INSIGHT

Trial Exam Paper

2010

Psychology

Written examination 2

Solutions book

This book presents:

- correct solutions
- explanatory notes
- mark allocations
- tips

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SECTION A – Multiple-choice questions

AREA OF STUDY 1 – Memory

Question 1

Adrian was a keen student of biology but often had difficulty with examinations. Adrian's teacher advised him to create his own summary notes after reading through each section of his text and then to link the new information to what he already knew about each topic in a mind map. This process would ensure that the information was _____ more effectively enabling Adrian to easily _____ the material when needed during exams.

A. stored, retrieve

B. encoded, store

C. stored, encode

D. **encoded, retrieve**

Answer is D

Explanatory notes

- A is incorrect as the question clearly refers to the way in which information is rehearsed which relates to encoding not storage. Retrieve is the correct response to the second half of the question.
- B is incorrect. While encoded is the correct response for the first half of the question, the process of taking information out of long-term memory (LTM) for use in an examination is known as retrieval.
- C is incorrect as information is stored after it is encoded. The information was encoded using elaborative rehearsal and then stored before it could be later retrieved in the examination.
- D is correct. By using elaborative rehearsal Adrian was improving the quality of the encoding. Locating the information in LTM during the examination is retrieval.

Question 2

When Adrian followed his teacher's advice he found he learned his biology course content better but still made mistakes on practice exams. However, when he revised the material and then repeated the exams he performed much better. This improvement in performance on the subsequent exams demonstrated the greater sensitivity of the measure of retention known as

A. cued recall.

B. **relearning.**

C. recognition.

D. free recall.

Answer is B

Explanatory notes

- A is incorrect as cued recall is used when a specific retrieval cue is used to enable us to extract information from LTM.
- B is correct. Relearning is used when information that has been previously learned is revised or learned again. This is the most sensitive measure of retention.
- C is incorrect as recognition is used when we select a correct response from a list of alternatives.
- D is incorrect as free recall is when we retrieve information at random without any specific retrieval cues being used.

Question 3

Olga enjoyed reading fantasy novels and always had her head in a book. According to the information-processing model the written words provided visual stimuli that were first registered in Olga's

A. iconic memory.

B. echoic memory.

C. sensory memory.

D. working memory.

Answer is A

Explanatory notes

- A is correct because visual sensory information is first registered in iconic memory, the visual sensory memory store.
- B is incorrect as echoic memory is the sensory memory store for sound or auditory information.
- C is incorrect. While visual stimuli is registered in sensory memory this is clearly not as accurate a response as A.
- D is incorrect. Visual information is processed in the visuospatial sketchpad, an element of working memory. But it is incorrect to state that this information is first registered in working memory. It must first register in iconic memory before being processed in working memory or STM.

Question 4

In the theory of working memory, to understand the story and keep all of the plot lines and characters in her memory, Olga would need to use the area of working memory known as _____ but when initially seeing the material she would rely on the _____.

A. working memory, central executive

B. visuospatial sketchpad, phonological loop

C. central executive, visuospatial sketchpad

D. phonological loop, visuospatial sketchpad

Answer is C

Explanatory notes

- A is incorrect. Working memory is the term used by Baddely (1998) as an alternative to STM. The central executive is the area of working memory that integrates information from the visuospatial sketchpad and the phonological loop.
- B is incorrect as when initially seeing the material she would rely on the visuospatial sketchpad or visual working memory, not the phonological loop.
- C is correct. When processing the visual information (words) Olga would be integrating it with her understanding of how to read and interpret text which would be accomplished by the central executive which extracts the information needed from LTM. The central executive also integrates the visual information received in the visuospatial sketchpad.
- D is incorrect because the phonological loop stores auditory information.

Question 5

Iconic memory has _____ capacity and _____ duration.

A. unlimited, limited

B. limited, unlimited

C. unlimited, unlimited

D. limited, limited

Answer is A

Explanatory notes

- A is correct. The capacity of iconic sensory memory is unlimited but it has a very limited duration of approximately 0.3 of a second.
- B, C and D are incorrect. See the explanation for A.

Question 6

Short-term memory has a capacity of

A. 7 minus 2 bits of information.

B. 9 bits of information.

C. 7 plus 2 bits of information.

D. 7 plus or minus 2 bits of information.

Answer is D

Explanatory notes

- D is the only correct response in this list of alternatives. The range of STM is believed to be between 5 and 9 pieces of information. This may be written as 7 ± 2 bits of information, or between 5 and 9 bits of information; ($7 + 2 = 9$; $7 - 2 = 5$)

Question 7

When reading words on a page we are able to increase the capacity of short-term memory (STM) by grouping individual letters into words and keep an extended list of words in STM, thus helping us to link the words together and understand a piece of text. This is made possible by the process of _____.

A. consolidation

B. **chunking**

C. elaboration

D. semantics

Answer is B

Explanatory notes

- A is incorrect as consolidation refers to the physical change in the brain when a new memory is formed or consolidated.
- B is correct. Individual pieces of information may be combined or 'chunked' to form larger pieces of information, thus increasing the capacity of STM.
- C is incorrect as elaboration refers to the linking of new information with information already stored in LTM in order to improve encoding.
- D is incorrect as semantics refers to the meaning of information.

Question 8

Maintenance rehearsal is effective as a means of increasing the _____ of _____.

A. **duration, STM**

B. duration, LTM

C. capacity, STM

D. capacity, LTM

Answer is A

Explanatory notes

- A is correct as maintenance rehearsal involves repeating information over and over, either vocally or sub-vocally, to retain it in STM for longer.
- B is incorrect as rehearsal takes place in STM, not LTM.
- C and D are incorrect as maintenance rehearsal increases the amount of time that information is held in STM (duration) not the amount of information (capacity) that can be held.

Question 9

The phonological loop is responsible for

A. storing a limited amount of visual and spatial information for possible further processing within the central executive.

B. directing attention to incoming auditory information and integrating this with other sensory input.

C. **processing and storing a limited amount of auditory information until it is either attended to or discarded.**

D. processing and storing an extensive amount of auditory information until it is attended to.

Answer is C

Explanatory notes

- A is incorrect as this more closely describes the role of the visuospatial sketchpad.
- B is incorrect as these functions are carried out by the central executive.
- C is the correct response. The phonological loop is an area of working memory that stores a very limited amount of auditory information for around 2 seconds if not rehearsed; long enough to allow the central executive to select it for further processing. If not attended to the information is discarded.
- D is incorrect as the capacity is limited, it is not extensive.

