

# PSYCHOLOGY

## Unit 4 – Written examination 2



### 2008 Trial Examination

#### SOLUTIONS

##### SECTION A – Multiple-choice questions (1 mark each)

##### AREA OF STUDY 1 – MEMORY

###### Question 1

*Answer:* D

*Explanation:*

We are able to store visual information for approximately one third of a second in our iconic memory, which is a part of our sensory memory system.

###### Question 2

*Answer:* B

*Explanation:*

The three memory systems according to the *information processing model* in order of processing are considered to be sensory memory, short-term memory, long-term memory.

###### Question 3

*Answer:* D

*Explanation:*

The measure of retention used in answering multiple-choice questions in an exam is recognition. Recognition is identifying the correct information among alternatives.

**Question 4**

*Answer:* A

*Explanation:*

The most sensitive measure of retention is relearning. The order of sensitivity of measures of retention from least to most is recall, recognition and relearning.

**Question 5**

*Answer:* D

*Explanation:*

It is possible to increase the duration of short-term memory using the process known as rehearsal. There are two types of rehearsal, maintenance rehearsal is simple, meaningless, rote repetition of information held in short-term memory and elaborative rehearsal is the process of linking new information in a meaningful way with information already stored in memory or with other new information to increase the level of understanding.

**Question 6**

*Answer:* A

*Explanation:*

It is possible to increase the capacity of short-term memory using the process known as chunking. This is the grouping of bits of information into larger 'chunks' that can be remembered as single units.

**Question 7**

*Answer:* D

*Explanation:*

Recognition being more sensitive than free recall. The use of a photograph provides visual cues to access memories, this is known as recognition.

**Question 8**

*Answer:* B

*Explanation:*

According to George Miller, the capacity of short-term memory is approximately 7 items.

**Question 9**

*Answer:* A

*Explanation:*

Elaboration is the memory improving technique of linking new information with previously stored information.

**Question 10**

*Answer:* B

*Explanation:*

Remembering the brand of your bike is an example of semantic memory; remembering the first time you rode your bike is an example of episodic memory; and your memory of how to ride your bike is an example of procedural memory.

Semantic memory is the memory of facts and academic information we have about the world.

Autobiographical events are retained in the episodic memory. Procedural memory is the remembrance of skills and actions learned in the past – knowing how to do something, eg: ride a bike.

**Question 11**

*Answer:* C

*Explanation:*

Alice will recall the last few students' names due to the serial position effect. Recall is best for items at the end, then the beginning and worst for items around the middle of the list.

**Question 12**

*Answer:* D

*Explanation:*

Part of the serial position effect, described in Question 11 above, occurs because the last items are still in short-term memory, the first items are encoded and stored in LTM.

**Question 13**

*Answer:* A

*Explanation:*

Proactive interference refers to information learned previously interferes with the ability to remember new information.

**Question 14**

*Answer:* C

*Explanation:*

The two types of long-term memories which are considered to be explicit are semantic and episodic.

**Question 15**

*Answer:* D

*Explanation:*

This is an example of anterograde amnesia. Anterograde amnesia is loss of memory for events after the injury. Memories relating to the period before the injury are retained but the individual loses the ability to lay down new memories.

**Question 16**

*Answer:* C

*Explanation:*

Brooke travels to school on the bus; her ability to remember where the seat is that she usually sits in is an example of a/an episodic memory.

**Question 17**

*Answer:* B

*Explanation:*

Research into the effects of ageing on memory has shown processing speed in LTM is reduced due to reduced efficiency of the nervous system

**Question 18**

*Answer:* C

*Explanation:*

Nic is going on a holiday to Greece for the summer, he looks at a map of the world to determine how long it will take to fly there. Nic's ability to identify the country of Greece is an example of semantic memory.

**Question 19**

*Answer:* A

*Explanation:*

Being in the same physical state as when the information was learnt is a way of improving memory but not an explanation for forgetting information.

**Question 20**

*Answer:* B

*Explanation:*

If the physical trace of a memory has faded due to disuse this is known as decay theory. Based on the assumption that a chemical trace of each memory is formed on the brain.

**Question 21**

*Answer:* D

*Explanation:*

Which p value indicates that there is a less than 5 in 100 chance that the results are due to chance –  $p < 0.05$ .

**Question 22**

*Answer:* B

*Explanation:*

Harley is using context dependent cues to help him recall the crime. Context-dependent cues are environmental cues relating to the particular context the information fits into. E.g. information learned in a particular place will be more readily retrieved in that place.

**AREA OF STUDY 2 – LEARNING**

**Question 23**

*Answer: C*

*Explanation:*

An automatic response that occurs as the result of previous experience is known as a conditioned reflex. This is a learned reflexive response that requires very little thought.

