

TRIALS FOR TEACHERS

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2007

TRIAL EXAMINATION

VCE PSYCHOLOGY

UNIT 4

INSTRUCTIONS

Reading Time - 15 minutes

Writing time - 90 minutes

SECTION A

Memory – 22 Multiple Choice questions – 1 mark each

Learning - 22 Multiple Choice questions – 1 mark each

Answer the multiple choice questions on the answer sheet provided.

SECTION B

Memory - 6 Short answer questions – total 14 marks

Learning - 6 Short answer questions – total 14 marks

Research Methods - 5 Short answer questions – total 18 marks

Answer the short answer questions in this booklet.

IMPORTANT NOTES

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SECTION A – MULTIPLE CHOICE SECTION

Area of Study 1 - Memory

Question 1

In the *information processing* model of memory the three divisions, in order of initial processing, are considered to be

- A. episodic memory – semantic memory – procedural memory
- B. semantic memory – episodic memory – procedural memory
- C. sensory memory – short-term memory – working memory
- D. sensory memory – short-term memory – long-term memory

Question 2

Which of the following represents the relative sensitivity of these measures of retention

- A. highest – relearning; lowest - free recall
- B. highest - relearning; lowest - cued recall
- C. highest - free recall; lowest - relearning
- D. highest – recognition; lowest - relearning

Question 3

As they finished Year 12, Robbie and Jackie were trying to think of all the students who had been in their Home-Room class in Year 7. Between them they managed to remember 17 names, but they knew there had been 25 in the class. At last they found an old school magazine that listed all the students in alphabetical order, soon they had remembered all 25. The reason for they were able to remember all names in this way is because

- A. free recall is less sensitive than relearning
- B. free recall is less sensitive than recognition
- C. free recall is less sensitive than serial recall
- D. free recall is less sensitive than cued recall

Question 4

The duration of iconic sensory memory is considered to be approximately

- A. 12 to 20 seconds
- B. 7 ± 2 seconds
- C. 3.0 seconds
- D. 0.3 seconds

Question 5

Maintenance rehearsal is used to

- A. retain material in sensory memory for an extended period of time
- B. transfer material from sensory memory to short-term memory
- C. transfer material from short-term memory to long-term memory
- D. retain material in short-term memory for an extended period of time

Question 6

“Chunking” can be used to

- A. increase the duration of short-term memory
- B. increase the capacity of short-term memory
- C. increase the duration of short-term memory and long-term memory
- D. increase the capacity of short-term memory and long-term memory

Question 7

Working memory is similar to short-term memory but in addition to storage components it is considered to have a functional component called the

- A. visuo-spatial sketchpad
- B. phonological loop
- C. articulatory rehearsal loop
- D. central executive

Question 8

Items are retained in short-term memory, if not rehearsed, for

- A. 3 - 4 seconds
- B. 7 ± 2 seconds
- C. 12 to 20 seconds
- D. Up to 20 minutes

Question 9

Millie is doing the crossword in the daily paper. Which component of her working memory is retrieving words from long-term memory to match the clues given?

- A. visuo-spatial sketchpad
- B. phonological loop
- C. semantic network
- D. central executive

Question 10

Todd is going to his High-School reunion after ten years. He finds an old class photograph and tries to name all his fellow students from their pictures. There is one girl whose name he is sure he knows, and he thinks her name starts with “S” but he just can’t remember.

Todd’s retrieval failure for the name would be referred to as

- A. retro-active interference
- B. state-dependent forgetting
- C. context-dependent forgetting
- D. cue-dependent forgetting

Question 11

Retro-active interference refers to

- A. inability to recall memories from before a traumatic event
- B. inability to form new memories after a traumatic event
- C. inability to recall material learned at a later stage due to earlier learned material causing problems with the encoding process
- D. inability to recall material learned at an earlier stage due to later learned material causing problems with the retrieval process

Question 12

Ebbinghaus found that he forgot over 60% of his learned lists in the first hour after learning. This is a greater rate of forgetting than we usually find with people of average memory ability. This is likely to be because

- A. Ebbinghaus was below average intelligence
- B. Ebbinghaus could not link the items in his lists into his semantic networks
- C. Ebbinghaus had learned more items than participants in other research
- D. Ebbinghaus had encoded the items using only maintenance rehearsal

Question 13

People with anterograde amnesia can usually remember events and facts for about 20 to 30 minutes but then lose the items from memory. This means that anterograde amnesia is usually caused by

- A. short-term memory failure
- B. retrieval failure
- C. consolidation failure
- D. state-dependent forgetting

Question 14

If a healthy elderly person is tested for their memory ability, which measure of retention is likely to show no decline in ability from when they were in middle adulthood?

