



INSIGHT
Trial Exam Paper

2011

PSYCHOLOGY

Written examination 2

STUDENT NAME:

QUESTION AND ANSWER BOOK

Reading time: 15 minutes
Writing time: 1 hour 30 minutes

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	45	45	45
B	7	7	35
C	1	1	10
			Total 90

- Students are permitted to bring the following items into the examination: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring sheets of paper or white out liquid/tape into the examination.
- Calculators are not permitted in this examination.

Materials provided

- The question and answer book of 23 pages and an answer sheet for the multiple-choice questions.

Instructions

- Write your **name** in the box provided and on the multiple-choice answer sheet.
- You must answer the questions in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones or any other electronic devices into the examination.

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SECTION A – Multiple-choice questions**Question 1**

Operant conditioning is best described as

- A. the continual pairing of a conditioned and unconditioned stimulus.
- B. the impact of consequences on behaviour.
- C. the effect of observation on behaviour.
- D. behavioural changes due to development of bodily systems.

Use the following information to answer Questions 2 to 4.

Bianca is attempting to teach her daughter Olivia to dive into a pool. At first she instructs Olivia to kneel on the edge of the pool and angle her body head first into the water and praises her for achieving this. She then gets Olivia to dive into the water from a crouching position and praises her. Bianca then asks her to dive from a standing position and after a number of trials Olivia is able to do this.

Question 2

The process which Bianca is using to teach her daughter is best described as

- A. flooding.
- B. graduated exposure.
- C. shaping.
- D. negative reinforcement.

Question 3

Bianca's use of praise is an example of

- A. a token economy.
- B. positive reinforcement.
- C. negative reinforcement.
- D. a conditioned stimulus.

Question 4

As Olivia learns this new skill, changes will occur within her brain. These will involve

- A. changes in neural connections.
- B. changes in synaptic functions of certain neurons.
- C. a decrease in complexity of neural connections.
- D. both A and B are correct.

SECTION A – continued
TURN OVER

Use the following information to answer Questions 5 to 9.

When Jessica was a young child, her mother often used CleanQuick spray to clean the house. This did not initially bother Jessica. When Jessica was eight years old, she experienced a severe gastric illness. During this time, Jessica's mother used CleanQuick spray wherever Jessica was in order to reduce the risk of infecting others. Since then, whenever Jessica smells CleanQuick spray she feels ill.

Use the language of classical conditioning for Jessica.

Question 5

The period of time when she experienced the illness and the continuous spraying of CleanQuick is known as

- A. responding.
- B. operating.
- C. extinction.
- D. acquisition.

Question 6

Before Jessica's illness, CleanQuick spray was

- A. a conditioned response.
- B. a neutral stimulus.
- C. an unconditioned stimulus.
- D. an unconditioned response.

Question 7

As a teenager, CleanQuick spray is now to Jessica a

- A. conditioned stimulus.
- B. unconditioned stimulus.
- C. conditioned response.
- D. unconditioned response.

Question 8

As a teenager, when Jessica feels nauseous at the smell of CleanQuick spray, the nausea is an example of

- A. a conditioned response.
- B. an unconditioned response.
- C. a generalised response.
- D. spontaneous recovery.

Question 9

Jessica now also feels nauseated when she smells a similar spray, CleanSlow. This is an example of

- A. spontaneous recovery.
- B. stimulus generalisation.
- C. stimulus discrimination.
- D. acquisition.

Question 10

The manual published by the American Psychiatric Association which is used to categorise mental health disorders using standard criteria (DSM-IV) is known as

- A. Discovery and Standardisation Manual of Mental Disorders.
- B. Diagnostic Standardised Manual of Mental Disorders.
- C. Diagnostic and Statistical Manual of Mental Disorders.
- D. Distribution and Standardisation Manual of Mental Disorders.

Question 11

One criticism of the DSM-IV is that it lacks a *dimensional* approach to mental disorders. The best description of this criticism is that the manual lacks

- A. clean and standardised terminology.
- B. incorporation of different categories of mental disorders.
- C. the ability to differentiate between different degrees of severity of a mental disorder.
- D. a consideration of biopsychosocial factors.

