



Fortify Sample Exam A

PSYCHOLOGY

Written examination

Reading time: 15 minutes
Writing time: 2 hours 30 minutes

QUESTION AND ANSWER BOOK

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	50	50	50
B	9	9	70
			Total 120

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination blank sheets of paper and/or correction fluid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question and answer book of 38 pages.
- Answer sheet for multiple-choice questions.
- Additional space is available at the end of the book if you need extra paper to complete an answer.

Instructions

- All written responses must be in English.

At the end of the examination

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

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

SECTION A – Multiple-choice questions**Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1; an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Question 1

The role of the parasympathetic nervous system is

- A. to undergo voluntary movement of skeletal muscles.
- B. to maintain homeostasis.
- C. to initiate the 'fight, flight, freeze' response.
- D. to allow for communication between motor and sensory neurons.

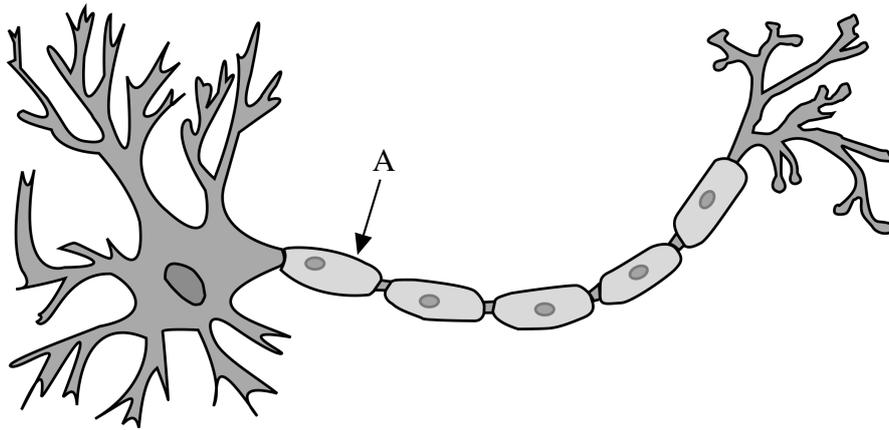
Question 2

Which of the following is **not** a feature of a true experimental design?

- A. operationalised IV and DV
- B. control and experimental group
- C. random allocation
- D. use of independent groups design

Question 3

Which of the following illustrates the name and function of structure A?



Source: adapted from Dhp1080 (own work)/Wikimedia Commons/CC-BY-SA-3.0

A.	Axon	Allows increased rate of transmission.
B.	Myelin sheath	Carries information from the cell body to the axon terminals.
C.	Axon	Carries information from the cell body to the axon terminals.
D.	Myelin sheath	Allows increased rate of transmission.

Question 4

A neurotransmitter

- A. is an electrical signalling molecule released into the synapse.
- B. allows for communication within a neuron.
- C. is a chemical signalling molecule released into the synapse.
- D. is released from the dendrites.

Use the following information to answer Questions 5–8.

As part of her year 12 psychology class, Jessica participated in an experiment about memory. Her teacher, Ms Anne, read out a list of 10 numbers (as shown below):

9, 2, 9, 7, 9, 1, 7, 6, 7, 1

After hearing the list of numbers, Jessica and her class mates were told to immediately write down the numbers on a piece of paper in the exact order that they were presented.

Question 5

What measure of retention did Jessica and her classmates use in the experiment when writing down the list of numbers in the exact order they were presented?

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

Question 6

According to the serial position effect

- A. Jessica will have greater recall of the numbers at both the start of the list and at the end of the list compared to the numbers in the middle.
- B. Jessica will only recall the numbers that were most recently read out to her.
- C. Jessica will have the greatest recall of the numbers read out to her in the middle of the list.
- D. Jessica will not be able to recall any of the numbers in the list.

Question 7

To allow Jessica to remember the 10 numbers, she may undergo mental processes to help her improve her memory. Which of the following processes is the most effective way to store this phone number in Jessica's long-term memory?

- A. chunking
- B. elaborative rehearsal
- C. maintenance rehearsal
- D. both elaborative and maintenance rehearsal

Question 8

A **disadvantage** of the sampling technique used by Ms Anne is

- A. the process of gathering the sample is time consuming.
- B. the sample is too small.
- C. the sample chosen does not represent the population.
- D. the process of obtaining the sample is too costly.

Use the following information to answer Questions 9–10.

