be determined.

Question 30 C

Typing skills, in this case, rely largely on both the left and right motor cortices to enable the fine motor skills necessary for both hands to contralaterally operate the keyboard accordingly.

Question 31 D

Courtney's parents are using negative punishment by taking her iPhone away in order to reduce her lazy work ethic in class.

Question 32 C

Courtney's parents are using operant conditioning, as opposed to classical conditioning, because Courtney's operant response follows the discriminative stimulus. Courtney is active in the learning process and her response is voluntary.

Question 33 D

Sophie's decision to increase her work ethic in this case indicates she has learned through observational learning, by observing the behaviour of her big sister (a lazy work ethic) and noting the consequences (negative punishment), and then imitating the desired behaviour (a stronger work ethic in class).

Question 34 B

During REM sleep, body temperature is more variable than during NREM sleep as it is affected by the environment; that is, room temperature.

Question 35 B

Adolescents spend about 20% of their sleep in REM sleep.

Question 36 D

Sleep spindles are characteristic of stage 2 NREM sleep, and according to sleep researchers, are an indicator that the individual is truly asleep. The experimental group will experience sleep spindles for the first time in the night later than the control group because they are taking longer to go to sleep.

Question 37 A

During sleep (an altered state of consciousness), the adolescents' perceptions and cognition would be distorted in comparison to a wakeful state.

Question 38 B

A stressed state could result in excessive cortisol levels lingering in the bloodstream.

Question 39 B

In this case, it appears that Carl had suppressed (a form of motivated forgetting) the details of the former incident due to the unpleasant nature of the experience.

Question 40 A

The latest road-rage incident had triggered the retrieval of the earlier memory of the separate road-rage incident due to state-dependent cues. The psychological/emotional state that Carl was in during the recent road-rage incident matched the psychological/emotional state that he was in during the original road-rage incident, thus cueing the recall of aspects of the original incident.

Question 41 D

Elliot's evaluation of his external coping options is part of the secondary appraisal process.

Question 42 A

Elliot turning to alcohol is an emotion-based coping strategy as he is not dealing with the source of his problems, which are seemingly beyond his control.

Question 43 C

Elliot's dependence on alcohol is atypical based on his years of sobriety. His grief is understandable given his circumstances.

Question 44 D

Alzheimer's disease starts in the hippocampus, located in the medial temporal lobe.

Question 45 C

Elliot's procedural memory would be least affected by the early stages of Alzheimer's disease. Both his STM and working memory will be initially affected by his condition. Elliot's ability to store new episodic memories will then also be impaired due to the damaged connections in his hippocampus – the area of the brain responsible for the formation of declarative memory (including episodic memories).

Question 46 A

The right hemisphere is the dominant hemisphere for facial recognition. The left hemisphere is dominant for both language and logical thought, and neither hemisphere is dominant for behavioural actions.

Question 47 B

When a simple object is flashed via a tachistoscope to the left visual field, it is processed in the right (non-verbal) hemisphere. For a split-brain patient, they are able to recognise the object, but due to the severed corpus callosum, the information cannot be transferred to the left (verbal) hemisphere, thus the patient is not able to name the object.

Question 48 B

According to Sperry and Gazzaniga, the corpus callosum enables visual and verbal information to be integrated between the hemispheres.

Question 49 A

Jayde's production of her first words is an indication of learned behaviour. The other three options are all examples of behaviour that is not learned.

Question 50 A

The formation of the language pathways of Jayde's brain is an indication of developmental plasticity during the sensitive periods of learning.

Question 51 D

Jayde's Wernicke's area is largely responsible for formulating a sentence in her mind and her Broca's area is responsible for the production of this sentence.

Question 52 C

Jayde's Broca's area is closest to the motor cortex in the frontal lobe as it is responsible for the mechanics of her speech; that is, the activation of the muscles in her mouth, required to produce speech.