- A. free recall
- B. cued recall
- C. serial recall
- D. recognition

Questions 15 and 16 refer to the following information

In the Wechsler Memory Scale (Word-lists sub-test) the examiner reads aloud a list of 12 words at one-second intervals.

Phase 1: the patient is asked to recall these words in any order as soon as the last word has been read.

Phase 2: 30 minutes later, without the list being read again the patient is once more asked to recall words from the list in any order.

Question 15

Taking the average from hundreds of patients; in Phase 1 it would most likely be found that

- A. each word would be recalled approximately the same number of times
- B. words from the middle of the list would be recalled less often than others
- C. words at the end of the list would be recalled more often than others
- D. words at the beginning of the list would be recalled more often than others

Question 16

Taking the average from hundreds of patients; in Phase 2 it would most likely be found that

- A. each word would be recalled approximately the same number of times
- B. words at the end of the list would be recalled more often than others
- C. words at the beginning of the list would be recalled more often than others
- D. words from the middle of the list would be recalled less often than others

Question 17

Xiao is preparing a study timetable for his examinations, he is studying Legal Studies and Economics which he feels are similar to each other in processes and content. His study program will be most effective if he

- A. studies Economics before Legal Studies on odd dates and Legal Studies before Economics on even dates
- B. always studies these two subjects in the same order
- C. only studies one of these subjects on any one day
- D. made sure that he studies a different subject such as Physics in between Economics and Legal Studies

Question 18

Hudson is sitting his VCE Psychology examination and a question asks about the work of E.L. Thorndike. Hudson knows he has learned this but he can't recall what Thorndike did. Remembering what his teacher had advised him to do, he deliberately imagines himself sitting at his desk in his bedroom, reading his Psychology notes, soon the "Law of effect" comes to his mind.

The most likely reason for this is

- A. he stimulated his episodic memory of studying
- B. state-dependent cues assisted his recall
- C. context-dependent cues assisted his recall
- D. he stimulated his procedural memory of how to remember

Questions 19, 20, 21 and 22 refer to the information below

In Unit 4 Psychology, a teacher is researching whether the length of time between two learning episodes influences interference. A large group of volunteer subjects are randomly allocated into Group A, Group B or Group C.

Next all students are asked to learn all the capital cities of countries in Europe and are tested until they score 100%.

After 2 minutes, Group A is asked to learn the capital cities of the 50 States of the USA. Group B is asked to return in one hour's time and are asked to learn the capital cities of the 50 States of the USA.

Group C is not given a second learning task.

At 10.00 am. the next morning, all subjects are tested again, with the following results:

Group A – mean correct: 28 out of 50

Group B – mean correct: 39 out of 50

Group C – mean correct: 40 out of 50

Question 19

The experiment described above is a(n) _____ design involving both _____ and _____ groups

- A. matched subjects; control and experimental
- B. matched subjects; control and placebo
- C. independent groups; control and experimental
- D. independent groups; control and placebo

Question 20

A t-test is performed on the data and it is found that the probability of the difference in the mean scores for Groups A and C occurring by chance alone is $p = 0.04$.

The teacher can conclude that

- A. this difference is statistically insignificant
- B. the hypothesis has been supported
- C. the conclusion can be generalized to the sample
- D. the probability that the difference occurred by chance alone is too low for any conclusions to be drawn

Question 21

In this research, which of the following statements is true?

- A. groups B and C are control groups
- B. groups A and B are experimental groups
- C. groups A and B are control groups
- D. groups B and C are experimental groups

Question 22

The purpose of using a large sample and randomly allocating to groups A, B and C is to

- A. eliminate possible effects of participant variables on the value of the dependent variable
- B. eliminate possible effects of participant variables on the value of the independent variable
- C. eliminate possible placebo effects on the value of the dependent variable
- D. eliminate possible experimenter effects on the value of the dependent variable

Area of Study 2 - Learning**Question 23**

The funnel-web spider spins a very distinctive web shaped like a long tube. Any mammal will blink if a puff of air is blown in the animal's eye.