Alyson and James went on a bush walk. As they were walking, they both spotted a snake in the distance on the walking track. In response to the snake sighting, Alyson remained quiet and still whereas James immediately ran away from the walking track.

Question 9

Which of the following correctly identifies the type of response that Alyson and James most likely had to the sighting of the snake?

	Alyson	James
A.	Flight response	Freeze response
B.	Freeze response	Fight response
C.	Fight response	Freeze response
D.	Freeze response	Flight response

Question 10

Which of the following physiological responses may have been experienced by Alyson and James when they saw the snake on their bush walk?

- A. dilated pupils and stimulated digestion
- B. stimulated salivary production and relaxed bladders
- C. increased heart rate and constricted pupils
- D. inhibited digestion and dilated pupils

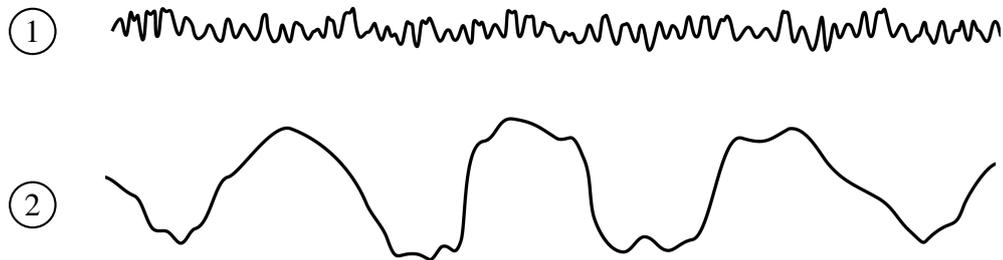
Question 11

According to the biopsychosocial model, which of the following is a pre-disposing risk factor to developing mental health disorders?

- A. stressful life situations
- B. bullying
- C. long-term use of medication or drugs
- D. inherited traits

Use the following information to answer Questions 12–14.

Janine is participating in an experiment about sleep and brain wave activity. Two recordings were taken from Janine's brain during different moments in a 24-hour period. These two recordings are shown in the diagram below.



Source: adapted from Alila Medical Media/Shutterstock.com

Question 12

What machine would have been used to measure the electrical activity of Janine's brain?

- A. electro-encephalograph
- B. electro-oculargraph
- C. electro-myography
- D. all of the above can be used to measure the electrical activity in Janine's brain

Question 13

Which of the following correctly identifies the brain waves depicted in the diagram above?

	Recording 1	Recording 2
A.	Delta waves	Beta waves
B.	Beta waves	Alpha waves
C.	Beta waves	Delta waves
D.	Theta waves	Beta waves

Question 14

As shown in the second brain wave in the diagram above, Janine would most likely be

- A. in an altered state of consciousness.
- B. in a meditative state.
- C. in a deep sleep.
- D. in normal waking consciousness.

Use the following information to answer Questions 15–16.

The little Albert experiment by John Watson involved classically conditioning Little Albert to fear a white rat by repeatedly presenting the white rat with a loud noise.

Question 15

What was the unconditioned stimulus (UCS) and conditioned stimulus (CS) in this experiment?

	UCS	CS
A.	Fear due to loud noise	Fear due to white rat
B.	Loud noise	White rat
C.	White rat	Loud noise
D.	Fear due to white rat	Fear due to loud noise

Question 16

If Little Albert does not fear any other coloured rats, and thus only fears white rats, this demonstrates

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

Use the following information to answer Questions 17–18.

Charlie paid careful attention to his mother tying her shoelaces so that he could also learn to tie his own shoelaces. When Charlie was able to tie his own shoe laces independently, his mother told him how proud she was of him.

Question 17

In terms of observational learning, the ability for Charlie to remember the steps involved in tying his shoelaces demonstrates

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

Question 18

In terms of operant conditioning, the action of Charlies mother telling Charlie how proud she is of him acts as a

- A. negative reinforcer.
- B. positive reinforcer.
- C. response cost.
- D. antecedent.

Question 19

Peter and Penelope are going sky diving. Peter is experiencing eustress whereas Penelope is experiencing distress at the idea of completing this activity. When comparing the sympathetic and parasympathetic nervous systems activity, it is likely that

- A. both Peter and Penelope's sympathetic nervous systems are dominant.
- B. Peter's parasympathetic nervous system is dominant, and Penelope's sympathetic nervous system is dominant.
- C. Peter's sympathetic nervous system is dominant, and Penelopes parasympathetic nervous system is dominant.
- D. both Peter and Penelope's parasympathetic nervous systems are dominant.