Question 10

The branch of long-term memory that holds information about personal events or experiences is known as_____ and this is a subsystem of _____.

A. semantic memory, episodic memory

B. **episodic memory, declarative memory**

C. procedural memory, declarative memory

D. declarative memory, procedural memory

Answer is B

Explanatory notes

- A is incorrect as semantic memory holds information about the world, and this is a subsystem of declarative memory.
- B is correct. Episodic memory holds information about personal events in our lives and this is a subsystem of declarative memory.
- C is incorrect. Procedural memory is the memory of how to perform actions and is not a subsystem of declarative memory.
- D is incorrect. See the explanations for A and C.

Question 11

Kieran had a solid week of work to complete. He had to prepare for SACs in psychology and biology that were both scheduled for the same day, and then a Maths SAC the day after. If Kieran wanted to ensure that he would be able to retrieve the information when needed and not confuse the psychology material with the biology material, he would be best advised to:

A. look for material that was similar in each study and learn both at the same time.

B. allow several hours between studying for each subject.

C. make sure that he didn't make any links between the two subjects when studying.

D. study biology before studying psychology.

Answer is B

Explanatory notes

- A is incorrect as the more similar information is, the more likely that interference will occur.
- B is correct. If studying two relatively similar pieces of information, it is best to allow time between the two so that each separate piece of information can be properly consolidated and not become confused.
- C is incorrect. Making links between similar information should improve the learning.
- D is incorrect as there is no rule about what subjects should be studied first.

Question 12

The theory of memory that states that concepts are stored in nodes and that nodes are linked according to meaning is known as the

A. consolidation theory.

B. elaborative rehearsal theory.

C. semantic network theory.

D. mnemonic theory.

Answer is C

Explanatory notes

- A is incorrect. The consolidation theory states that new memories require a stabilisation period during which changes take place in the brain cells, and that this process requires around 30 minutes.
- B is incorrect as elaborative rehearsal refers to the quality of encoding. (See explanatory notes for Questions 1 and 2).
- C is correct. The semantic network theory proposes that information is stored in overlapping networks or grids, and that concepts or nodes are linked by meaning within the network. The more meaningful and/or alike information is, the closer the connection within the network.
- D is incorrect as a mnemonic is a means of improving the encoding thus improving the likelihood of retrieval.

Question 13

The forgetting curve devised by Hermann Ebbinghaus (1885) showed that

A. the rate of forgetting was rapid within the first half-hour but levelled off after that.

B. 42% of the information learned was still retained after 20 minutes.

C. 58% of the information learned was still retained after 20 minutes.

D. both A and C.

Answer is C

Explanatory notes

- A is incorrect as the curve devised by Ebbinghaus shows rapid decline in the first 20 minutes after learning, then a slightly slower decline over the next 8 hours with a levelling off after that.
- B is incorrect as 42% of information is lost after 20 minutes according to the forgetting curve.
- C is correct as Ebbinghaus showed that 58% of material was retained after 20 minutes and this fell to around 38% within 8 hours.
- D is incorrect as A is incorrect.

Question 14

Harry began a new job and was given a PIN for the computer network, which he easily memorised. He was later given a different PIN for the security lock at the entrance door, which he also memorised. After lunch when he tried to get back into the building he found that he could only recall the network PIN and not the entry PIN. This type of forgetting is known as_____ and is most likely to occur when information is _____.

A. retroactive interference, similar

B. proactive interference, similar

C. motivated forgetting, painful

D. decay theory, not used frequently

Answer is B

Explanatory notes

- A is incorrect as retroactive interference occurs when new information interferes with the ability to recall old. If Harry had been unable to recall the network PIN but could recall the door PIN then he would be experiencing retroactive interference. Interference is most likely to occur when information is very similar.
- B is correct. Proactive interference occurs when old information interferes with the ability to recall new information. Interference is most likely to occur when information is very similar.
- C is incorrect. Motivated forgetting occurs when an individual either consciously or unconsciously chooses to forget information that causes psychological discomfort or pain.
- D is incorrect as decay theory refers to a form of forgetting that occurs when a memory trace fades overtime, supposedly because of disuse.

Question 15

Memory enhancement techniques rely on _____ to improve memory.

A. shallow processing

B. careful organisation of material

C. **elaborative rehearsal**

D. maintenance rehearsal

Answer is C

Explanatory notes

- A is incorrect. Memory enhancement involves linking new information together in a meaningful way and is most effective when this is linked to information already stored in LTM. This is deep processing, not shallow processing.
- B is incorrect as it is not a satisfactory explanation of the meaningful linking that is involved in mnemonics.
- C is correct. Mnemonics rely on information being meaningfully linked to other previously stored information.
- D is incorrect as mnemonics do not use maintenance rehearsal.

Question 16

Studies into memory loss over the lifespan have found that

A. **the more meaningful information is, the less likely it is to be forgotten regardless of age.**

B. older people remember nonsense syllables more effectively than younger people.

C. recognition tends to be an ineffective measure of retention for elderly people.

D. memories begin to decay as soon as they are formed if not regularly retrieved.

Answer is A

Explanatory notes

- A is correct as the more meaningful information is, the more effectively it is encoded and well-encoded information is very resistant to forgetting.
- B is incorrect as older people tend to perform less well on tests of nonsense syllables than younger people.
- C is incorrect as recognition is shown to be a reliable measure of retention in the elderly.
- D is incorrect as there is no evidence to suggest that all memories decay if not reviewed.

Question 17

Research by Jane Berry et al. (1989) found that elderly people were likely to perform less well on memory tests than people in their early twenties. They concluded that this was most likely due to

A. **lack of confidence in their ability to remember.**

B. the use of recognition as a measure of retention.

C. loss of procedural memories.

D. loss of semantic memories.

Answer is A

Explanatory notes

- A is correct. The study referred to found that lack of confidence was a reliable predictor of poor performance on memory tests. When elderly participants believed that they would not be as capable of remembering as younger people, they tended to perform less well.
- B is incorrect as tests using recognition as the measure of retention showed very little difference between younger participants and elderly participants.
- C is incorrect. Procedural memories are particularly resistant to ageing.
- D is incorrect as semantic memories have also been found to be resistant to memory loss over time.