**Question 24**

*Answer: C*

*Explanation:*

Most infants begin crawling at approximately 6 months of age. This is an example of behaviour due to maturation. Maturation is the ordered change of the nervous system and of bodily structures as part of development.

**Question 25**

*Answer: A*

*Explanation:*

The stages of classical conditioning in order of appearance are acquisition, extinction, spontaneous recovery.

**Question 26**

*Answer: D*

*Explanation:*

In Pavlov's experiment on salivation in dogs, the neutral stimulus was the bell and the conditioned stimulus was the bell.

**Question 27**

*Answer: A*

*Explanation:*

Stephanie's fear of the rabbit was due to stimulus generalisation. Stimulus generalisation is the tendency for another stimulus similar to the CS to elicit the CR or a similar response.

**Question 28**

*Answer: A*

*Explanation:*

The dog's behaviour is an example of classical conditioning. Classical conditioning is the repeated association of two or more different stimuli. The picking up the dogs bowl (CS) is repeatedly associated with food (UCS).

**Question 29**

*Answer: A*

*Explanation:*

Rachel has a part time job picking fruit. She is paid \$10 for every bucket of fruit picked. This is an example of a fixed ratio schedule of reinforcement. Fixed (gets paid the same amount) and ratio (payment is based on a number of buckets).

**Question 30**

*Answer: C*

*Explanation:*

Variable interval is the slowest schedule of reinforcement to lead to extinction. An example of this schedule is that of poker machines. Since reinforcement cannot be predicted, and is based on time, cessation of responding will be gradual.

**Question 31**

*Answer: A*

*Explanation:*

Thorndike identified the cat trying many different random movements to escape from the puzzle box as trial and error, once the cat had learned which action caused it to be able to escape from the puzzle box as instrumental learning. Trial and Error learning is learning by trying alternative possibilities until a correct solution is achieved. Instrumental learning is learning in which an organism learns through the association of its behaviour and its consequences.

**Question 32**

*Answer: A*

*Explanation:*

This is an example of taste aversion. Taste aversion is a learned response in which an association is made between a particular taste and being ill.

**Question 33**

*Answer: C*

*Explanation:*

In this scenario the conditioned stimulus is the light switch. The light switch was originally the neutral stimulus, but after repeated associations with the electric shock, it becomes the conditioned stimulus.

**Question 34**

*Answer: C*

*Explanation:*

In this scenario going for a walk is the unconditioned stimulus and Kate changing her shoes is the conditioned stimulus.

**Question 35**

*Answer: D*

*Explanation:*

Making a child sit in the naughty corner for 10 minutes is an example of punishment. A punishment is administering an unwanted consequence to decrease behaviour.

**Question 36**

*Answer: B*

*Explanation:*

Behaviour which is learnt through operant conditioning rather than through classical conditioning is more likely to be active. It is an active process as the organism is instrumental in bringing about the satisfying consequence.



**Question 37**

*Answer: C*

*Explanation:*

Skinner's original experiments were famous for using an operant conditioning chamber, it was known as a skinner box. It is a small soundproof chamber in which an animal learns to make a particular response with the experimenter controlling the consequences of the response.

**Question 38**

*Answer: D*

*Explanation:*

Jack's learning of how to become a great football player relies on the principles of modelling, this is also known as observational learning.

**Question 39**

*Answer: A*

*Explanation:*

Jack receives additional motivation when he observes the crowd cheering his favourite player for kicking a goal, this is an example of vicarious reinforcement. Vicarious reinforcement increases the likelihood that the behaviour being observed will be repeated.

**Question 40**

*Answer: B*

*Explanation:*

This relates to reproduction. Jack must have the ability to put the observed and remembered behaviour into practice.

**Question 41**

*Answer: B*

*Explanation:*

In terms of observational learning Jack's favourite player would be known as the model. The person being observed is the model.

**Question 42**

*Answer:* D

*Explanation:*

Kristen's friend is hoping that a positive transfer of skills to shooting a netball will result from her learning set for shooting a basketball. The learning set is the improvement in learning ability due to prior experience in a similar learning situation.

**Question 43**

*Answer:* D

*Explanation:*

Bandura's BoBo doll experiments found that children were more likely to imitate the aggressive behaviour of the observed model if the model was positively reinforced or if there was no consequence for the model.

**Question 44**

*Answer:* B

*Explanation:*

In terms of classical conditioning, the song in the scenario is the conditioned stimulus. Conditioned stimulus is neutral at the start of the process i.e. the song, but produces the feeling of sadness after the association of finishing school.

**SECTION B – Short answer questions**

**AREA OF STUDY 1 – Memory**

**Question 1**

The sensitivity of a measure of retention is its ability to assess the amount of stored information.  
The measure of retention which is the most sensitive is relearning.