Question 20

Divided attention occurs when a person

- A. gives all of their attention to one task.
- B. focuses their attention on two tasks at the same time.
- C. completes complex tasks.
- D. is not focused on any task.

Use the following information to answer Questions 21–24.

Peter has just been told that him and his wife are expecting a child. Although Peter is excited to become a father, he is worried that he won't know the correct procedures when it comes to looking after a baby.

Question 21

In terms of Peter's source of stress, the news about his upcoming fatherhood is an example of

- A. daily pressures.
- B. acculturative stress.
- C. a life event.
- D. catastrophe.

Question 22

According to Lazarus and Folkman's Transactional Model of Stress and Coping, Peter thinking about becoming a father is an example of

- A. secondary appraisal, where he considers becoming a father a challenge.
- B. primary appraisal, where he considers becoming a father harm/loss.
- C. secondary appraisal, where he considers becoming a father a threat.
- D. primary appraisal, where he considers becoming a father a challenge.

Question 23

As a result of his stress, Peter purchased some baby books to ensure that he is ready for when the baby arrives. Which one of the following correctly identifies Peter's strategy for coping with stress?

- A. avoidance
- B. emotion-focused coping
- C. problem-focused coping
- D. denial

Question 24

When Peter's wife went on maternity leave, he also became worried about the financial implications of having a child. As a result, Peter started working 60 hours a week to ensure that he was fully prepared financially for his child's birth. After working 60 hours a week for a few weeks, Peter became unwell and developed many viral infections. Peter's repeated development of viral infections are most likely due to

- A. a decrease in cortisol.
- B. a decrease in noradrenaline.
- C. an increase in glutamate.
- D. an increase in cortisol.

Question 25

An infant experiences

- A. 50% of sleep in REM and 50% of sleep in non-REM.
- B. all of their sleep in REM sleep.
- C. 20% of sleep in REM and 80% in non-REM.
- D. 75% in REM and 25% in non-REM.

Question 26

Which of the following is **not** an evolutionary explanation for the purpose of sleep?

- A. sleep replenishes our bodily resources
- B. sleep makes an organism inactive during times when it is dangerous to move around at night
- C. sleep conserves energy
- D. sleep ensures that an organism is less likely to attract predators

Use the following information to answer Questions 27–28.

Tina is 18 years old and often stays up late on weeknights scrolling through social media. Each morning, she has to get up at 6:30am for school and often feels tired during the day. On the weekend, when she doesn't have to get up early for school, Tina sleeps into the early afternoon.

Question 27

Tina is experiencing a shift in her sleep-wake cycle as a result of

- A. a decrease in her melatonin levels.
- B. an increase in her melatonin levels.
- C. a delayed release of melatonin.
- D. an earlier release of melatonin.

Question 28

The sleep-wake cycle is considered a

- A. day rhythm.
- B. circadian rhythm.
- C. progressive rhythm.
- D. ultradian rhythm.

Question 29

In an experiment, the group that is exposed to the independent variable is known as the

- A. control group.
- B. single-blind group.
- C. experimental group.
- D. independent group.

Use the following information to answer Questions 30–32.

Vaughn was recently in a car accident and suffered severe brain trauma. As a result, Vaughn suffered severe seizures and could not form new memories.

Question 30

Vaughn was most likely suffering from

- A. retroactive amnesia.
- B. anterograde amnesia.
- C. retrograde amnesia.
- D. alzheimers amnesia.

Question 31

Although Vaughn's _____ memory is affected by his amnesia, he is still able to form _____ memories.

A.	implicit	explicit
B.	procedural	episodic
C.	procedural	semantic
D.	explicit	implicit

Question 32

Although rare in current medical practices, doctors decided that Vaughn should undergo split-brain surgery. Severing Vaughn's corpus collosum would help to reduce his seizures by

- A. changing Vaughns brain structure so he no longer has seizures.
- B. stopping the transfer of neural information between brain lobes.
- C. stopping the transfer of neural information between the left and right brain hemisphere.
- D. allowing Vaughns brain lobes to communicate and function together.

Question 33

Baker is a smoker and often smokes one packet of cigarettes each day. He recognises that his smoking behaviours are unhealthy and decides to book an appointment with his doctor to try and reduce his daily smoking habits. According to the transtheoretical model, the action of Baker booking in a doctor's appointment illustrates that he is in the _____ stage.