Question 12

The biopsychosocial framework can be used to understand and manage anxiety disorders. Using this framework, investigating whether a patient carried a specific gene which would predispose them to anxiety would be a consideration of which factor?

- A. a biological factor
- B. a socio-cultural factor
- C. a psychological factor
- D. a psychosocial factor

Question 13

Treatment of a phobic anxiety disorder may involve a number of strategies, one of which is the use of systematic desensitisation. The therapy of systematic desensitisation is based mainly around

- A. observational learning.
- B. classical conditioning principles.
- C. insight learning.
- D. operant conditioning principles.

Question 14

Which of the following would **not** be considered a usual strategy given to help someone cope with stress?

- A. meditation
- B. increase in physical exercise
- C. deep muscle relaxation techniques
- D. increase in caffeine intake

Question 15

A psychologist develops a questionnaire to give to students which will investigate different learning strategies at schools. Within the total forty questions, eight questions relate to how comfortable the student feels within the classroom environment. Making sure that scores on these eight questions all show similar results is a check of

- A. construct validity.
- B. external validity.
- C. internal consistency.
- D. internal validity.

Question 16

A limitation of Selye's General Adaptation Syndrome is that

- A. it does not describe the body's response to long-term stress.
- B. it does not fully explain the role of a person's appraisal of a stressor in the model.
- C. it is designed only to be applied to very specific stressors.
- D. there is no mention of the role of stress-related hormones in the model.

Use the following information to answer Questions 17 and 18.

Due to cost cutting at his place of employment, Will has just been retrenched from his job. His wife is currently on maternity leave and Will is the only person within the family bringing home an income.

Question 17

Will's perception of his retrenchment as being a major, significant stressor is, according to the Transactional Model of Stress and Coping

- A. a primary appraisal.
- B. a secondary appraisal.
- C. the alarm reaction stage.
- D. the resistance stage.

Question 18

When Will is evaluating his retrenchment as a major stressor, this evaluation can be considered

- A. a psychological determinant of the stress response.
- B. a biological determinant of the stress response.
- C. a physiological response to a stressor.
- D. eustress.

Question 19

The ultimate aim of aversion therapy is to

- A. use operant conditioning principles to treat a phobia.
- B. use classical conditioning principles to treat a taste aversion.
- C. use operant conditioning principles to discourage an unwanted behaviour.
- D. use classical conditioning principles to discourage an unwanted behaviour.

Question 20

According to Tolman's theory of latent learning

- A. learning is always shown at the time of learning.
- B. learning involves a period of incubation followed by an 'ah-ha' experience.
- C. knowledge or skills can be learned, but may not be expressed until a later time.
- D. learning involves copying a model who is admired.

SECTION A – continued
TURN OVER

Question 21

To investigate the effect of latent learning on rats, Tolman exposed three groups of hungry rats to a maze and timed how long the rats took to learn to run the maze. Group 1 always received food at the end of the maze, Group 2 never received food at the end of the maze and Group 3 received no food at the end of the maze for the first ten days, but then received food on the eleventh day. Tolman then compared how long the rats took to run the maze on the twelfth day.

In this experiment the independent variable is

- A. how long the rats took to run the maze.
- B. whether the rats were placed into a maze.
- C. the manner and timing of when rats did/did not receive food.
- D. whether or not the rats were hungry.

Question 22

In the Tolman experiment, the dependent variable is

- A. how long the rats took to run the maze on their first attempt.
- B. how long the rats took to run the maze on day 12.
- C. whether the rats received food at the end of the maze.
- D. whether the rats were in Group 1, 2 or 3.

Question 23

Allostasis is best described as

- A. a state where body temperature is kept constant.
- B. a constant pH level within the body.
- C. achieving bodily stability through physiological or behavioural changes.
- D. our appraisal of how stressful an event is.

Use the following information to answer Questions 24 to 26.

John has been highly stressed lately, and has been experiencing bouts of dizziness, which his doctor believes relate to John breathing too rapidly and shallowly. John's doctor attaches John to a device (a pneumograph) which measures the depth of his breath and how rapidly John is breathing. When John breathes too shallowly or too rapidly, the device signals this with a high-pitched sound. This sound does not occur if John breathes normally. At first John needs the device to identify his breathing patterns. After a while John learns to identify the state of breathing which is too shallow and rapid, without the use of the pneumograph.