2 marks

**Question 2**

Information is stored in its raw form in sensory memory.  
Information is stored in terms of its physical characteristics in short term memory.  
Information is stored semantically (in terms of its meaning) in long term memory.

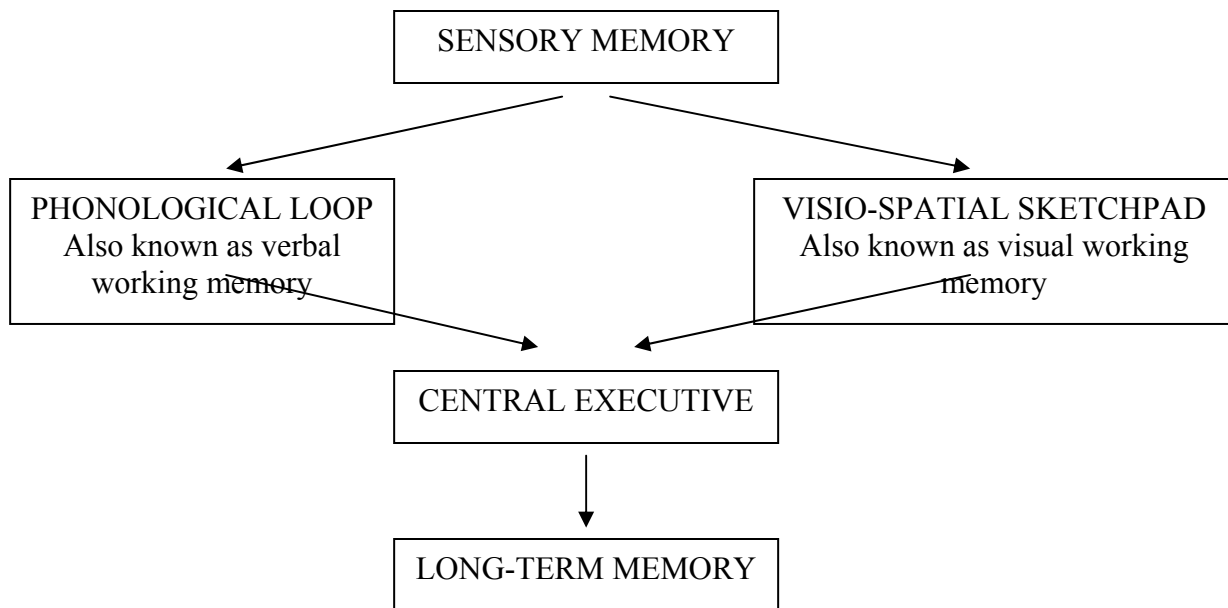
3 marks

**Question 3**

Semantic memory is the memory of facts and academic information we have about the world.  
This is knowing about things, eg: WW1 broke out in 1914.

2 marks

**Question 4**



3 marks

**Question 5**

Repression is an *unconscious* process - may be related to anxiety about the item being remembered. The individual avoids recalling the memory through unconscious processes to block the unpleasant feelings associated with the memory.

Suppression involves being motivated to forget an event by making a *conscious* (rather than unconscious) effort to keep it out of conscious awareness. It means you choose not to think about it.

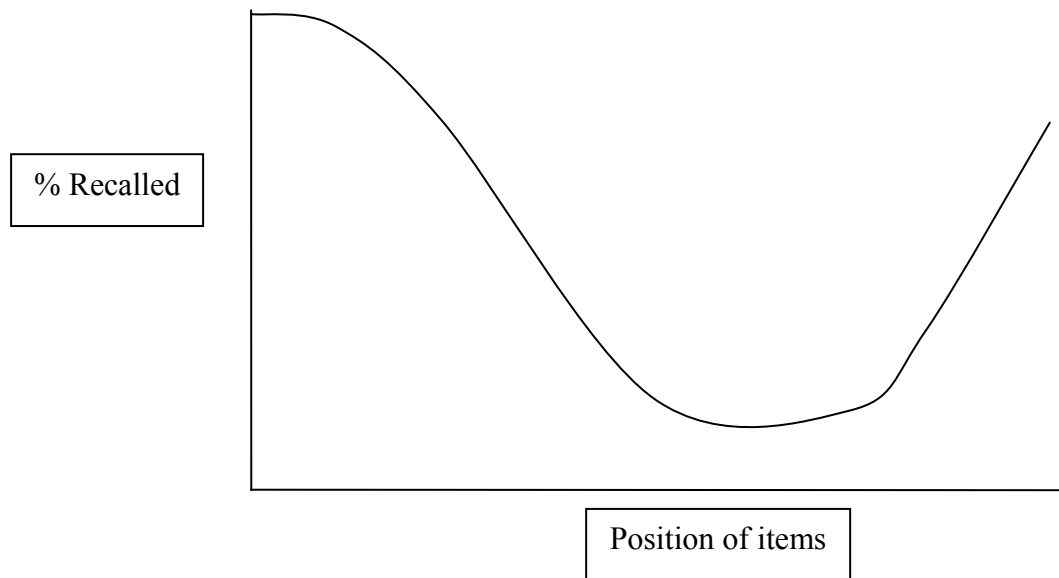
2 marks

**Question 6**

Consolidation theory states that it takes time for information to be transferred from STM to consolidate into LTM as physical changes in brain cells occur and this process takes time (at least 30 minutes). Interruption during this consolidation phase means that memories are not properly laid down and are unstable and forgetting may occur.