- A. preparation
- B. action
- C. contemplation
- D. pre-contemplation

Question 34

In regard to long term potentiation, which of the following statements is **incorrect**?

- A. long term potentiation is based on the principle that 'neurons that fire together wire together'
- B. GABA is the main neurotransmitter involved in long term potentiation
- C. long term potentiation involves an increase in dendritic spines
- D. synapses become strengthened during long term potentiation

Use the following information to answer Questions 35–37.

Experimental research was conducted to investigate the effects of cognitive behavioural therapy on sleep-onset insomnia. 50 people who responded to an advertisement were chosen to participate in the study. A single blind procedure was used. Participants drew either a red or blue card from a hat. Participants who drew a red card formed the control group, whereas, participants who drew a blue card from the hat formed the experimental group.

Question 35

The experimental design used was

- A. an independent-groups design with counterbalancing.
- B. an independent-groups design with random allocation.
- C. a random-stratified design with counterbalancing.
- D. a repeated measures design with random allocation.

Question 36

What is the independent variable (IV) and the dependent variable (DV) in this experiment?

	Independent Variable	Dependent Variable
A.	card colour	allocated group
B.	cognitive behavioural therapy	allocated group
C.	insomnia symptoms	cognitive behavioural therapy
D.	cognitive behavioural therapy	insomnia symptoms

Question 37

Sleep-onset insomnia is considered a

- A.** dyssomnia.
- B.** parasomnia.
- C.** circadian-phase disorder.
- D.** physical illness.

Use the following information to answer Questions 38–39.

Lisa has an extreme phobia of spiders. As her fear is increasing with age, she has decided to see a psychologist to address her fear. The psychologist works with Lisa by firstly creating a list from most least frightening situations to most frightening situations regarding spiders. The psychologist firstly suggests that Lisa should begin talking about spiders. To combat this fear, the psychologist teaches Lisa a breathing technique. When Lisa is able to talk about spiders without feeling anxious, the psychologist then gets Lisa to look at a picture of a spider while incorporating the same breathing techniques. Eventually, Lisa is able to hold a spider.

Question 38

The treatment used by the psychologist was

- A.** cognitive behavioural therapy.
- B.** extinction.
- C.** systematic desensitisation.
- D.** flooding.

Question 39

Breathing training is considered a/an _____ intervention to reducing anxiety

- A.** social
- B.** biological
- C.** psychological
- D.** protective

Question 40

The part of memory that holds personal memories and knowledge is

- A. semantic memory.
- B. episodic memory.
- C. procedural memory.
- D. short-term memory.

Question 41

There are multiple substances and drugs which can alter a persons state of consciousness. Cocaine is one of these drugs. In regard to consciousness, which of the following is **true** regarding cocaine?

- A. cocaine decreases alertness and is therefore associated with increased alpha and beta wave activity
- B. cocaine increases alertness and is therefore associated with increased alpha and beta wave activity
- C. cocaine decreases alertness and is therefore associated with increased theta and delta wave activity
- D. cocaine increases alertness and is therefore associated with increased theta and delta wave activity

Question 42

Which of the following is **false** regarding Alzheimer's disease?

- A. Alzheimer's is associated with both anterograde and retrograde amnesia
- B. the key brain structures involved in neural degeneration are amyloid plaques and neurofibrillary tangles
- C. neural degeneration in Alzheimers disease begins in the hippocampus
- D. procedural memory is first part of memory that is impaired in Alzheimers sufferers

Question 43

Penelope is a healthy 12-year-old who sleeps an average of 9 hours per night. It is likely that her sleep pattern

- A. demonstrates partial sleep deprivation.
- B. is abnormally long for a person of her age.
- C. is normal for a person of her age.
- D. is abnormally short for a person of her age.

Use the following information to answer Questions 44–46.

A sample of 100 healthy 13-year old students were chosen to participate in a sleep study. Participants were required to write down the content of their dreams at every moment they woke up during the night.

Question 44

The type of data collected in this study is

- A. quantitative only.
- B. qualitative only.
- C. both quantitative and qualitative.
- D. inferential statistics.

Question 45

In psychological research, an ethics committee has a role of ensuring that the rights of participants are upheld. Which of the following participant rights includes the need for parents to sign a note allowing minors to participate in experimental research?

- A. confidentiality
- B. debriefing
- C. voluntary participation
- D. informed consent

Question 46

Writing down dream content is an example of self-reporting. Identify the data type and a possible limitation of self-reports.