The spider making this web is referred to as a _____ whilst blinking because of the puff of air is a _____

- A. reflexive response; behaviour due to maturation
- B. conditioned response; fixed action pattern
- C. fixed action pattern; reflexive response
- D. reflexive response; fixed action pattern

Question 24

Most children are "toilet-trained" when they are about two years old. This control of natural functioning is an example of

- A. species specific behaviour
- B. reflexive responses
- C. fixed action patterns
- D. behaviour due to maturation

Question 25

Which of the following is true of learning

- A. the learning must be deliberate
- B. the learning must result from experience
- C. the organism must be aware of the learning taking place
- D. the learning must be shown in behaviour

Question 26

The form of learning in which the learner is passive is

- A. classical conditioning
- B. observational learning
- C. modelling
- D. operant conditioning

Question 27

After classical conditioning an organism may show a response to a stimulus that is similar, but not identical, to the conditioned stimulus. This is an example of

- A. response generalization
- B. stimulus generalization
- C. response discrimination
- D. stimulus discrimination

Questions 28 and 29 refer to the following event

Amelia is two years old and her mother takes her to the health centre for an injection; Amelia is very happy until the nurse in the white coat sticks the needle in her arm. The same thing happens again when she goes for the booster two months later. Amelia's parents have noticed that Amelia now cries whenever anybody in a white coat comes near to her.

Question 28

In terms of classical conditioning, Amelia's emotional reaction was

- A. an unconditioned response to a person in a white coat
- B. a conditioned stimulus causing fear
- C. an unconditioned stimulus causing fear
- D. a conditioned response to a person in a white coat

Question 29

The fact that the response occurs for all people in white coats – not just nurses - suggests that this is a form of

- A. stimulus discrimination
- B. stimulus generalisation
- C. response discrimination
- D. response generalisation

Question 30

Jack's dog barks loudly at people who ride past on bikes. Jack yells at the dog whenever it barks and the barking becomes less frequent and eventually stops even without Jack yelling. After the dog has been in boarding kennels whilst Jack takes a trip to the snow, Jack notices that the barking has started again.

Which of the following processes have occurred?

- A. extinction followed by spontaneous recovery
- B. extinction followed by re-acquisition
- C. acquisition followed by extinction
- D. learning followed by re-learning

Question 31

One-trial learning through taste aversion has some similarities to classical conditioning. Which of the following statements describes a difference between the two?

- A. classical conditioning involves a neutral stimulus that comes to elicit a reflexive response but in taste aversion the stimulus is not neutral
- B. the stimulus precedes the response in one-trial-learning but comes after the response in classical conditioning
- C. in classical conditioning the stimulus and response occur very close together in time but in one-trial learning there is a long time-delay between the two
- D. the organism is passive in classical conditioning but active in one-trial-learning

Question 32

Thorndike identified the cat trying to escape from the puzzle-box by making many different movements as being

- A. trial and error
- B. classical conditioning
- C. repeated approximations to the required behaviour
- D. shaping

Question 33

Thorndike identified the cat having learned that one of its actions caused it to be released from the puzzle-box as

- A. operant conditioning
- B. classical conditioning
- C. instrumental learning
- D. observational learning

Question 34

Operant Conditioning can be described as

- A. a form of learning in which consequences become controlled by behaviour
- B. a form of learning in which stimuli are controlled by behavioural responses
- C. a form of learning in which behaviour becomes controlled by its consequences
- D. a form of learning in which successively closer approximations to a desired behaviour are reinforced

Question 35

A major benefit of the invention of the “Skinner Box” was

- A. animals could be trained to press buttons, play the piano and turn in circles
- B. large amounts of precise data could be recorded automatically
- C. automatic provision of food pellets when an animal pushed a lever
- D. animals were kept safely in the enclosed spaces

Question 36

Which of the following reinforcement schedules will most likely lead to an erratic rate of responding?

