

TRIAL EXAMINATION

SOLUTIONS BOOK

PSYCHOLOGY

UNITS 3 & 4



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SECTION A – Multiple-choice questions (40 marks)

1	A	11	A	21	C	31	C
2	A	12	D	22	D	32	C
3	C	13	A	23	A	33	A
4	B	14	B	24	D	34	B
5	D	15	C	25	B	35	B
6	C	16	D	26	C	36	C
7	B	17	B	27	D	37	A
8	C	18	A	28	C	38	C
9	D	19	B	29	C	39	B
10	D	20	B	30	B	40	A

SECTION B (80 marks)**Question 1****a. Answer**

- The subdivision of the peripheral nervous system is the somatic nervous system.
- Receptors in Jessica's hand detect the heat from the pan.
- Sensory neural pathways / sensory neurons send/ carry this information towards the CNS.
- The information is relayed by interneurons in the spinal cord.
- Motor neural pathways / motor neurons send information about the response towards Jessica's arm / muscles.
- Jessica's response is to drop the pan **OR** Jessica experiences a spinal reflex.

5 marks

Students make all of the above points

4 marks

Students make four of the above points

3 marks

Students make three of the above points

2 marks

Students make two of the above points

1 mark

Students make one of the above points

b. Answer

- Jessica uses episodic memory to add individualised details about herself cooking the spaghetti bolognese.
- Jessica uses semantic memory to incorporate factual information about cooking spaghetti bolognese.

2 marks

Students make both of the above points

1 mark

Students make one of the above points

c. Answer

- Attention: Jessica was more likely to observe the model actively / consciously as it is her 'beloved' grandmother.
- Retention: Jessica is more likely to create a lasting mental representation / memory of her grandmother making the spaghetti as the emotional connection and fond memories she has with her grandmother strengthen the retention of those experiences.
- Motivation: Jessica has the desire to make the spaghetti as her grandmother's spaghetti bolognese is 'famous'.

2 marks

Students make two of the above points

1 mark

Students make one of the above points

Question 2**a. Answer**

- Francesca's secondary appraisal is that she has adequate coping strategies.
- Her coping strategies include joining a study group and taking yoga, both of which can help reduce her stress.

2 marks

Students make both of the above points

1 mark

Students make one of the above points

b. Answer

- *Francesca was in the Resistance stage of the General Adaptation Syndrome.*
- *She is still able to complete daily functions despite experiencing stress for some time.*
- *Cortisol would be released to increase her ability to cope with her stress.*

3 marks Students make all of the above points

2 marks Students make two of the above points

1 mark Students make one of the above points

c. Answer

- *Internal stressors are those that originate from within Francesca's body such as her stress about needing to make new friends.*
- *External stressors are those that originate externally from Francesca's body such as needing to adjust to living in a shared apartment.*

Note: a link word such as ‘whereas’ should be used to distinguish the terms.

2 marks Students make two of the above points

1 mark Students make one of the above points

d. Answer

- *mindfulness meditation is the practice of meditation in which an individual focuses their attention on their present experience.*
- Any two of the following:
 - *improves emotional reactivity*
 - *reduces the likelihood of rumination (repeated negative thinking)*
 - *reduces stress*
 - *improves memory*

3 marks Students explain mindfulness meditation and give two benefits

2 marks Students make two of the above points

1 mark Students make one of the above points

e. Answer

- Long-term depression is the weakening of synaptic connections / neural pathways due to infrequent / sub-optimal stimulation.
- As she no longer uses her old study techniques, they become weaker.
- This increases efficiency and allows Francesca to learn the new study techniques.

3 marks Students make all of the above points

2 marks Students make two of the above points

1 mark	Students make one of the above points
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f. Answer

- *The hippocampus allows Francesca to consolidate new information relating to the study techniques from short-term to long-term memory.*
- *The hippocampus allows Francesca to recall / retrieve the new study techniques from her long-term memory for use.*
- *The neocortex stores the new study techniques in Francesca's long-term memory.*

2 marks Students make two of the above points

1 mark	Students make one of the above points
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Question 3

a. Answer

- Independent variable: *receiving a transplant of dopamine producing cells or a sham surgery.*
- Dependent variable: *Parkinson's symptoms*

2 marks Students make both of the above points

2 marks	Students make both of the above points
1 mark	Students make one of the above points

b. Answer

- *The research methodology is a controlled experiment.*
- *The investigation involves testing a cause-and-effect relationship between an independent variable (dopamine transplant) and dependent variable (Parkinson's Disease symptoms) under test conditions / in a controlled environment.*