Question 53 C

Touching the right side of Don's body and asking if he felt anything would indicate damage to the left somatosensory cortex in his left parietal lobe. Options **A** and **B** both relate to the right parietal lobe and option **D** relates to the motor cortex in the frontal lobe.

Question 54 A

Asking Don to draw a clock face will help determine if he is suffering from spatial neglect, which would be indicated by Don ignoring stimuli (the numbers on the left side of the clock). Spatial neglect is characterised by damage to the association areas in the right parietal lobe.

Question 55 B

Given that Don is an adult, occupational therapy will aid the adaptive plasticity of his brain, enabling neurons to reroute pathways to other active neurons and regain the lost functionality caused by damage.

Question 56 B

The use of the word RICE makes it easier for coaches to remember the four instructions for treating injured players because the coaches have an acronym which is a type of mnemonic – a technique used to enhance memory.

Question 57 C

New coaches memorising RICE and what it stands for are using a semantic form of encoding, by linking new information about the four instructions for treating injured players to existing information in long-term memory (LTM); that is, the word 'rice'.

Question 58 D

The hippocampus, which is located in the medial temporal lobe, is responsible for the encoding of declarative memories; in this case, what RICE stands for.

Question 59 A

Xavian's prompt completion of her Health homework is an example of stimulus discrimination, as Xavian is only completing her homework promptly for her Health teacher. Her behaviour has been operantly conditioned, as it is determined by the consequences of her behaviour in avoiding a detention for late homework completion.

Question 60 B

Completing the homework is the behaviour which occurs in response to the antecedent – homework set by her teacher.

Question 61 A

The consolidation theory explains why Sammy has difficulty remembering conversations since his injury. Damage to his hippocampus means that Sammy is unable to form new declarative memories, such as details of conversations.

Question 62 D

Damage to the hippocampus causes anterograde amnesia. This impairs Sammy's ability to form new declarative/explicit memories, which include both semantic and episodic memories. Sammy could be conditioned to form new procedural memories, as other brain structures are involved in their formation.

Question 63 D

After the hypothalamus processes the threat, the pituitary gland conveys messages to the adrenal gland (located on top of the kidneys) to release cortisol into the bloodstream to help Trish deal with the stress of caring for her partner.

Question 64 A

The initial release of cortisol is an indication of an allostatic response. Ongoing stress can eventually lead to allostatic load/overload.

Question 65 B

Aerobic exercise is an effective means of rapidly flushing out excessive stress hormones such as cortisol, which has been released as a result of Trish's stress.

SECTION B – SHORT-ANSWER QUESTIONS

Question 1 (5 marks)

a.
- Gwyneth's digestion would be **suppressed** (as the resources usually responsible for digestion would be diverted to other parts of the body that would maximise her responsiveness to the threat).
- Gwyneth's heart rate would **increase** (so the blood, oxygen and nutrients could be more rapidly dispersed to her muscles or brain, and thus make her more responsive to the threat).

2 marks

b. Firstly, Gwyneth could think of approximations of her **conditioned stimulus (cars)** and then rank these to form a **fear hierarchy**; for example, being near a stationary car, to sitting in a stationary car, to travelling in a moving car.

Then Gwyneth would be exposed to the bottom of the hierarchy until her **conditioned response (fear)** was reduced to an adaptive level.

Gwyneth would systematically progress up successive levels of her fear hierarchy until her conditioned response (fear of cars) was **extinguished**.

3 marks

1 mark for explanation of fear hierarchy.
1 mark for identifying the conditioned stimulus.
1 mark for identifying the extinction of the conditioned response.

Question 2 (4 marks)

- The **central executive** would enable Veronica to pay attention to the instructions of her driving instructor, as well as to the changing traffic condition.
- The **episodic buffer** acts as a mental workbench, assisting Veronica by retrieving road rules from LTM when required, as directed by the central executive.
- The **phonological loop** would assist Veronica to rehearse the verbal instructions from the driving instructor.
- The **visuo-spatial sketchpad** would enable Veronica to mentally visualise the pathway to her car when instructed to turn a corner by the driving instructor.

