

VCE Psychology Unit 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

SECTION A – MULTIPLE-CHOICE QUESTIONS

Question 1 A

Plasticity of the brain, which describes the brain's ability to change its neural structure thus enabling learning, occurs from the embryonic stage through to old age.

Question 2 D

At the point of synapse, neurotransmitters, which contain electrochemical messages, are transferred from the pre-synaptic neuron to the post-synaptic neuron.

Question 3 B

Token economies use reinforcers (tokens) in order to increase the targeted behaviour, thus the behaviour (operant) tends to be repeated due to the desirable consequence (the tokens).

Question 4 B

Flooding deliberately maximises the anxiety response, with the aim of gradually reducing anxiety levels to overcome a phobia, in this case fear of open spaces.

Question 5 C

This form of taste aversion has been classically conditioned, because the rats' reflexive learned behaviour is to not drink the water to avoid the pain from the electric shock or illness from the radiation.

Question 6 D

Reggie's learning was hidden (latent), i.e. had occurred without any reinforcement from the mother.

Question 7 D

The use of brain imaging (an MRI) on the brain before the learning and after learning how to juggle would highlight alternations in the volume of grey matter.

Question 8 A

Dwayne has had a period of mental manipulation in working out how to operate the webcam, prior to the realisation of a solution (which occurred during the bike ride) thus demonstrating an insightful experience.

Question 9 B

Instrumental learning describes the process in which an organism learns the association between behaviour that is either annoying (cats remaining in the puzzle box) or satisfying (being released from the puzzle box) and the consequences (cats obtaining food).

Question 10 A

Continuous reinforcement is usually essential in the conditioning phase for animals; once some learning has occurred it is possible to opt for a partial schedule of reinforcement.

Question 11 A

Paying the bills on time is the behaviour in response to the stimulus, i.e. the bill with a due date and a penalty statement.

Question 12 **C**

Viewing the bill with the penalty notice is the stimulus that leads to the behaviour (paying the bill).

Question 13 **B**

Lauren pays the bill to avoid the aversive stimulus (incurring a penalty fee) thus reinforcing the behaviour (paying the bill).

Question 14 **C**

For classical conditioning, the stimulus always precedes the response, whereas the response precedes the stimulus for operant conditioning.

Question 15 **B**

Debriefing aims to ensure that the negative consequences of participation in an experiment are extinguished.

Question 16 **B**

The cigarettes (originally the neutral stimulus) were paired with a nausea inducing drug (unconditioned stimulus), ultimately leading to Keith having an aversion to the sight or smell of cigarettes (the conditioned stimulus).

Question 17 **B**

Based on results of the experiment, Bandura concluded that exposure of children to aggressive models increased the probability that they will respond aggressively when given the opportunity on a later occasion.

Question 18 **D**

Bandura found significant sex differences for the various categories of aggressive behaviour observed and recorded.

Question 19 **A**

The Year 9 coordinator is trying to reduce the targeted behaviour (mess in the Year 9 locker room), therefore this is a form of punishment.

Question 20 **D**

Long-term potentiation is a long-lasting enhancement in signal transmission between two neurons. This results from stimulating them, which occurs during the learning process.

Question 21 **A**

After birth, the infant goes through a period of developmental plasticity in which there is a dramatic increase in the number of synapses to enable the brain to respond to the constant stream of developmental input. Following this period we enter a period of synaptic pruning ('use it or lose it') to enable more efficient synaptic configurations.

Question 22 **D**

Adaptive plasticity refers to the brain's ability to reorganise neural pathways based on new experiences as well as compensate for any lost functionality as a result of brain damage.

Question 23 B

Being able to live independently falls under the functional approach to normality.

Question 24 D

Experiencing occasional nightmares without any other indicative sleep disorders or daily impact indicates good mental health, with a visit to the psychologist indicated if the nightmares become a concern.

Question 25 C

Mental illness is categorised as such if the diagnosed disorder is pervasive and indicates treatment is required.

Question 26 A

The interaction of biological, psychological and social factors is indicated here, with behaviour being a secondary consideration.