Question 24

What is the name of the procedure which allows John to learn about his breathing pattern?

- A. systematic desensitisation
- B. allostasis
- C. relaxation response
- D. biofeedback

Question 25

What is the ultimate aim of the procedure which John is experiencing?

- A. to allow him to breathe more shallowly
- B. to have insight and control over his breathing patterns without the pneumograph
- C. to relax more
- D. to constantly be attached to the pneumograph to help him throughout life

Question 26

John's rapid and shallow breathing is what type of response to stress?

- A. a psychological response
- B. a physiological response
- C. a primary appraisal
- D. depression of the immune system

Use the following information to answer Questions 27 to 31.

Mr Mitchell wishes to investigate ways in which students in Prep at Langford Primary School will increase their behaviour of picking up rubbish in the school yard. He firstly asks some high-profile students within the school (Year 6 leaders such as school captains, sport captains and musicians who play at assembly every week) to spend four days picking up any rubbish in the school yard. Mr Mitchell then counts the number of times the Preps pick up rubbish on the following day (Day A). Mr Mitchell then asks some Year 3 students who do not have any leadership roles (low-profile students) in the school to pick up rubbish for four days in a row. He then counts the number of times the Preps pick up rubbish on the following day (Day B). He finds that on Day A, Prep students pick up a total of 46 pieces of rubbish and that on Day B, Prep students pick up a total of 39 pieces of rubbish. He finds the difference between the two groups is not significant ($p > 0.05$).

Question 27

In this study the population is

- A. all students at Langford Primary School.
- B. Year 6 high profile students at Langford Primary School.
- C. Year 3 students at Langford Primary School.
- D. Prep students at Langford Primary School.

Question 28

In this study the independent variable is

- A. whether the Prep students are exposed to high-profile or non-high-profile students.
- B. whether the students are in Prep, Grade 6 or Grade 3.
- C. whether the Prep students pick up rubbish.
- D. whether the Grade 3 students pick up rubbish.

Question 29

Which experimental design was used in this study?

- A. matched pairs
- B. independent groups
- C. repeated measures
- D. single blind

Question 30

What is a possible explanation for the fact that there was not a significant difference between the two groups?

- A. An order effect has occurred.
- B. Whether or not students have been exposed to high-profile models has not affected rubbish picking-up behaviour.
- C. Stimulus discrimination has occurred.
- D. Both A and B are correct.

Question 31

Mr Mitchell's investigation is based mostly around which theory of learning?

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

Question 32

Which of the following is not an example of a reflex action?

- A. a magpie swooping in springtime when chicks are in nest
- B. blinking in response to a puff of air in the eye
- C. a newborn baby turning to feed when stroked lightly on the cheek
- D. a dog salivating when food is placed in its mouth

Question 33

Dr Greg wants to investigate whether certain areas of the brain function when the reflex behaviour of swallowing occurs. She asks volunteers to repeatedly swallow and whilst they do this she monitors if any areas of the brain become active. Which of the following imaging methods would **not** be suitable to determine which area of the brain is active?

- A. fMRI
- B. CT
- C. SPECT
- D. PET

Question 34

What is the best description of how learning affects neural pathways in the brain as a child develops and learns?

- A. A child is born with all synapses already formed and these remain constant throughout the lifespan.
- B. As a child learns, the neurons within the brain greatly increase in number.
- C. A child is born with vast numbers of synapses, many of which are modified or eliminated as a child learns.
- D. A child with a special interest in reading will decrease the number of synapses in their brain that are dedicated to reading.

Question 35

Which of the following is **not** important in the formation and functioning of synapses?

- A. neurotransmitters
- B. dendrites
- C. axon terminals
- D. corpus callosum

Question 36

The processes of observational learning as suggested by Bandura are, in order

- A. attention, reinforcement, reproduction, motivation/retention
- B. attention, retention, reinforcement, motivation/reproduction
- C. attention, reproduction, reinforcement, motivation/retention
- D. attention, retention, reproduction, motivation/reinforcement

Question 37

Alice is 11 years old. Alice has watched older people surfing a number of times as they are exciting to watch, but often decides that she could not paddle out and catch large waves as she is not experienced enough. Alice then watches a young girl, Rani, surf in smaller waves. She decides that she could easily do what Rani is doing. Alice is being affected by which element of observational learning when she makes this decision?