Question 18

Lucas listened to the radio while he studied for a physics exam. When in the exam Lucas found he could not remember a key piece of information, however, when he went home and turned on the radio he immediately recalled the information. In this situation the radio acted as a

A. memory cue.

B. relearning cue.

C. state-dependent cue.

D. **context-dependent cue**.

Answer is D

Explanatory notes

- A is incorrect as the term 'memory cue' is inadequate to describe the experience of recalling the information.
- B is incorrect as relearning involves going over material previously learned and stored in LTM.
- C is incorrect as a state-dependent cue is a recall cue linked to a state of being; a feeling or an emotion, where the individual recalls information when experiencing a similar state of being as when the memory was originally formed.
- D is correct. A context-dependent cue is a recall cue linked to a particular situation or context, where the individual recalls information that was learned in a similar context. Turning on the radio recreated the context in which the original learning took place.

Question 19

Finola was injured in a motor vehicle accident and became unconscious after hitting her head and suffering a brain injury. When waking up in the emergency department of the hospital Finola could not recall her name or what day it was, and had no recollection of the accident. This type of forgetting is described as _____ resulting from a/(an) _____ cause.

A. retrograde amnesia, accidental

B. **retrograde amnesia, organic**

C. anterograde amnesia, natural

D. anterograde amnesia, organic

Answer is B

Explanatory notes

- A is incorrect. The type of memory loss described is retrograde amnesia, but it is not adequate to refer to the reason as due to an accidental cause.
- B is correct. Retrograde amnesia is a loss of memories preceding the brain injury, and this type of forgetting is due to an organic cause.
- C is incorrect as anterograde amnesia refers to a loss of the ability to form new memories following brain damage. Also, the accident is clearly not a natural cause of memory loss.
- D is incorrect. The brain damage did not result in a loss of the ability to form new memories although it was organic.

Question 20

Narrative chaining relies upon _____ to aid retrieval.

A. elaborative rehearsal

B. visual imagery

C. mnemonics

D. maintenance rehearsal

Answer is A

Explanatory notes

- A is correct. Narrative chaining involves creating a short story or narrative out of the words/items to be remembered. By reciting the story the items are recalled.
- B is incorrect. Visual imagery is not a feature of narrative chaining.
- C is incorrect. While narrative chaining is a mnemonic, this is not the best alternative in the list provided.
- D is incorrect. Maintenance rehearsal involves repeating information over and over to keep it in STM. Using narrative chaining the information is actually given greater meaning and transferred to LTM.

Question 21

David was required to memorise a list of items that he needed for a school athletics carnival. As a means of remembering the full list he thought about the previous time he had attended an athletics carnival and how he has used all of the necessary items. This memorising tool is a form of elaboration known as

A. narrative chaining.

B. method of loci.

C. self-referencing.

D. encoding.

Answer is C

Explanatory notes

- A is incorrect. Narrative chaining involves joining all of the items to be remembered in a short story or narrative in order to recall them when needed.
- B is incorrect. The method of loci involves mentally placing each of the items to be remembered in a well-known location and then visualising the items in their location when they need to be retrieved.
- C is correct. By relating the information to personal experience David was using self-referencing.
- D is incorrect. The method described is a means of improving encoding, but encoding itself is an inadequate explanation of the process employed.

Question 22

A researcher studying the differences between the performance of elderly people and adolescents in a task involving recall of a list of nonsense syllables found that the younger group performed significantly better with a result of $p < 0.01$. This suggests that

A. the result cannot be generalised to the population of interest.

B. **the difference in scores for the two groups was most likely due to the age difference.**

C. if the research was repeated 100 times it is likely that in 1% of cases the result would be due to the manipulation of the IV and not due to chance.

D. the research hypothesis can be rejected.

Answer is B

Explanatory notes

- A is incorrect as $p < 0.01$ is a generalisable result.
- B is correct as the IV was the difference in ages therefore the result can be attributed to this variable and not due to chance.
- C is incorrect because if the research was repeated 100 times it is likely that in 1% of cases the result would be due to chance and not due to the manipulation of the IV.
- D is incorrect as this result means that the research hypothesis can be accepted.

AREA OF STUDY 2 – Learning

Question 23

Which of the following is an example of a reflex action?

A. an infant beginning to walk

B. a spider building a complex web

C. **an infant's ability to grasp a finger**

D. a salmon swimming upstream to spawn in the same place that it was spawned

Answer is C

Explanatory notes

- A is incorrect as this is an example of a behaviour dependent upon maturation.
- B is incorrect as this is an example of a fixed action pattern (FAP).
- C is correct. Infants are born with the reflex enabling them to grasp in response to pressure on the centre of the hand.
- D is incorrect as this is an example of a FAP.

Question 24

Which of the following is an example of a behaviour dependent upon maturation?

A. the nest-building behaviour of a bowerbird

B. **a baby beginning to crawl**

C. a baby bird beginning to fly

D. an infant's ability to suckle

Answer is B

Explanatory Notes

- A and C are both examples of FAPs and are therefore incorrect.
- B is an example of a behaviour dependent upon maturation as until the child has reached the appropriate level of physical development this behaviour is not possible.
- D is incorrect as this is an example of a reflex action.

Question 25

In Pavlov's classic experiments the meat powder was

A. **the UCS.**

B. the UCR.

C. the CS.

D. the CR.

Answer is A

Explanatory notes

- A is correct. The meat powder naturally elicited salivation so it was the unconditioned stimulus.
- B is incorrect. The unconditioned response was salivation.
- C is incorrect. The conditioned stimulus was the bell.
- D is incorrect. The conditioned response was salivation to the sound of the bell.