Question 27 B

The Diagnostic and Statistical Manual exists to accurately classify mental disorders leading to an accurate diagnosis.

Question 28 B

There are five axes, and axis 1 concentrates on clinical disorders that may need attention.

Question 29 C

The International Classification of Diseases: Classification of Mental and Behavioural Disorders separates the two, whereas the Diagnostic and Statistical Manual does not.

Question 30 A

This situation is a simple case of testing reaction time in a fight-flight response scenario.

Question 31 C

Students were conscripted into the study, and also their assessment was based on their participation.

Question 32 D

It was not significant as little evidence was provided to draw any firm conclusions.

Question 33 B

The correct sequence begins with the hypothalamus, then the pituitary gland, which releases ACTH, which activates the adrenal glands.

Question 34 B

Jane is resisting the cold symptoms and continues to work, defying the illness.

Question 35 D

The GAS has been criticised for assuming that everyone experiences a similar automatic response to a stressor.

Question 36 A

The transactional model involves an interaction between the individual and the environment, leading to different responses to stress and coping.

Question 37 A

Eustress is a positive reaction to stress, while distress is a negative reaction to stress.

Question 38 C

Allostasis refers to the body's ability to adapt and change in response to a stressful event.

Question 39 B

A biofeedback device allows the individual to monitor and control physiological responses.

Question 40 D

GABA carry messages between neurons in the brain, acting as neurotransmitters.

Question 41 A

GABA has a calming effect by preventing post-synaptic neurons from firing, hence maintaining a fine balance.

Question 42 B

Her fear is based on a behavioural model, where a response is met with a consequence.

Question 43 C

CBT is based on the notion of challenging irrational or self-defeating thoughts, and developing ways of changing those thoughts.

Question 44 D

All three groups are experimental groups, hence there was no control or comparison group.

Question 45 B

It is impossible to generalise the results as we are not told about the different methods of treatment and how effectively you can compare the three discreet groups.

SECTION B – SHORT-ANSWER QUESTIONS

Question 1

- a. This is known as **fixed action pattern (FAP)**. 1 mark
- b. FAPs are inborn species-specific behaviour that occurs for the first time without prior experience. 1 mark

Question 2

- a. Shaping is used to teach behaviour that is unlikely to occur naturally at first attempt. 1 mark
- b. Shaping involving reinforcing behaviour that successively approximates the targeted behaviour (e.g. rewarding the dolphin with a fish for facing the trainer, then rewarding the dolphin for allowing the trainer to hold a fin over the eyes when the trainer is covering their eyes). 1 mark

Question 3

- a. being in a tent 1 mark
- b. the accidental tree falling on the tent 1 mark
- c. anxiety at the sight of people in a tent 1 mark

Question 4

- a. *Any two of the following:*
- motivation and interest of the observer
 - high status of Mr Evans
 - personality characteristics of Mr Evans
 - if Mr Evans is well liked
 - avoidance of distracters in assembly
 - if Mr Evans is similar in nature to the observer
- 2 marks
- b. Retention: the observers must retain the steps of Mr Evans' epiPen demonstration, and the students must be able to make a mental representation of each step. 2 marks

Question 5

- Neurotransmitters are comprised of electrochemical messages which pass from one neuron to another at the synaptic gap.
 - The passing of the neurotransmitter changes the synapse, thus as we learn, neural pathways are modified and strengthened (during the learning process).
- 2 marks

Question 6

Convenience: no attempt has been made to make the sample representative of the population, i.e. simply selecting two Grade 3 classes.

2 marks

Question 7

There is an obvious gender bias (which could systematically affect the dependent variable throughout the experiment); or any other suitable variable that would have a systematic effect on the dependent variable.

1 mark

Question 8

No generalisation can be made to the wider community.

This is due to the presence of a confounding variable.

2 marks

Question 9

a. *Any two of the following:*

- both are categorical systems
- both identify the disorder that best matches or reflects the symptoms
- both provide a detailed description of each disorder

1 mark

b. Anxiety disorder

The appropriate axis must be identified (Axis 2 – General Disorders) and the symptoms correspond with the classification identified and the ICD broadly categorises anxiety disorders in the general category of social disorders.