2 marks Students make both of the above points

1 mark Students make one of the above points

c. Answer

- *Beneficence involves maximising the benefits of an action or investigation whilst minimising the risk.*
- *In this context, the researchers must consider if the findings from this study could lead to improved treatments for future patients suffering from Parkinson's disease, thus contributing to the greater good.*
- *Non-maleficence involves avoiding causing harm to participants.*
- *In this context, the researchers must consider the impact of the sham surgeries on the participants.*

4 marks Students make all of the above points

3 marks Students make three of the above points

2 marks Students make two of the above points

1 mark Students make one of the above points

d. Answer

- *Internal validity considers if an experiment investigates what it sets out and /or claims to investigate.*
- *Using multiple methods to collect data increases the internal validity.*
- *This is because comparisons can be made across the methods to ensure the results are consistent.*

3 marks Students make all of the above points

2 marks Students make two of the above points

1 mark Students make one of the above points

e. Answer

- Any two of the following:
 - *involved in voluntary movements*
 - *involved in the experience of pleasure*
 - *involved in reward-based learning*
 - *involved in regulating mood and emotion*

2 marks Students make two of the above points

1 mark Students make one of the above points

f. Answer

- Any two of the following similarities:
 - both are released from the axon terminals of a neuron*
 - both are chemicals which facilitate communication between neurons*
 - both are released in response to an action potential*
 - both act by binding to specific receptors*
 - both influence the function of neurons*
- Any one of the following differences:
 - neurotransmitters affect one or two postsynaptic neurons whereas neuromodulators can affect many*
 - neurotransmitters target adjacent neurons whereas neuromodulators affect distant targets*
 - neurotransmitters produce a rapid response whereas neuromodulators produce a slower response*
 - neurotransmitters produce a short-acting response whereas neuromodulators produce a long-lasting response*

3 marks Students give two similarities and one difference

2 marks Students make two of the above points

1 mark	Students make one of the above points
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Question 4**Answer**

- *The behaviourist approach is classical conditioning.*
- *In the before conditioning phase, the neutral stimulus (NS) is hearing the lullaby.*
- *The unconditioned stimulus (UCS) is the bedtime routine which causes the unconditioned response (UCR) which is relaxation.*
- *In the during conditioning phase, the NS is presented prior to the UCS multiple times.*
- *In the after conditioning phase the NS becomes a conditioned stimulus (CS), hearing the lullaby and causes the conditioned response (CR) relaxation.*

5 marks	Students make all of the above points
4 marks	Students make four the above points
3 marks	Students make three of the above points
2 marks	Students make two of the above points
1 mark	Students make one of the above points

Question 5**a. Answer**

- *The mean sleep time for the 37-year-old participants is greater (8.1) than the 17-year-old participants (6.6).*
- *The 37-year-old participants, as adults, should get 7–8 hours sleep which they are experiencing.*
- *The 17-year-old participants, as adolescents, should get 8–9 hours sleep which they are not experiencing.*

3 marks	Students make all of the above points
2 marks	Students make two of the above points
1 mark	Students make one of the above points

b. Answer

- *A mixed experimental design.*
- *Comparisons are made between the groups (mean of each age group) and also within each age group (mean sleep of each participant).*

2 marks	Students make both of the above points
1 mark	Students make one of the above points

c. Answer

- *The standard deviation of the 37-year-old group (1.5) suggests the sleep patterns are relatively close to the mean and thus are similar / do not have a large variability.*
- *The standard deviation of the 17-year-old group (3.3) suggests the sleep pattern are very diverse / spread from the mean / have a large variability.*

2 marks	Students make both of the above points
1 mark	Students make one of the above points

d. Answer

- Any one of the following behavioural outcomes:
 - *increased likelihood of engaging in risk taking behaviours*
 - *increased reaction times*
 - *reduced efficiency to complete tasks*
 - *reduced motor control*
 - *increased clumsiness*
- Any one of the following cognitive outcomes:
 - *impaired memory*
 - *illogical / irrational thoughts*
 - *poor decision making*
 - *reduced ability to perform simple tasks*
 - *impaired problem solving*
 - *impaired visual and spatial abilities*

2 marks	Students give one behavioural outcome and one cognitive outcome
1 mark	Students make one of the above points

e. Answer

- A BAC of 0.05 is equivalent to 17 hours sleeplessness.
- A BAC of 0.1 is equivalent to 24 hours sleeplessness.
- Affective effects include changes to emotions and emotional responses.