	Data Type	Limitation
A.	Objective	Difficult to statistically analyse and is open to bias.
B.	Subjective	Difficult to statistically analyse and is open to bias.
C.	Objective	Easily measured and not influenced by bias.
D.	Subjective	Easily measured and not influenced by bias.

Question 47

Vanessa is a VCE Psychology student. During school, she learns the Psychology curriculum in room 3B. Each time Vanessa has a SAC, she also completes the SAC in room 3B. In regard to memory retrieval processes, the physical location of the room acts as a

- A. recognition cue.
- B. state-dependent cue.
- C. familiarity cue.
- D. context-dependent cue.

Question 48

The process of linking new information with information that already exists in your long-term memory is known as

- A. elaborative rehearsal.
- B. chunking.
- C. maintenance rehearsal.
- D. translation.

Question 49

Tessa has a Psychology SAC coming up and has decided to revise by completing past exam papers. In regard to the consciousness continuum, Tessa's level of consciousness is best described as

- A. controlled consciousness.
- B. altered state of consciousness.
- C. normal waking consciousness.
- D. divided attention.

Question 50

Dopamine is a

- A. inhibitory neurotransmitter; responsible for drive, motor movement and arousal.
- B. excitatory neurotransmitter; responsible for drive, motor movement and arousal.
- C. inhibitory neurotransmitter; responsible for memory formation and learning.
- D. excitatory neurotransmitter; responsible for memory formation and learning.

Question 2 (7 marks)

Peter wants to show his class an example of classical conditioning. To do this, he asks his friend Matthew to participate in his experiment. Peter stands opposite to Matthew and reads out a constant list of four words (table, hat, top, book). Peter reads this list in the same order 10 times. Every time Peter says the word ‘book,’ he squirts Matthew with a water gun. Each time Matthew is squirted with the water, Matthew flinches and covers his face. On the 11th time that Peter reads out the list, and therefore says the word ‘book,’ he does not squirt Matthew with the water gun. However, Matthew still flinches at the word ‘book.’

- a. Using the terminology of classical conditioning, explain how Matthew has come to flinch when Peter says the word ‘book’. 5 marks

- b. Peter kept readings out the list of words, however, no longer squirted Matthew with the water gun. As a result, Matthew no longer flinched to the word ‘book’. 2 marks

Identify and define the classically conditioning element that relates to this scenario. Use classical conditioning terminology in your explanation.

Question 3 (11 marks)

Dr Drizzy wishes to investigate the effects that jet lag has on cognitive errors and poor decision making. To investigate this, Dr Drizzy sampled 100 pilots from Packer Airlines. 50 of the pilots in the study only complete domestic trips, whilst 50 of the pilots fly internationally through different time zones. Those pilots who fly internationally have frequent disruptions to their regular sleep patterns.

Dr Drizzy identified two different groups, each comprising of 50 pilots:

- Group A were pilots who flew domestically.
- Group B were pilots who flew internationally.

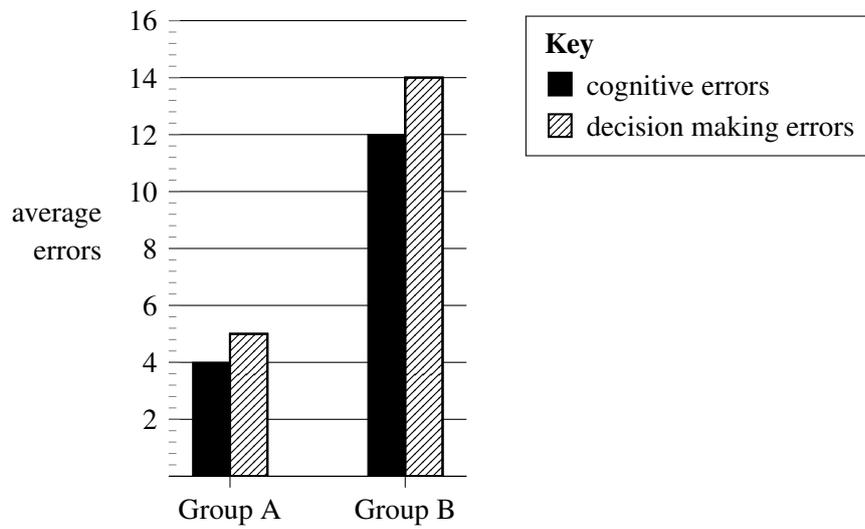
- a. Identify the dependent variable and independent variable in Dr Drizzy's research investigation. 2 marks

- b. Name the experimental research design that Dr Drizzy used in this investigation and a disadvantage of this choice of design. 2 marks

- c. What is the purpose of Group A in this investigation? 1 mark

Dr Drizzy’s investigation included participant involvement in a flight-simulator. The average frequency of cognitive and decision errors are shown below.