- A. retention
- B. reproduction
- C. reinforcement
- D. attention

Question 38

Which of the following is an example of psychological response to stress?

- A. increased respiration rate
- B. decreased ability to concentrate
- C. increased blood pressure
- D. decreased rate of digestion

Question 39

When Thorndike first placed cats into a puzzle box to investigate learning, the cats' initial behaviour could best be described as

- A. learned
- B. random
- C. conditioned
- D. reinforced

Question 40

A radio station advertises that it will be giving away a ticket to 'the big day out' once an hour, but the exact time of the giveaway in any given hour is not given. What schedule of reinforcement is the radio station using?

- A. fixed interval
- B. variable interval
- C. fixed ratio
- D. variable ratio

Question 41

When considering research on different pain management techniques, an ethics committee decides that the small effect the research may have on a participant will not cause any long-term lasting harm and that the knowledge gained will be useful to the wider society. Which ethical principle are they considering?

- A. justice
- B. integrity
- C. beneficence
- D. respect for persons

Question 42

A researcher conducts a study and makes sure that the participants in the study are debriefed. When would debriefing have occurred?

- A. before the study began
- B. during the study
- C. after the study had finished
- D. when the participants were signing the informed consent form outlining roles, rights and risks of the study

Question 43

Jill has been to a psychiatrist and as part of her initial consultation she has been asked to fill in a survey detailing how well Jill is managing her family commitments and coping with problems at work. Using answers from this survey the psychiatrist evaluates her according to the DSM-IV in terms of how well she is functioning in day-to-day life. This will help the psychiatrist evaluate Jill in terms of which axis of the DSM-IV?

- A. Axis 1
- B. Axis 3
- C. Axis 4
- D. Axis 5

Question 44

Which of the following is **not** commonly associated with someone experiencing eustress?

- A. a feeling of excitement
- B. feelings of an inability to cope
- C. a feeling of motivation
- D. increased heart rate

Question 45

Which of the following would most likely lead to someone experiencing eustress?

- A. excessive job demands
- B. lack of training to carry out an important task
- C. an upcoming marriage
- D. losing contact with loved ones

END OF SECTION A

SECTION B – Short-answer questions**Question 1**

Eliza is a fifteen-year-old girl. When Eliza was eight years old she was exposed to a traumatic situation in which she experienced severe turbulence whilst flying. Consequently, she has an intense and irrational fear of flying on a plane to the point that she has not been in a plane for years as she avoids them at all costs. Eliza now wishes to travel to Europe in an exchange program at her school, and has decided that she needs to treat her fear. She arranges therapy with a local psychologist.

- a. What would the psychologist most probably classify Eliza as suffering from?

1 mark

- b. Using the terms of classical conditioning, explain how Eliza's intense fear of flying in a plane has developed.

3 marks

- c. The psychologist decides that she will use either flooding or systematic desensitisation in order to treat Eliza. Give one major difference between these two methods.

1 mark

SECTION B – Question 1 – continued
TURN OVER

- d. The psychologist decides that the most appropriate method to treat Eliza is the use of flooding. As part of the therapy she arranges a flight with herself and Eliza on a plane. During this flight Eliza experiences severe anxiety and the psychologist monitors any physical symptoms Eliza is experiencing. List two possible physical symptoms that Eliza may be showing.

2 marks

- e. Because of the severity of Eliza's fear, the psychologist suggests that Eliza may benefit from also having a medically trained professional prescribing a drug which will stimulate gamma-amino butyric acid receptors in the brain. What effect will this drug probably have on Eliza's physical symptoms?

1 mark

Question 2

Using an example of each, describe one difference between fixed action patterns and reflex actions.

2 marks

Question 3

Researchers at a teaching hospital wish to investigate the effects of learning a new motor skill on structures within the brain. To do this, they expose a number of mice to a task which requires them to perform complex movement of their front limbs (reaching through a small, curved wire shape to find a piece of food). The mice quickly learn this skill. As the mice learn, the researchers monitor a number of neurons within the motor cortex of the brains of the mice. The researchers note that the neurons in this area change.