3 marks Students make all of the above points
 2 marks Students make two of the above points
 1 mark Students make one of the above points

f. Answer

- An EEG detects, amplifies and records the electrical activity of the brain.
- A 17-year-old should sleep for 8–9 hours and therefore experience approximately 5–6 sleep cycles.
- 5–6 experiences of REM sleep with high frequency, low amplitude brainwave activity.
- 5–6 periods of NREM sleep with low frequency, high amplitude brainwave activity.

4 marks Students make all of the above points
 3 marks Students make three the above points
 2 marks Students make two of the above points
 1 mark Students make one of the above points

g. Answer

- Delayed Sleep Phase Syndrome (DSPS) involves sleep and waking occurring later than usual.
- Bright Light Therapy should be used in the morning.
- The light will act as an external cue to the suprachiasmatic nucleus to promote wakefulness / delay sleepiness.

3 marks Students make all of the above points
 2 marks Students make two of the above points
 1 mark Students make one of the above points

Question 6**a. Answer**

- Cultural continuity involves the passing down and active practice of sharing cultural knowledge, traditions and values from one generation to the next.
- Cultural continuity is a protective factor for the wellbeing of Aboriginal and Torres Strait Islander community / increases the likelihood of high levels of mental wellbeing.
- Aiden's attendance at boarding school might disrupt this for a period as he will be away from his community.

3 marks Students make all of the above points
 2 marks Students make two of the above points
 1 mark Students make one of the above points

b. Answer

- Songlines are multimodal performances that involves mentally or physically travelling along a journey or across country that record and link sites, describe histories and / or knowledge.
- They increase encoding by:
 - linking ideas together
 - facilitative elaborative rehearsal
 - linking new ideas to known ideas
- They increase retrieval by:
 - providing retrieval cues

3 marks Students make all of the above points
 2 marks Students make two of the above points
 1 mark Students make one of the above points

Question 7**Answer**

Note: Allocate 10 – 0 marks for the extent to which students define and explain the relevant ideas.

10 – 9 marks	- Insightful, detailed and relevant information is provided about what Cognitive Behavioural Therapy (CBT), the use of benzodiazepines and breathing retraining involve and all are applied to Mark's phobia of vomiting. - Accurate and detailed explanation of both strengths and weaknesses of Cognitive Behavioural Therapy (CBT), the use of benzodiazepines and breathing retraining is included and applied to the context of facilitating daily functioning for Mark. - Demonstrates thorough knowledge of relevant psychological concepts and use of appropriate terminology.
8 – 7 marks	- Accurate information that clearly explains the use of Cognitive Behavioural Therapy (CBT), benzodiazepines and breathing retraining is included and applied to Mark's phobia of vomiting. - Some evaluation which includes both strengths and weaknesses of Cognitive Behavioural Therapy (CBT), the use of benzodiazepines and breathing retraining is included and applied to the context of facilitating daily functioning for Mark. - Demonstrates knowledge of relevant psychological concepts and use of appropriate terminology.
6 – 5 marks	- Meets the minimum standard for addressing all required elements of the question or the response deals with most of the required elements to a very high standard. - A simple, basic (maybe brief) description of Cognitive Behavioural Therapy (CBT), benzodiazepines and breathing retraining is included and applied to Mark's phobia of vomiting. - Some evaluation of Cognitive Behavioural Therapy (CBT), benzodiazepines and breathing retraining is included and applied to Mark's phobia of vomiting. - Demonstrates some knowledge of relevant psychological concepts and use of appropriate terminology which is mostly accurate.

Marks below 5 will be missing a key aspect from the question. They may include information outlining the use of some of the treatment types and discuss their use in a generic manner, but not in the context of increasing Mark's daily functioning.

4 – 3 marks	- Basic discussion that addresses some aspects of the question in a superficial or generic way, but unlikely to include evaluation of each treatment method. - Identifies psychological information with limited detail and includes numerous inaccuracies and / or relevance but will consider some aspects of the question. - Some attempt to use psychological terminology but when used it is not always appropriate.
2 – 1 marks	- Very minimal discussion that reflects very limited understanding of the requirements of the question. For 2 marks, it will include one aspect of the question. - Lists or rewords or restates elements of the scenario rather than discusses the content.