4 marks

Question 3 (4 marks)

- **Stages 1 and 2 NREM** is considered a **light sleep**, while **stages 3 and 4 NREM** is considered a **deep sleep** (the sleeper is difficult to wake up during these stages of sleep).
- An EEG would detect, amplify and record **higher frequency** and **lower amplitude** brainwaves **during a light sleep** versus **lower frequency/higher amplitude** brainwaves **during a deep sleep**.
- Alternatively, the response would identify the **presence of delta** brainwaves during a deep sleep and **absence of delta** brainwaves during a light sleep.
- During a deep sleep, the heart rate would tend to be slightly **lower** than during a lighter sleep.

4 marks

Question 4 (2 marks)

- Hands are more capable of fine motor movements than the elbow joint.
- Thus the hands occupy a greater proportional representation in the motor cortex than the elbow.

2 marks

Question 5 (2 marks)

According to Thorndike, behaviour that is **followed** by a **satisfying consequence** is **strengthened** (more likely to occur), 1 mark
while behaviour that is **followed** by an **annoying consequence** is **weakened** (less likely to occur). 1 mark

Question 6 (3 marks)

a. Forgetting due to **retrieval failure theory** is a **temporary** forgetting 1 mark
versus a **permanent** forgetting for the **decay theory**. 1 mark

b. Retrieval failure is caused by the **absence of the necessary cue** to access the neural trace at the time the memory is needed. 1 mark

Question 7 (5 marks)

a.
- **Biological:** A lack of sleep due to feeding may contribute to Nicole's stressed state.
- **Psychological:** Nicole may lack the necessary coping skills to deal with the demands of motherhood.
- **Social:** Nicole may feel isolated due to her absence from work during her maternity leave.

3 marks

b. *Any two of:*

- Nicole's behaviour has not changed significantly.
- Nicole's behaviour has not been distressing (to herself/others), deviant (atypical) or dysfunctional (she can cope with day-to-day tasks).
- Nicole may still have the ability to function independently or carry out social relationships.

2 marks

Question 8 (2 marks)

- The synapse is the junction between two neurons; the initial stage of learning occurs when there is a creation of new synaptic pathways.
- The connections between neurons at the synapse can be strengthened by revisiting the material to be learned, thus making it more likely that these neurons will fire again together and transmit signals in the future.

2 marks

Question 9 (3 marks)

- Behaviour that has been operantly conditioned will be strengthened if reinforced and weakened if punished.
- If the **reinforcement/punishment no longer follows the behaviour,** or is no longer deemed to be a significant consequence, then the behaviour may extinguish over time.
- For example, a teenager may have their phone confiscated if they come home later than expected from a party. Subsequent to this, they make sure that they are home by the agreed time. Over time, they start to come home later than the agreed time with no consequence and thus the behaviour of returning home by an agreed time has been extinguished.

3 marks

Question 10 (3 marks)

- Laura's retrieval of the details of the accident may have been influenced by the wording of a question (leading questions) from the police at the scene of the crime.
- The leading questions may contain misinformation.
- This misinformation may become stored as part of an updated memory trace of the accident (a false memory), thus resulting in a false reconstruction of Laura's memory when asked to testify months later.

3 marks

Question 11 (2 marks)

Any two of:

- Wernicke's aphasia – impaired speech comprehension (or other symptoms associated with Wernicke's aphasia)
- impaired ability to form new declarative memories (if the hippocampus has been affected in the medial temporal lobe)
- diminished facial/object recognition (agnosia)

2 marks

Question 12 (7 marks)

a.
- Dan may have experienced difficulty concentrating/paying attention during the Chemistry exam.
- Dan may have experienced impaired memory retrieval of the material during the Chemistry exam.