1 mark for identifying a mental disorder; and 1 mark for mentioning the role the axes have in the DSM and mentioning that the ICD places disorders in codes or categories.

2 marks

Question 10

a. To assess how much change an individual needs to adjust their lifestyle, and therefore how their feeling, thinking and behaving would react to the stress built up.

1 mark

- b.
- Benefit: It allows a predictive quality to assessing coping behaviour with multiple stressors, and hence therapeutic assistance.
 - Criticism: It does not take into account the meaning attached to each stressor, hence reactions will vary widely between people.

2 marks

Question 11

Phobia is an unreasonable fear towards an event, object or situation that causes significant distress or interferes with day-to-day functioning.

1 mark

Question 12

- a. For example, claustrophobia, the fear of being in enclosed spaces. 1 mark
- b. For example, being stuck in a lift for a period of time. 1 mark
- c. Treatment for claustrophobia could include a behavioural approach, by associating an enclosed room with a positive experience over time. 1 mark

Question 13

- a. Benefit: matches subjects on the basis of intelligence, age, etc. to control variables.
Disadvantage: difficult to match subjects accurately; time consuming. 1 mark
- b. Benefit: each participant randomly allocated to groups, no order effects to control.
Disadvantage: there is less control over participant variables with this design than any other. 1 mark

Question 14

- a. This is a learned belief or feeling that the individual is helpless and unable to have any effect on events in their lives, hence they give up trying. 1 mark
- b. For example, biological: depression is inherited, genetic, and part of the biochemical make-up of the person. 2 marks
- c. For example, cognitive behavioural therapy: challenging self-defeating negative thoughts and replacing them with neutral or positive/helpful thoughts. 2 marks

Question 15

- a. Job loss/poor job performance; neglect of family; financial hardship; relationship breakdown, etc. 2 marks
- b. Addictive disorder: individual feels recurring need to engage in an activity despite the potential harm of the activity. 1 mark
- c. It would help people to understand the origins of emotional distress by exploring unconscious conflicts, motives, needs and defences. According to psychodynamic theory, all mental disorders are caused by unresolved psychological conflicts that occur in the unconscious. 1 mark
- d. CBT assists people to identify where they may have become trapped or stuck in their way of thinking, and help them find ways to discover other ways of looking at their situation. 1 mark

Question 16

- a.** A psychotic disorder is characterised by difficulties in thinking, distorted perceptions, and a loss of contact with reality. 1 mark
- b.** Delusions (seeing yourself not as you really are); disorganised speech (rambling or unstopable speech which often makes no sense). 2 marks
- c.** For example, schizophrenia could be treated with cognitive behavioural therapy to identify and change the thoughts responsible for maintaining the symptoms. 2 marks

SECTION C – EXTENDED RESPONSE QUESTION

Up to four marks will be granted if all the following eight steps are identified:

- identification of research problem
- research hypothesis
- method/approach to experiment
- subject selection
- data collection
- data analysis
- data interpretation/conclusion
- generalisation of results

Up to six marks will be gained if appropriate explanations are provided for the steps identified, for example:

- Identification of research problem – A clearly stated view based on theory concerning the area to be investigated.
- Research hypothesis – A properly operating hypothesis that clearly identifies the independent and dependent variable and a prediction as to the outcome. This serves as a clear springboard for the method and design of the experiment.
- Method/Approach to experiment – A step by step approach to detailing what is required in the experiment (e.g. apparatus, number of subjects, time frame).
- Subject selection – A well identified approach to appropriately selecting subjects so that they are representative, as a sample, of the population under investigation.
- Data collection – An appropriate method of collecting information and results.
- Data analysis – An appropriate formula or method in analysing whether the results have any significance.
- Data Interpretation/Conclusion – A description of the final outcome of the results and their significance, any uncontrolled variables, any limitations in the experiment and any conclusion drawn including support/rejection of the hypothesis.
- Generalisation of results – Based on the significance of the results of the experiment, a decision must be made on the appropriateness of generalising the results to the wider population. All aspects of the experiment need to be considered before generalising the results. Too many extraneous variable may lead to an inability to generalise the results.

10 marks