Tip

- *When discussing the CR it is important to note that it is in response to the CS. If you simply state that salivation was the CR this does not show that you understand how it differs from the UCR.*

Question 26

In conditioning, the reappearance of a conditioned response when the conditioned stimulus is presented following a period of apparent extinction is known as

A. an unconditioned response.

B. stimulus generalisation.

C. **spontaneous recovery.**

D. stimulus discrimination.

Answer is C

Explanatory notes

- A is clearly incorrect as a conditioned response cannot also be an unconditioned response.
- B is incorrect as stimulus generalisation occurs when the CR is elicited by stimuli that are similar to the CS.
- C is correct. Spontaneous recovery occurs after an apparent period of extinction when the CS is presented.
- D is incorrect. Stimulus discrimination occurs when the CR is only elicited by the CS.

Question 27

Which of the following is an **incorrect** statement about Pavlovian or classical conditioning?

A. Learning occurs when the CS is paired with the UCS.

B. **The CR must be immediately followed by the UCR for conditioning to occur.**

C. The CS is neutral at the start of conditioning.

D. The CR occurs only after the CS has been paired with the UCS.

Answer is B

Explanatory notes

- A is a correct statement about classical conditioning. The CS is presented immediately before the UCS during the acquisition phase.
- B is the correct response. The CR is not paired with the UCR. The pairing of the CS and the UCS produces the CR.
- C is a correct statement about classical conditioning. The conditioned stimulus does not naturally produce the UCR or the CR so is neutral before conditioning has occurred.
- D is a correct statement about classical conditioning. The CS is paired with the UCS to produce a CR to the CS.

Question 28

The tendency of the dogs in Pavlov's experiments to salivate at the sound of the research assistant's keys in the gate was an example of

A. stimulus generalisation.

B. extinction.

C. stimulus discrimination.

D. spontaneous recovery.

Answer is A

Explanatory notes

- A is correct. The jingling of the keys was a similar sound to the bell (CS) and also elicited the CR.
- B is incorrect. Following a period when the CS is no longer paired with the UCS the CR will cease or be extinguished.
- C is incorrect. Stimulus discrimination occurs when the organism only produces the CR following the presentation of the CS.
- D is incorrect as the reappearance of a conditioned response when the conditioned stimulus is presented following a period of apparent extinction is known as spontaneous recovery.

Question 29

One difference between one-trial learning and true classical conditioning is

A. a single pairing of the UCS and the CS is all that is necessary in classical conditioning but multiple pairings are necessary in one-trial learning.

B. stimulus generalisation does not usually occur in one-trial learning, especially for taste-aversion, but it may occur in classical conditioning.

C. the CR is readily extinguished in one-trial learning but not in classical conditioning.

D. classical conditioning involves involuntary learning whereas one-trial learning does not.

Answer is B

Explanatory notes

- A is incorrect as repeated pairings of the CS and UCS are necessary in true classical conditioning and by definition, only one pairing is necessary in one-trial learning.
- B is correct as stimulus discrimination is a key feature of taste-aversion. It is not usual for the CS to be generalised.
- C is incorrect. The CR is not easily extinguished in one-trial learning.
- D is incorrect as the learning is also involuntary in one-trial learning.

Question 30

Skinner referred to an operant as

A. a response, or set of responses, that follows a consequence.

B. any organism that learns to respond to a stimulus.

C. behaviours that are in response to known stimuli.

D. a response, or set of responses, that generate/s some sort of environmental effect.

Answer is D

Explanatory notes

- A is incorrect as Skinner described an operant as a response that generates a consequence.
- B is incorrect as an operant is not the organism that is responding but the set of responses produced by the organism.
- C is incorrect. Behaviours that are in response to a known stimulus were called respondents by Skinner.
- D is correct. Skinner described an operant as a 'response, or set of responses, that occurs and acts or operates on the environment to produce some kind of effect' (Grivas, Down & Carter 2004, p. 466).

Question 31

In classical conditioning the role of the learner is _____ and in operant it is _____.

A. active, active

B. passive, passive

C. active, passive

D. **passive, active**

Answer is D

Explanatory notes

- A is incorrect. In classical conditioning the learner is not actively engaged in learning.
- B is incorrect. In operant conditioning the learner is actively engaged in the learning process.
- C is incorrect. See the explanation for A and B.
- D is correct. In classical conditioning, the learner is passive with learning occurring automatically with no conscious effort on the part of the learner. In operant conditioning the learner is active, making a choice as to how to respond or operate on the environment, and actively generating the consequence.

Question 32

In operant conditioning a stimulus that strengthens the behaviour is known as _____.

A. an unconditioned stimulus

B. **a reinforcer**

C. a precedent

D. a punisher

Answer is B

Explanatory notes

- A is incorrect. The term 'unconditioned stimulus' is not used in operant conditioning.
- B is correct as desirable behaviour is reinforced by a reward or pleasant consequence, and this strengthens the response.
- C is incorrect. In operant conditioning it is the consequence of a behaviour, not a precedent that acts as a reinforcer.
- D is incorrect. Punishment weakens a response as it is an undesirable consequence of a behaviour.

Question 33

With negative reinforcement the response is likely to be

A. extinguished.

B. punished.

C. weakened.

D. strengthened.

Answer is D

Explanatory notes

- A is incorrect. Negative reinforcement strengthens a behaviour therefore making it more likely to occur than to be extinguished. Extinction would only occur if the unpleasant consequence was no longer removed.
- B is incorrect. Reinforcement strengthens while punishment weakens behaviour.
- C is incorrect. Reinforcement will always strengthen a behaviour not weaken it.
- D is correct. Negative reinforcement strengthens a behaviour by the removal of an unpleasant consequence.

Question 34

When punishment is being applied it is best to

A. punish the organism immediately before the undesirable behaviour is demonstrated.

B. delay punishment of the organism until the most appropriate opportunity presents itself.

C. administer the punishment immediately after the undesirable behaviour occurs.

D. ensure that the form of punishment is appropriate to reinforce the undesirable behaviour.

Answer is C

Explanatory notes

- A is incorrect. Punishment must occur after the undesirable behaviour.
- B is incorrect. Punishment should ideally be given immediately following the undesirable behaviour.
- C is correct. The immediate consequence of the behaviour will send the strongest message. Delayed punishment is less likely to be associated with the undesirable behaviour.
- D is incorrect. Punishment is designed to weaken undesirable behaviour not strengthen it.