2 marks

b.
- Dan lapsed into an altered state of consciousness for several seconds.
- During this time, Dan had a loss of awareness of his environment, including the section of the exam that he was up to.

2 marks

c.
- Dan might have experienced retroactive interference, but it would not have affected his performance on the initial Physics exam, as he completed this before studying for Chemistry.
- Dan might have experienced proactive interference, which could have diminished his performance on the Chemistry exam.
- In studying the original Physics content, Dan might have reduced his retrieval of the Chemistry material during the latter exam.

3 marks

Question 13 (4 marks)

Prior to the conditioning, the opening of the garage door was a neutral stimulus (NS), which during the acquisition stage, was **repeatedly paired** with **cat food (the unconditioned stimulus [UCS])**, causing the cat to salivate and purr excitedly (unconditioned response [UCR]). The **sight/sound of the garage door opening (conditioned stimulus [CS])** elicits the **cat purring excitedly in anticipation of being fed (conditioned response [CR])**.

4 marks

1 mark for describing the repeated pairing of the two stimuli.
1 mark for identifying the UCS.
1 mark for identifying the CS.
1 mark for identifying the CR.

Question 14 (3 marks)

- The security staff could positively reinforce the dogs when their behaviour edges towards and approximates the target behaviour.
- Starting with a dog in a room full of luggage with one bag full of drugs, the trainer could give the dog a verbal command – "Find the drugs" – along with a distinctive hand gesture, and then let the dog wander around until it is close to the bag with the drugs.
- This behaviour could be reinforced with a doggy treat, repeated a few times, and then the process could be followed again, but this time only rewarding the dog when it makes physical contact with the bag of drugs. This progression could be maintained until the dog aggressively paws at the bag of drugs on command.

3 marks

Question 15 (2 marks)

Any two of:

- Adele could appraise the situation as a **threat** – she may experience financial difficulties in the months ahead.
- Adele could appraise the situation as a **challenge** – to connect with other people in the University via shared accommodation.
- Adele could appraise the situation as **insignificant** – she may not be worried about her living arrangements until she has completed her exams.

2 marks

1 mark for identifying two primary appraisals.
1 mark for a suitable explanation of each that is linked to the scenario.
Note: Benign-positive could be awarded if the explanation was congruent and relevant to the scenario.

Question 16 (2 marks)

- The fight-flight response is a **biological response**, while the Transactional Model is a cognitive/psychological response to a stressor.
- The fight-flight response is a **similar process** for everyone, while according to the Transactional Model, the appraisal and response varies from **person to person**.

2 marks

Question 17 (3 marks)

a.
- Recognition is not significantly affected by age.
- Recall declines with age.

2 marks

b. *Any one of:*
- slowing of her central nervous system, which affects working memory
- shrinkage of her frontal lobe

1 mark

Question 18 (2 marks)

Any two of:
- One hour after learning the material, there is a **moderate** rate of forgetting.
- After one day, the forgetting rate slows to a **minor** rate of decline.
- After one month, the forgetting rate plateaus/stabilises.

2 marks

Note: Students must describe changes in the rate of forgetting rather than merely stating the amount of forgetting that has occurred.

Question 19 (2 marks)

Any two of:
- occur during stage 2 NREM sleep
- high-frequency brainwaves
- low-amplitude brainwaves
- only last for a few seconds

2 marks

SECTION C – RESEARCH SCENARIO

Question 1 (3 marks)

It is hypothesised that 70- to 80-year-olds who regularly complete aerobic exercise (30 minutes, four or more times a week) for one year will experience an increase in the size of their hippocampus and thus enhance memory, in contrast to participants who complete no aerobic exercise and will experience a decrease in the size of their hippocampus over the same period.

3 marks

1 mark for the IV: aerobic exercise.
1 mark for the DV: change in the size of the hippocampus.
1 mark for the population: 70- to 80-year-olds.