- A. variable ratio schedule
- B. fixed ratio schedule
- C. fixed interval schedule
- D. continuous reinforcement

Question 37

There is no record of whether John B. Watson had obtained permission from Albert B's mother to use the baby for his conditioning experiment. If he had not done so, then

- A. the experiment was unethical because he had not obtained informed consent
- B. the experiment was unethical because the details of the research were not kept confidential
- C. the experiment was unethical due to potential harm to the baby
- D. all of the above are true

Question 38

Which of the following is a valid distinction between classical conditioning and operant conditioning

- A. the learner need not be aware when they are learning by classical conditioning but they are aware when learning by operant conditioning
- B. operant conditioning involves reflexive responses whilst classical conditioning involves voluntary responses
- C. the learner is deliberately attempting to learn in operant conditioning whilst in classical conditioning learning is involuntary
- D. in classical conditioning the reinforcer is the stimulus (UCS) which precedes the response; in operant conditioning the reinforcer is the consequence which follows the response

Question 39

In both operant and classical conditioning the following elements may occur

- A. stimulus generalization and shaping
- B. extinction and spontaneous recovery
- C. shaping and punishment
- D. extinction and control of learning

Question 40

Which of the following represent some of the stages in observational learning listed in the correct sequence

- A. attention; reproduction; motivation
- B. retention; attention; reproduction
- C. attention; motivation; reproduction
- D. motivation; retention; reproduction

Question 41

In Bandura's experiments, children watched adults interact with a rubber doll "Bo-Bo the Clown". Which of these findings is **not** consistent with Bandura's observations?

- A. children tended **to be** aggressive towards the clown if they were offered rewards for the aggression, even if they had seen adults punished for being aggressive
- B. children tended **not to be** aggressive towards the clown if they had seen the model punished for the aggression – even if the children were offered rewards for aggression
- C. children tended **not to be** aggressive towards the clown if they had seen adults punished for their aggression unless the children were offered rewards for aggression
- D. children tended **not to be** aggressive towards the clown if they were punished for the behaviour

Question 42

Bandura referred to his theory of observational learning as "Social Learning Theory".

This is so because children

- A. were always with other children in the experiment
- B. were having social interaction with the Bo-Bo doll in the experiment
- C. develop social skills mainly by observing adults
- D. learn observation skills in a social setting

Question 43

Learning through "Modelling" can often be latent (the learning has occurred but the behaviour has not yet been shown). This learning can also be termed "vicarious".

Vicarious learning means that

- A. the behaviours with the dolls were very violent
- B. the children learned by watching the results of behaviours for other people
- C. the children were not in the room at the time of the adult model interacting with the doll
- D. the learning was not generalized to objects other than the Bo-Bo dolls

Question 44

Julia is a State representative in netball. Her friends persuade her to play a game of basketball for their club team. To begin with she is often robbed of the ball because she stops as soon as it is passed to her but after a while the coach tells her to go up and stand under the basket, she finishes with a match-winning 16 points.

What has probably happened here is

- A. negative transfer hinders her running with the ball but positive transfer of goal-shooting skills helps her learn to score baskets
- B. positive transfer hinders her running with the ball but negative transfer of goal-shooting skills helps her learn to score baskets
- C. negative transfer helps her running with the ball and positive transfer of goal-shooting skills helps her learn to score baskets
- D. negative transfer hinders her running with the ball and negative transfer of goal-shooting skills helps her learn to score baskets

SECTION B – SHORT ANSWER SECTION

Area of Study 1 - Memory

Question 1

Encoding refers to

(1 mark)

Question 2

Julia is getting married and she wants to invite all her cousins to the ceremony; unfortunately she has many cousins and cannot remember all their names.

a. Suggest a way in which Julia might use *cued recall* to improve her memory. (1 mark)

b. How might *recognition* be used to help Julia? (1 mark)

c. Julia and her fiancé Julian have been taking dancing lessons so that they can do the “Bridal Waltz” – what form of memory will they be using for this? (1 mark)

Question 3

a. The duration of echoic sensory memory is considered to be _____ (1 mark)

b. The capacity of short-term memory (without rehearsal) for the average adult is considered to be _____ (1 mark)

Question 4

Semantic network theory suggests certain characteristic ways in which material is stored in Long-Term Memory.