Question 35

In Watson and Rayner's experiments with Little Albert the loud noise was the _____ while the white rat was the _____.

A. CS, CR

B. UCS, CR

C. UCR, CR

D. UCS, CS

Answer is D

Explanatory notes

- A is incorrect. The loud noise naturally elicited the fear response (UCR) so it was the UCS. The white rat became the CS.
- B is incorrect as the CR was fear of the white rat.
- C is incorrect as both the loud noise and the white rat were stimuli not responses.
- D is correct. The loud noise naturally produced the UCS of fear of loud noise. The child was conditioned to fear the white rat so it became the CS.

Question 36

By deliberately conditioning a fear response in Little Albert, Watson and Rayner breached the ethical principle/s known as

A. informed consent.

B. confidentiality.

C. ensuring no harm comes to the participant.

D. all of the above.

Answer is C

Explanatory notes

- A is incorrect. Watson and Rayner did breach this ethical principle by not providing Albert's mother with a full description of the intended experiment and gaining her written consent for her child to take part.
- B is incorrect. Albert's name and photograph were published breaching confidentiality.
- C is correct. It would appear that Watson and Rayner deliberately set out to instil a fear response in the child thus causing him psychological harm.
- D is incorrect. All of the principles mentioned were breached but not by the act of conditioning a fear response.

Question 37

Shaping is also known as

A. the method of successive approximations.

B. the method of operant approximations.

C. the method of loci.

D. the method of spontaneous recovery.

Answer is A

Explanatory notes

- A is correct. Shaping is a means of reinforcing behaviours that successively approximate the desired behaviour until the target behaviour is reached.
- B is incorrect. The term 'operant approximations' is not used in this study.
- C is incorrect. The method of loci is a mnemonic technique where the learner mentally visualises items to be remembered in familiar places and then mentally revisits those places which act as recall cues for the items previously 'placed' there.
- D is incorrect as this is a term used to describe the phenomenon of a previously conditioned behaviour, that has apparently been extinguished, reappearing upon presentation of the CS, if operantly conditioned, in the absence of any reinforcer.

Question 38

Which of the following is a correct statement about schedules of reinforcement?

A. The fixed ratio schedule is when a reinforcer is given after an unpredictable number of correct responses.

B. Variable schedules use partial reinforcement as they reward some correct responses but not all.

C. Behaviours conditioned using partial reinforcement are quite easy to extinguish.

D. The variable interval schedule is when reinforcement is given after fixed periods of time.

Answer is B

Explanatory notes

- A is incorrect. A fixed ratio schedule is when a reinforcer is given after a predictable number of correct responses.
- B is correct. Partial reinforcement is when some correct responses are rewarded and others are not. Partial reinforcement may be delivered in either a variable ratio or a variable interval schedule of reinforcement.
- C is incorrect as behaviours that are learned as a result of partial reinforcement are difficult to extinguish.
- D is incorrect. A variable interval schedule is used when reinforcement is given after irregular periods of time.

Question 39

In classical conditioning the response comes _____ the stimulus and in operant conditioning the response comes _____ the stimulus.

A. before, before

B. before, after

C. after, after

D. after, before

Answer is D

Explanatory notes

- A, B and C are incorrect because in classical conditioning the conditioned response occurs immediately after the conditioned stimulus, and in operant the reinforcement (stimulus) occurs after the desired response.
- D is correct. In classical conditioning the response comes after the presentation of the CS due to the expectation of the unconditioned stimulus being paired with the conditioned stimulus. In operant conditioning the learner is conditioned to behave (respond) in a certain way in order to be reinforced by the stimulus.

The following information relates to Questions 40, 41 and 42.

Xavier is a big football fan and watches every game that he can. Xavier analyses the moves made by each player and thinks about how he can repeat them. After watching he always practices his ball-handling and kicking skills, mimicking the techniques of his favourite players. One day he hopes that he can emulate the performance of Gary Ablett by playing in the AFL and winning the Brownlow Medal.

Question 40

In terms of observational learning, when watching the game Xavier is demonstrating _____ and when thinking about the techniques he has seen he is demonstrating _____.

A. reproduction, motivation-reinforcement

B. reproduction, attention

C. motivation-reinforcement, modelling

D. **attention, retention**

Answer is D

Explanatory notes

- A is incorrect. Reproduction involves reproducing the modelled behaviour, in this case, ball handling and kicking. Motivation-reinforcement involves being inspired to model the behaviour because of the pleasant consequence (winning the Brownlow) that it may bring.
- B is incorrect. Reproduction involves reproducing the modelled behaviour. Attention involves closely watching the model perform the behaviour to be learned.
- C is incorrect. Motivation-reinforcement involves being inspired to model the behaviour because of the pleasant consequence (winning the Brownlow) that it may bring. Modelling is the term used to describe the behaviour performed by the model.
- D is correct. Attention involves watching the performance of the behaviour to be learned, and retention involves encoding and storage of the information so that it may be retained in memory. By paying close attention and then thinking about how the game is played Xavier is improving the encoding or retention of the information.

Question 41

Xavier is quite a talented footballer and finds it relatively easy to replicate the techniques that he watches on TV. In terms of the elements of observational learning, this is an example of

A. attention.

B. retention.

C. **reproduction.**

D. motivation-reinforcement.

Answer is C

Explanatory notes

- A is incorrect**.** Attention involves watching the performance of the behaviour to be learned.
- B is incorrect. Retention involves forming a mental representation of the behaviour that is attended to.
- C is correct. Reproduction refers to the re-enactment or performance of the behaviour. The fact that Xavier is a talented footballer means that he has the capacity to carry out the action that he has observed, an important element of reproduction.
- D is incorrect. Motivation-reinforcement means that the observer must be in some way motivated to reproduce the behaviour and seeing the model reinforced is one way that this is made more likely.

Question 42

Xavier's desire to play football was increased when he watched the Brownlow count on TV and saw Gary Ablett win the medal. This can **best** be described as

A. motivation-reinforcement.

B. **vicarious reinforcement.**

C. retention.

D. reproduction.

Answer is B

Explanatory notes

- A is incorrect. Motivation-reinforcement involves being inspired to model the behaviour because of the pleasant consequence (winning the Brownlow) that it may bring, but it is **best** described in terms of vicarious reinforcement.
- B is correct. By watching Gary Ablett be rewarded for his performance, Xavier is more likely to be motivated to reproduce the behaviour.
- C is incorrect as retention involves encoding and storage of the information so that it may be retained in memory.
- D is incorrect. For reproduction to take place the observer must be able to replicate the behaviour.