1 mark

**Question 7**



1 mark

**AREA OF STUDY 2- Learning**

**Question 8**

Maturation is the ordered change of the nervous system and of bodily structures as part of development. Behaviour dependent on bodily maturation is genetically determined, rather than learning determined. Behaviours dependent on maturation are the result of the orderly, sequential development of the body. e.g.: crawling at approximately 6 months.

2 marks

**Question 9**

Unconditioned stimulus - loud gong  
Unconditioned response – fear, crying and shaking  
Conditioned stimulus – a white rat  
Conditioned response – fear, crying and shaking

4 marks

**Question 10**

Thorndike's 'Law of Effect' - A behaviour that is followed by satisfying consequences is strengthened (more likely to occur) and a behaviour which is followed by annoying consequences is weakened (less likely to occur).

2 marks

**Question 11**

Negative reinforcement is the removal of a negative consequence which strengthens the behaviour, e.g. Taking aspirin to remove a headache. Punishment is the adding of an undesirable consequence to decrease behaviour, e.g. Smacking a child for throwing rocks at a car.

2 marks

**Question 12**

Order of presentation- reinforcement must be presented after a desired response, never before (opposite of pairing stimuli that occurs in classical conditioning).

Timing of reinforcement - is most effective when it immediately follows the desired response, this ensures that the reinforcer is associated with the desired response. A delay slows or prevents the learning process.

The reinforcer must also be appropriate to the organism to elicit the required response. This highlights the cognitive processes in operant conditioning. It is not a learned automatic response; the organism actively acts upon their environment to achieve the desired consequence.

2 marks

**AREA OF STUDY 3 – Research Investigation**

**Question 13**

VCE students who complete a general knowledge test with no background music will score higher results than students who complete the general knowledge test while listening to background music.

Must include information on statement of population, IV and operationalised DV.

2 marks

**Question 14**

Random sampling was not used in this study as Vicky used a convenience sample by selecting those students who were in the VCE room, therefore not all members of the population had an equal chance of being selected.

1 mark

**Question 15**

a. Repeated measures design

1 mark

b. It minimises the possible effects of individual participant variables, eg. IQ.

1 mark

c. Order effects/Learning effect/Boredom effect

Participants may perform better or be hindered by completing the task on the second occasion, due to learning, boredom or fatigue. This will impact on the DV.

d. Counterbalancing

**Question 16**

No, Vicky can not draw a conclusion from the results obtained due to the results not being statistically significant. The calculated p value was higher than the set 0.05 level, therefore, there the probability was higher than 5 in 100 that the results were due to chance.

2 marks

**Question 17**

Any two of the following;

- Interpretation and explanation of results
- State if the hypothesis was supported or not.
- State how this research relates to previous research.
- Identify any extraneous and/or confounding variables and describe their impact on the results.
- State how this study could have been improved.
- Make suggestions for possible future research.

2 marks

**Question 18**

Vicky could have sent a letter home to the students parents describing the procedure of the study and identifying any possible risks involved. The parents would have to return a signed consent form.

2 marks

**Question 19**

The study should do no harm to participants.

Participants' rights must be respected throughout all stages of the research. These rights include:

Confidentiality – the researcher must not disclose information that may identify the participants.

Voluntary participation – participants must take part under their own free will with no duress applied.

Informed consent – participants must be fully informed of the nature and purpose of the research, particularly in respect of the procedures that are involved.

Withdrawal rights – participants must be informed of their right to withdraw from the research at any stage.

Deception - Where deception has been necessary to safeguard the integrity of the research, the participants must be fully debriefed at the conclusion.

Debriefing – the researcher must provide the participants with a full explanation of the research, its purpose and any conclusions that are reached, at the end of the research.

2 marks

**Question 20**

The results of this study are not statistically significant as the p value is greater than the identified 0.05 level, as indicated by  $p \geq 0.05$ .

1 mark

**Question 21**

This study is classified as an experiment as it involved the active manipulation of the independent variable (IV) to determine whether it would bring about a change in the dependent variable (DV). This is known as a cause-effect relationship, or a causal relationship.

2 marks