Question 2 (2 marks)

- The control group is the 62 participants aged 70 to 80 years who routinely stretch.
- These participants serve as a baseline group for comparison purposes in contrast to the experimental group (who routinely exercise).

2 marks

Question 3 (10 marks)

Conclusion

The results were significant. Thus the hypothesis that 70- to 80-year-olds who regularly complete aerobic exercise (30 minutes, four or more times a week) for one year will experience an increase in the size of their hippocampus and thus enhance memory, in contrast to participants who complete no aerobic exercise and will experience a decrease in the size of their hippocampus over the same period, was supported, as there was only a 0.8% probability that the results were due to chance.

Implications

The hippocampus is part of the medial temporal lobe. It plays a key role in the consolidation of declarative memory; that is, semantic and episodic memories, which must be consciously recalled. In order for the memories to be consolidated, the hippocampus requires an adequate period of time (at least 30 minutes) without disruption in order for the memory traces to form in the cerebral cortex. Through the ageing process, the hippocampus starts to shrink (from the age of 65 onwards), which is a biological cause of memory decline. The results from this experiment indicate that this trend can be reversed with regular aerobic exercise, thus elderly people should be strongly encouraged to remain physically active in order to reduce age-related memory decline.

Evaluation of research design

The use of an independent-groups design is both time and cost effective to implement, and is not impacted by a potential order effect, as is the case with a repeated-measures design. However, even with a medium sample size, participant-related variables can affect the results, namely the overall level of health of participants, gender, lifestyle, employment status and level of social activity, which can all impact on an elderly person's level of cognitive functioning. This could be overcome by utilising a repeated-measures research design, in which participants complete a year of stretching (the control conditioning) and a year of aerobic exercise, and at the end of each have measures of their hippocampus taken. This would provide an excellent point of comparison.

Impact of extraneous variables

Due to non-standardised procedures, it appears that there is a lack of supervision in terms of the activities of both groups. The experimental groups might have been completing additional cognitive exercises, such as Sudokus or cryptic crosswords; in other words, there may have been other activities which could have affected the outcome of the experiment. This could be overcome by monitoring the activities of both groups and ensuring that both groups completed similar levels of cognitive activities.

The use of a convenience sample of volunteers meant that the sample was not fully representative of the population of 70- to 80-year-olds in society, thus the ability to generalise the results to the wider population is questionable.

10 marks

Marking grid

Very high (9–10 marks)

- *detailed conclusion*
- *detailed explanation of the role of the hippocampus in memory formation*
- *detailed evaluation of the independent-groups research design*
- *detailed explanation of the impact of at least one extraneous variable on the results*
- *detailed explanation of the suitability of a generalisation*

High (7–8 marks)

- *thorough conclusion*
- *thorough explanation of the role of the hippocampus in memory formation*
- *thorough evaluation of the independent-groups research design*
- *thorough explanation of the impact of at least one extraneous variable on the results*
- *thorough explanation of the suitability of a generalisation*

Medium (5–6 marks)

- *moderate level of conclusion*
- *moderate level of explanation of the role of the hippocampus in memory formation*
- *moderate level of evaluation of the independent-groups research design*
- *moderate level of explanation of the impact of one extraneous variable on the results*
- *moderate level of explanation of the suitability of a generalisation*

Low (3–4 marks)

- *limited/low level of conclusion*
- *limited/low level of explanation of the role of the hippocampus in memory formation*
- *limited/low level of evaluation of the independent-groups research design*
- *limited/low level of explanation of the impact of at least one extraneous variable on the results*
- *limited/low level of explanation of the suitability of a generalisation*

Very low (0–2 marks)

- *limited, if any, conclusion*
- *limited, if any, explanation of the role of the hippocampus in memory formation*
- *limited, if any, evaluation of the independent-groups research design*
- *limited, if any, explanation of the impact of at least one extraneous variable on the results*
- *limited, if any, explanation of the suitability of a generalisation*