Question 43

The results of Bandura's BoBo doll experiments suggest that

A. **failure to reproduce the aggressive behaviour did not necessarily mean that aggressive behaviour had not been learned.**

B. reinforcement of aggression decreases the likelihood of the reproduction of aggressive behaviour by the observer.

C. punishment is an effective means of reducing aggressive behaviour in children.

D. punishment of aggression increases the likelihood of reproduction of aggressive behaviour by the observer.

Answer is A

Explanatory notes

- A is correct. Bandura's findings suggested that watching behaviour results in a mental representation of the behaviour being formed but the behaviour may not necessarily be performed in the absence of reinforcement.
- B is incorrect. Reinforcement increases the likelihood of any behaviour being repeated.
- C is incorrect as even those children who saw another being punished for aggression were likely to imitate the aggressive behaviour if rewarded for doing so.
- D is incorrect. The findings suggest that punishment may inhibit aggressive responses but if an appropriate reinforcer is offered, punishment may not result in deterring aggressive behaviour.

Question 44

Harlow (1949), following his research into learning, concluded that

A. learning set involves more complex cognitive activity than operant conditioning.

B. learning set is best described in terms of stimulus – response associations.

C. learning set can only be applied to monkeys.

D. monkeys are not capable of insightful behaviour.

Answer is A

Explanatory notes

- A is correct as Harlow found that operant conditioning was a simple stimulus/response form of learning whereas the learner gained a certain insight from previous experience that they are able to apply when demonstrating a learning set.
- B is incorrect as this best describes operant conditioning.
- C is incorrect as, although Harlow's work involved monkeys, his findings were generalised to humans.
- D is incorrect as Harlow clearly found that monkeys were capable of demonstrating insight.

END OF SECTION A
TURN OVER

SECTION B – Short-answer questions

AREA OF STUDY 1 – Memory

Question 1

Karina and Phoebe went to the Royal Melbourne Show together. They went on all the rides and spent hours roaming around looking at the various attractions. Later, when they were discussing their day, Karina found that her memories were not necessarily the same as Phoebe's in all respects. Using your knowledge of the information-processing model of memory, **explain** how the two girls could have slightly different memories of the same events.

2 marks

Answer

Sensory memory is the entry point for sensory information such as the sounds and sights of the show. Only sensory memories that are attended to will be transferred to short-term memory and then stored in long-term memory. It is likely that the girls attended to different aspects of their day at the show and therefore stored different memories.

Mark allocation

- 1 mark for correctly identifying the three levels of memory in the information processing model (sensory, short-term and long-term).
- 1 mark for explaining that only sensory memories that are attended to will be stored in STM and then possibly transferred to LTM.

Tip

- *As this question requires you to discuss the information processing model it is important that you name the three stages of memory and not use the abbreviations of STM and LTM the first time that you identify them. It is also important in questions of this nature that you refer to the scenario, in this case the Royal Melbourne Show. The chief assessor does not want to see rote learned definitions that do not link to the key information provided in the question.*

Question 2

Nora was studying for her physics exams and decided to learn the definitions by repeating them over and over to herself. Her friend Justin, a keen psychology student, told her that this was not a very effective method of learning.

a. **Identify** the type of rehearsal Nora was using to learn her definitions.

1 mark

Answer

Maintenance rehearsal

Mark allocation

- 1 mark for correctly identifying the term 'maintenance rehearsal'.

Tip

- *Spelling of key terms must be accurate. This is an easy mark but it could be lost if you were unable to spell the term correctly.*

b. Identify and **explain** a more effective method that Nora could use.

2 marks

Answer

Elaborative rehearsal would be a more effective method as it requires Nora to link the information learned in physics to information already stored in LTM, for example, by creating a concept map.

Mark allocation

- 1 mark for identifying elaborative rehearsal.
- 1 mark for explaining that this involves linking the new physics information to information already stored in LTM. (This could also be achieved through the creation of a mnemonic such as method of loci – linking visual images of each piece of new information with a well-known location so that it can be more easily recalled later.)

Tip

- *It is appropriate to use the abbreviation STM here as you will have already provided the full term in the previous question.*

Question 3

Relearning is considered the _____ sensitive measure of retention and recall is the _____ sensitive.

2 marks

Answer

Relearning is considered the *most* sensitive measure of retention and recall is the *least* sensitive.

Mark allocation

- 1 mark for correctly stating relearning is the most sensitive.
- 1 mark for correctly stating that recall is the least sensitive.

Question 4

Bruno and Julian were big fans of James Bond films. Bruno thought the early films were much better than the more recent ones, but Julian preferred the later films. They constantly debated the merits of the new versus the older films as they watched them over and over again. Using the terms of Baddeley's theory of working memory, **explain** how the boys would use the various components when debating which were the better films.

3 marks

Answer

Watching the films would involve the information being initially stored in the visuospatial sketchpad (visual images) and in the phonological loop (sounds) and then integrated by the central executive with information in long-term memory. As each boy spoke, the sounds would be stored in the phonological loop and information would be retrieved from LTM by the central executive to make sense of the information and therefore enable the boys to respond.

Mark allocation

- 1 mark for identifying the phonological loop and the visuospatial sketchpad.
- 1 mark for explaining how the information is then processed by the central executive and integrated with information stored in LTM.
- 1 mark for using the scenario to explain the theory.

Question 5

John is a healthy and active man of 65. When he was at school he excelled at languages and learned French and Latin but once he left school, he found he had little opportunity to use his foreign language skills. John's grand-daughter also enjoyed studying languages but when he tried to help her prepare for her final French exams, 47 years later, John found that he couldn't remember many of the French words and had completely forgotten the rules of grammar.

Which theory of forgetting would **best explain** John's inability to remember the French material at the age of 65 when he knew it so well at the age of 18?