Using the language of semantic network theory, use an example to show how “Pink Lady” (a type of apple) fits into your long-term memory. *You may use a diagram but should also explain the terms you use.* (3 marks)

Question 5

The commonly accepted model of working memory (Baddeley’s model) shows that it has three essential components, one of which is the phonological loop. Explain the function of each of the components of working memory. (3 marks)

Question 6

Use an example to show how memory may be enhanced by

i. using the *narrative chaining* mnemonic. (1 mark)

ii. using *state-dependent cues* (1 mark)

Area of study 2 - Learning

Question 7

a. Give an example of a *fixed action pattern*. (2 marks)

b. What is it that distinguishes this behaviour from a *reflex action*? (1 mark)

Question 8

Explain, using the language of classical conditioning, exactly how “Little Albert” was conditioned by John B. Watson to be frightened of a white rat. (3 marks)

Question 9

What is meant by the term *operant conditioning*? (1 mark)

Question 10

a. Identify two similarities between *Positive Reinforcement* and *Negative Reinforcement*. (2 marks)

i. _____

ii. _____

- b. Which schedule of reinforcement conditions responses that are **most** resistant to extinction? (1 mark)
-

Question 11

Using examples, explain the following processes involved in observational learning.

- a. Attention (1 mark)
-
-

- b. Retention (1 mark)
-
-

Question 12 In *observational learning* there is a stage where learning has occurred, but the behaviour has not yet been shown.

- i. Which of the four (or five) processes involved in observational learning must occur to cause the behaviour to be shown? (1 mark)
-

- ii. Which of the four (or five) processes involved in observational learning must occur if the behaviour is to be shown more than once? (1 mark)
-

Area of Study 3 – Research Methods

All questions in this section refer to the description of research below. Answer these questions with reference to *this* research.

Professor Flowinghaus is investigating the effects of noise level on ability to recall lists of names. He uses 98 students (48 females, 50 males) from his first-year psychology course as participants and they receive 5% credit towards their course-work mark for taking part. All students are told the purpose of the research and are advised of what they will be doing in the research and their rights as participants. Students sign a document giving permission for their data to be used in the research.

On the day of the experiment, he tests the participants on their ability to learn a list of town names and scores these tests; he then pairs up students with equal scores and tosses a coin to decide which of each pair will be in Group “A” and which will be in Group “B”.

Participants in both groups then attempt to learn 40 botanical names of native Australian plants in 30 minutes; Group A in a room where the sound of earth moving machinery is played at 100 decibels (loud) and Group B in a room that has been soundproofed (quiet).

The following day all students are tested on their knowledge of the plant names and the results are as follows:

Group A average score 28/40; Group B average score 34/40

The professor performs a t-test on these results and finds that the difference is significant at a $p = .04$ level.

Question 13

Create an appropriate operational hypothesis for the study (2 marks)

Question 14

The researcher has made an effort to fulfil his ethical obligations.

a. Name two obligations that he has fulfilled and state specifically how he has met each of these obligations. (2 + 2 = 4 marks)

i. _____

ii. _____

b. Name one ethical consideration he has breached in his procedures. State the evidence for this breach of ethics. (2 marks)

Question 15

i. According to his t-test results, what conclusion can he draw about the difference in the mean scores for the two groups? (1 mark)

ii. On a later occasion, the professor repeated his research with another, similar, group of participants and found the same results. This time he did not breach any of the ethical principles. What conclusion could he draw from this research? (1 mark)

iii. The professor has calculated the mean scores for the groups. What calculation in *descriptive statistics* could he use to indicate how the scores were spread out across the range of scores? (1 mark)

iv. Name the calculation in *descriptive statistics* that would best enable the researcher to indicate the mid-point of the scores if there were three scores in one group that were very much higher than any of the others. (1 mark)

Question 16

a. What is the name of the experimental design used in this research? (1 mark)

b. Name one other type of experimental design you have studied. What is one advantage of the design used by the professor over the design you have named? (1 mark)

Question 17

a. Give two features of this study that cause it to be a **true experiment**? (2 marks)

b. What is the purpose of the **experimental** group in this study? (1 mark)

c. The professor did not realize that several students in the group were severely hearing impaired.
What effect could this discovery have on the results of this research (1 mark)