- a. What is a synapse?

1 mark

- b. Explain what the researchers would probably have found in terms of neurons and their synapses.

1 mark

- c. What is one advantage of using mice in this type of study in terms of ethical and professional conduct?

1 mark

Question 4

A number of years ago, John had his right middle finger amputated as part of treatment after severe injury. He has now been functioning for five years with the missing finger and continues to work as a highly skilled carpenter. As part of a study on the effects of amputation on brain organisation, John undergoes a PET scan. John is asked to move his arms and fingers, and activity within the left motor cortex is monitored.

Explain what will most likely be shown on the PET scan in the area of the primary motor cortex which originally controlled movement of John's right middle finger. Name and describe the process which would allow this to occur.

3 marks

SECTION B – continued
TURN OVER

Question 5

What is the flight-fight response?

3 marks

Question 6

Question 6 has three parts. You must answer only one part (a, b or c).

Answer part **a** if you have studied depression.

Answer part **b** if you have studied gambling addiction.

Answer part **c** if you have studied schizophrenia.

- a.** The mood disorder of major depression has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of major depression.

2 marks

- b.** Gambling addiction has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of gambling addiction.

2 marks

- c.** Schizophrenia has a number of contributing factors. Suggest one biological factor and one sociocultural factor which may contribute to the onset or progression of schizophrenia.

2 marks

SECTION B – continued

Question 7

Dr Jones is a teaching psychologist at Belmont University and has a special interest in how students cope with the demands of university. Belmont University has a large intake of overseas students, and Dr Jones is particularly interested in determining ways in which the university can help these overseas students deal with the pressures of shifting to a different country whilst taking on their studies. He has noticed that a number of these students have been showing an increased incidence of minor ailments such as colds and flu. He decides to perform a study to determine if first-year overseas students at his university will benefit from regular guided relaxation exercises.

The university has 400 first-year overseas students, of which 60 per cent are male, and 40 per cent female. He takes a stratified random sample (stratified for gender) of 100 students. He administers a Stress Response Survey to each of these students. Using results from this survey he pairs the students from the most stressed to the least stressed. He then uses the matched pairs experimental design to obtain two groups. Group A is taught a simple relaxation exercise, which involves progressively relaxing muscle groups in the body for 20 minutes a day. Group B is not exposed to the relaxation exercise. After three weeks, Dr Jones rates the students on how stressed they appear to him, using the 'Perceived Stress Scale' (where 1 = not stressed at all and 10 = highly stressed). Using the data obtained, Dr Jones calculates a number of descriptive statistics, summarised in Table 1 below.

Table 1: Stress rating after three weeks of experiment

	Mean stress score	Median stress score
Group A	4.6	4
Group B	6.1	6

Dr Jones also calculates a t-test (test of significance) and finds that $p = 0.04$.

- a. Dr Jones has noticed an increase in the incidence of minor illnesses in some of the students he is studying and feels this is related to stress. What stage of the GAS are the students probably in? (State the name and number.)

1 mark

- b. According to the GAS, why would these students be experiencing an increased incidence of minor illnesses?

1 mark

c. What is the operationalised independent variable in this experiment?

1 mark

d. What is the operationalised dependent variable in this experiment?

1 mark

e. Why would Dr Jones carry out an experiment to investigate his ideas?

1 mark

f. Explain how Dr Jones would have carried out the process of random stratified sampling.

3 marks

g. How many males and how many females would be in the sample?

1 mark

- h.** Dr Jones used the Stress Response Survey to match his sample into pairs in terms of how stressed they were before the experiment began. What is the other step Dr Jones would have needed to do in terms of the matched pairs experimental design?

1 mark

- i.** How would Dr Jones have calculated the median score for Group A?

1 mark

- j.** What is the probability in this study that the results occurred due to the independent variable rather than chance?

1 mark

- k.** Dr Jones concludes that the results are statistically significant, and therefore his hypothesis is supported. Define the experimenter effect and explain why care must be taken in accepting this conclusion in terms of this effect.

2 marks

**END OF SECTION B
TURN OVER**