3 marks

Answer

The decay theory of forgetting states that if memories are not retrieved over a long period of time then the physical neurological trace will fade, inhibiting retrieval. As John had not used his French for so long the memories had faded to a point where most could not be retrieved.

Mark allocation

- 1 mark for identifying decay theory.
- 1 mark for explaining decay theory.
- 1 mark for linking this explanation to the scenario.

Explanatory Notes

Decay theory is the most appropriate theory but motivated forgetting could also have been used in which case the response would need to reflect a sound knowledge of the theory. For example, motivated forgetting involves either consciously (suppression) or unconsciously (repression) forgetting traumatic memories as a defence mechanism. John may have had a very traumatic experience in a French lesson and so had unconsciously or consciously forgotten the information previously stored so as to spare himself the pain of remembering the experience. Decay theory remains the *best* example though.

The fact that the question stated that John was healthy eliminates an organic cause as a possible solution.

Retrieval failure theory would not be an appropriate response. It could be assumed that if John was helping his grand-daughter with her French then many of the correct retrieval cues would be present in the material. Again, it was not the *best* response**.**

Question 6

A researcher conducted a study into the use of mnemonics as an aid in effectively encoding information to be recalled at a later date. He took care to apply the ethical guidelines in order to protect the rights of his participants. One guideline that he followed was that of the right of withdrawal. **Explain** this ethical principle.

1 mark

Answer

Participants have the right to elect to leave a study and to take their results with them at any time.

Mark allocation

- To earn the mark here students must explain withdrawal and include a reference to withdrawing results.

Tip:

- *In questions of this nature try not to repeat the key word that you are explaining in your response. For example, 'leave the study' is better than repeating the word 'withdraw'. The assessor needs to see that you understand the term.*

END OF AREA OF STUDY 1
SECTION B – continued
TURN OVER

AREA OF STUDY 2 – Learning

Question 7

Trapdoor spiders live in burrows that they dig out of the ground and then line with silk. One kind of trapdoor spider, the tube spider, extends a tube of silk several centimetres above ground, attached to a twig, rock or tree trunk in order to catch prey. In what ways does this behaviour match the definition of a fixed-action pattern?

2 marks

Answer

The complex behaviour (extending a tube of silk) is demonstrated by all members of the species (tube spiders) in exactly the same way in response to an identical environmental stimulus (prey).

Mark allocation

- 1 mark for identifying that the behaviour is complex and it is species specific.
- 1 mark for identifying that the behaviour is always performed in the same way in response to an identical environmental stimulus.

Explanatory Note

If the response did not directly link to the example of a tube spider but was simply a repetition of a learned definition no marks would be awarded.

Question 8

Frequency and timing of stimulus presentation are important during the acquisition phase of classical conditioning. **Explain** this statement.

2 marks

Answer

During acquisition the learner is conditioned to associate the conditioned stimulus and the unconditioned stimulus in order to produce the conditioned response. The two must be paired over multiple trials with the CS immediately preceding the UCS if conditioning is to occur.

Mark allocation

- 1 mark for explaining that repeated pairings are needed (frequency).
- 1 mark for explaining that the CS must be immediately followed by the UCS during acquisition.

Tip

- *Unless the question has used the full terms (for example, unconditioned response, conditioned stimulus) always write the terms in full. If the full terms have been used it is appropriate to abbreviate in your solution (for example, UCR, CS).*

Question 9

In terms of classical conditioning **explain** the difference between extinction and spontaneous recovery.

2 marks

Answer

In classical conditioning extinction occurs when the conditioned stimulus no longer elicits the conditioned response because it is no longer paired with the unconditioned stimulus.

Spontaneous recovery occurs when the CR reappears after an apparent period of extinction upon presentation of the CS.

Mark allocation

- 1 mark for correctly explaining the definition of extinction as it applies to classical conditioning.
- 1 mark for correctly explaining spontaneous recovery as it applies to classical conditioning.

Tip

- *When a question uses the phrase 'in terms of' you must use the specific terminology related to the theory. For example, in classical conditioning you need to use the terms 'conditioned stimulus', 'unconditioned stimulus', 'conditioned response', 'unconditioned response', 'acquisition', 'extinction', etc.*

Question 10

In operant conditioning, when a reinforcer is given after every correct response it is known as a _____ schedule of reinforcement, and this is the _____ effective schedule of reinforcement to use during the acquisition phase.

2 marks

Answer

In operant conditioning when a reinforcer is given after every correct response it is known as a *continuous* schedule of reinforcement, and this is the *most* effective schedule to use during the acquisition phase.

Mark allocation

- 1 mark for correctly providing the term 'continuous'.
- 1 mark for correctly providing the word 'most'.

Question 11

a. **Explain** how a teacher threatening to give a student detention for not doing homework can be viewed as either negative reinforcement or punishment.

2 marks

Answer

Negative reinforcement strengthens the likelihood of a behaviour being repeated by removing an unpleasant consequence of not performing the behaviour, for example, avoiding detention by completing homework.

Punishment involves weakening the likelihood of a behaviour being repeated by administering a negative consequence of the behaviour. Detention is used to weaken the 'not doing homework' behaviour.

Mark allocation

- 1 mark for correctly explaining that by removing the threat of detention 'doing homework' is strengthened.
- 1 mark for correctly explaining that by using detention as a punishment the 'not doing homework' behaviour is weakened.

b. If the teacher rewarded a student for doing homework this would be an example of _____ _____.

1 mark

Solution

If the teacher rewarded a student for doing homework this would be an example of *positive reinforcement.*

Mark allocation

- 1 mark for correctly identifying positive reinforcement.

Question 12

Using an appropriate example, **explain** the concepts of motivation and reinforcement as they relate to observational learning.

2 marks

Solution

An Olympic swimmer might watch a team-mate swim and be motivated to swim faster. The feeling of accomplishment is an intrinsic reinforcer as the swimmer feels good about being part of the team and is motivated to swim faster.

Mark allocation

- 1 mark for providing an example of observational learning that demonstrates motivation on the part of the learner.
- 1 mark for providing an example that also includes a reference to reinforcement of the learner.

Question 13

Conor and Yasmin began to play tennis on a regular basis. Neither had played tennis before but Yasmin had played squash. Conor was annoyed that Yasmin beat him the first few times they played. In terms of learning set, **explain** why Yasmin was better at tennis than Conor.