Cognitive and decision making effects of jet lag



- d. What conclusions can Dr Drizzy make about the cognitive and decision-making errors associated with jet lag? In your response, refer to the results for each group shown in the graph above. 3 marks

e. When Dr Drizzy presented her findings, she was asked to suggest a suitable intervention for jet lag.

3 marks

State and explain the likely suggestion that Dr Drizzy would have made to treat jet lag.

Question 4 (13 marks)

For his VCE Psychology practical investigation, Elijah decided to investigate the effect of elaborative rehearsal on the ability to recall a list of fifteen words.

The following information are extracts from Elijah’s study.

IV: memory technique used

DV: recall

Method: Two of the five year 11 classes at Triumph High School were selected to participate in the investigation. To fit with the experimenters availability, a Wednesday and Friday morning class were chosen. All of the students voluntarily agreed to participate in the study. Students who were under 18 were required to have signed consent from a parent/guardian.

Class A (Wednesday morning class): Students were given two minutes to study a list of fifteen words. The students were told to try to remember the words from the list in the order in which they were presented. They were not given any other instructions.

Class B (Friday morning class): Students were given two minutes to study a list of the same fifteen words. The students were instructed to use elaborative rehearsal, in the form of a coherent narrative, to provide meaning to each of the words in order to help them remember the words in the order they were presented.

The following 5 words were shown to the students in the list:

pencil television chair phone tissue

After the two minutes, the students were required to immediately write down as many of the words that they could remember.

a. Operationalise the dependent variable in this experiment.

2 marks

- b.** Using the axis below, draw a graph of the likely results for the group of students who used elaborative rehearsal to learn the list of fifteen words and label the axes appropriately. 2 marks



- c.** Using terms of Atkinson-Shiffrin multistore model of memory, explain why elaborative rehearsal is more effective than maintenance rehearsal. 3 marks

- d.** Identify the sampling procedure that Elijah used and a potential limitation of this procedure for Elijah’s conclusion. 2 marks

- e. Identify an alternative sampling procedure that Elijah could have used to improve the validity of his conclusion. Justify your response. 2 marks

- f. Outline one ethical guideline that was upheld in Elijah's study. 2 marks

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- c. Explain how systematic desensitisation can be used to help Marissa overcome her phobia of spoons. 4 marks

Question 6 (5 marks)

Farah has decided she wants to participate in a marathon to raise money for her school. To prepare for the marathon, Farah must practice running long distances every day.

- a.** When sleeping at night, Farah experienced more time in the stage of sleep associated with a decrease in heart rate, body temperature and breathing. 3 marks

With reference to theories of sleep, explain why Farah experienced more time in the stage of sleep associated with a decrease in heart rate, body temperature and breathing.

- b.** Identify and explain one characteristic of Farah’s brain wave patterns whilst in the stage of sleep identified in the previous question. 2 marks

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Question 7 (8 marks)

Priscilla is usually a sociable and friendly girl. However, when her brother died, she spent most of her day in bed and withdrew from her friends and family. This continued for two weeks.

- a.** Could the information in the above scenario be used to determine if Priscilla was experiencing a mental illness? Justify your answer. 3 marks

- b.** A year later, Priscilla developed an anxiety disorder and was prescribed an anti-anxiety medication to reduce her symptoms. 3 marks

Suggest a possible biological, psychological and social risk factor which may contributed to the development of Priscillas anxiety disorder.

- c. Priscilla's psychologist suggested that she should take part in a research trial for a new anxiety medication. However, this would mean that Priscilla can no longer take her original anti-anxiety medication. 2 marks

Explain why the withdrawal of regular medications may be considered unethical.

Question 8 (4 marks)

Lola is a professional hair stylist. During her career, she was only taught one method to curling her clients hair and has used this method over the past 10 years. A few weeks ago, Lola attended a hairdressing expo where she learnt a new method to curling hair. Lola practiced this method over the subsequent weeks after the hairdressing expo. Now, when someone wants their hair curled, Lola uses the new method.

Describe the role of long-term potentiation and long-term depression when Lola learns the new curling technique.

Long-term potentiation _____

Long-term depression _____