1 mark

Solution

Yasmin had developed similar skills through her previous experience of playing squash and therefore had a positive transfer of skill from squash to tennis.

Mark allocation

- 1 mark for explaining that the *previous experience* had led to a *positive transfer* of skills. (Both italicised terms are necessary to earn the mark.)

END OF AREA OF STUDY 2
SECTION B - continued

AREA OF STUDY 3 – Research investigation

Read the following research study. All the questions which follow relate to this study. Answer all questions.

A researcher, Doctor Young, interested in the incidence of post-natal depression in new mothers, conducted a study to determine whether parenting classes and counselling services would reduce depression and anxiety in the first 6 months after giving birth to their first child. Dr Young recruited participants by putting up posters in the ante-natal units of 10 urban and regional public hospitals across Victoria. Dr Young also placed advertisements in newspapers inviting first-time parents to take part in the study. Four hundred participants were recruited.

Prior to the study participants were provided with a complete written description of the study's aims and methods and were asked to sign a consent form before taking part. Participants were also advised that they could withdraw from the study at any time.

Dr Young divided the participants into two groups of 200. Group 1 attended a series of parenting classes and was offered two counselling sessions. Group 2 did not receive counselling and did not attend the classes. When the mothers were followed up 6 months later, 18% of the counselling classes group reported experiencing symptoms of post-natal depression, while 37% of the no-treatment group reported symptoms.

The researcher set a significance level of 0.05 and the result was calculated as $p < 0.05$.

All participants were debriefed after the study.

Question 14

Write an appropriate operational hypothesis for this study.

2 marks

Solution

It is hypothesised that first-time Victorian mothers who take part in parenting classes and counselling sessions will experience lower incidence of post-natal depression than first-time mothers who do not take part in these support activities.

Mark allocation

- 1 mark for identifying the IV (parenting classes and counselling sessions) and DV (incidence of post-natal depression).
- 1 mark for identifying the population (first-time Victorian mothers) and the direction of the DV (lower)

Question 15

Identify the independent variable and the dependent variable in this study.

2 marks

Solution

IV Parenting classes and counselling
DV incidence of post-natal depression

Mark allocation

- 1 mark for correctly identifying the IV.
- 1 mark for correctly identifying the DV.

Question 16

Was this sample randomly selected? **Explain** your answer.

1 mark

Solution

Yes. While every first-time mother within Victoria was not technically offered the opportunity, the sampling was very broad and was not biased.

Mark allocation

- 1 mark for correctly explaining why the sampling procedure was random.

Question 17

a. What research design was used in this study?

1 mark

Solution

Independent groups design.

Mark allocation

- 1 mark for correctly identifying the research design.

b. **Explain** one benefit of this research design.

1 mark

Solution

Benefit: the independent groups design is easy to set up and administer.

OR

Benefit: random allocation should ensure that the groups are fairly well matched on participant characteristics.

Mark allocation

- 1 mark for correctly identifying the ease of administration for independent groups.

OR

- 1 mark for correctly stating that this design results in an even spread of participant characteristics between groups.

c. In what key way does this design differ from the repeated measures design?

1 mark

Solution

In the independent groups design, each participant is randomly allocated to either the control or experimental group whereas in the repeated measures design, each participant is involved in both the control and experimental condition.

Mark allocation

- 1 mark for correctly stating that participants are either in the control or experimental group for independent groups and in both experimental and control in the repeated measures design.

Tip

- *When responding to questions that require you to explain the difference between two concepts always describe both concepts as shown above. If, for example, you were to write 'in the repeated measures design participants are in both the experimental and control groups' you would not be indicating how this differs to the independent groups.*

Question 18

a. What type of statistics did Dr Young use when analysing the results of this study?

1 mark

Solution

Inferential statistics.

Mark allocation

- 1 mark for correctly identifying inferential statistics.

b. What is one benefit of using this type of statistic?

1 mark

Solution

Inferential statistics allow the result to be generalised.

OR

Inferential statistics may be used to establish a cause-effect relationship between the independent variable and the dependent variable.

Mark allocation

- 1 mark for correctly identifying either of the two pieces of information provided.

Question 19

Was the result statistically significant? **Explain** your answer.

2 marks

Solution

Yes. The p value of < 0.05 meant that the result was likely to have been due to the manipulation of the IV in 95% of cases and not due to chance.

Mark allocation

- 1 mark for correctly identifying that the result was statistically significant and was due to the manipulation of the IV and not chance.
- 1 mark for explaining that there was a 95% probability level found.

Question 20

a. What was the purpose of dividing the participants into two groups?

1 mark

Solution

Group 2 was the control group which provided a baseline result with which to compare the results of the experimental group.

Mark allocation

- 1 mark for correctly stating that the control provides a point of comparison for the results of the experimental group.

b. Which of these groups was the experimental group? **Explain** your answer.

2 marks

Solution

Group 1. The independent variable was applied to the group 1 but not to group 2.

Mark allocation

- 1 mark for correctly identifying group 1 as the experimental group.
- 1 mark for correctly explaining that the IV was applied to group 1 but not to group 2.

Question 21

Why would a double-blind procedure have been inappropriate for this study?

1 mark

Solution

This would be inappropriate for this study as the experiment clearly required that one group be offered counselling and training and that the other would not.

(In a double-blind procedure neither the experimenter nor the participants are aware of which group (experimental or control) the participants have been placed in.)

Mark allocation

- To gain the mark students need to explain why double-blind could not have been applied. It is not necessary to define the double-blind procedure.

Question 22

a. Dr Young was required to follow specific ethical guidelines in the conduct of her research. **Identify** one procedure that is evident in the description of the study.

1 mark

Solution

Debriefing.

OR

Informed consent.

OR

Withdrawal rights.

Mark allocation

- 1 mark for providing any of the three responses indicated.

b. **Identify** one other ethical guideline that Dr Young would have had to use but has not been clearly outlined in the description of the study.

1 mark

Solution

Confidentiality of the participants must be protected.

Or

Participants must not be harmed physically or psychologically as a result of the study.

Mark allocation

- 1 mark for providing either of the pieces of information indicated.

END OF SOLUTIONS BOOK