

YEAR 12 *Trial Exam Paper*

2019

PSYCHOLOGY

Written examination

Reading time: 15 minutes

Writing time: 2 hours 30 minutes

STUDENT NAME:

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	8	8	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 room: blank sheets of paper and/or correction fluid/tape.
- No calculator is allowed in this examination.

Materials provided

- Question and answer book of 39 pages
- Answer sheet for multiple-choice questions
- Additional writing space is available at the end of the book if you need extra paper to complete an answer.

Instructions

- Write your **name** in the box provided above and on the multiple-choice answer sheet.
- All written responses must be 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 and/or any other unauthorised electronic devices into the examination.

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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

Within a neuron, which one of the following are the functions of the dendrite and axon terminal?

	Dendrite	Axon terminal
A.	releases neurotransmitters into the synapse	insulates and protects the axon
B.	carries information towards the axon terminal	releases neurotransmitters into the synaptic gap
C.	insulates and protects the axon	receives information from other neurons
D.	receives information from other neurons	releases neurotransmitters into the synaptic gap

Use the following information to answer Questions 2–4.

Fiona has a phobia of spiders. She has been prescribed a benzodiazepine medication (GABA agonist) to relieve her phobic symptoms. After seeing a spider in her apartment, Fiona took one of her prescribed tablets and felt an immediate sense of relief. She also noticed that her heart rate and breathing rate returned to normal.

Question 2

GABA agonist medication works in the synapses of Fiona's brain to relieve her phobic symptoms by

- A.** mimicking GABA and binding to its matching receptor sites, thus stimulating the excitatory action of GABA in the postsynaptic neuron.
- B.** mimicking GABA and binding to its matching receptor sites, thus stimulating the inhibitory action of GABA in the postsynaptic neuron.
- C.** increasing levels of GABA and binding to its matching receptor sites, thus enabling the excitatory effects of GABA on the postsynaptic neuron to occur.
- D.** increasing levels of GABA and binding to its matching receptor sites, thus enabling the inhibitory effects of GABA on the postsynaptic neuron to occur.

Question 3

Fiona's phobia-related symptoms, such as her increased heart rate and shallow, quickened breaths, would have been relieved because the medication decreased neural activity in her

- A. somatic nervous system.
- B. sympathetic nervous system.
- C. parasympathetic nervous system.
- D. automatic nervous system.

Question 4

In terms of operant conditioning, Fiona's feeling of relief from her symptoms after taking the GABA agonist medication would be classified as

- A. positive reinforcement, which increases the likelihood of Fiona taking the medication again in the future.
- B. positive reinforcement, which decreases the likelihood of Fiona taking the medication again in the future.
- C. negative reinforcement, which increases the likelihood of Fiona taking the medication again in the future.
- D. response cost, which decreases the likelihood of Fiona taking the medication again in the future.

Use the following information to answer Questions 5–9.

A team of researchers has invented a non-invasive ultrasound technology that removes amyloid plaques from the brain in patients with the neurodegenerative disease Alzheimer's. These plaques are responsible for memory loss and decline in cognitive function.

There were 96 mice involved in the testing. Results showed that 75% of the mice had their memory function completely restored, without any damage to the surrounding brain tissue. These mice also had improved performance on two memory tasks: a maze and a test involving recognition of new objects.

Question 5

Alzheimer's disease is considered to be a neurodegenerative disease because it

- A. impairs cognitive functioning.
- B. temporarily impairs the functioning of neurons in the brain.
- C. gradually destroys neurons in the brain.
- D. involves the build-up of amyloid plaques in the brain.

Question 6

Other structures associated with memory loss in Alzheimer's disease are neurofibrillary tangles.

These are different to amyloid plaques because they are proteins that

- A. build up inside a neuron and destroy it from the inside.
- B. grow on the outside of neurons and inhibit communication.
- C. only build up in the hippocampus.
- D. only build up in the cerebellum.

Question 7

The researchers found that most of the mice in the study showed an improved ability to recognise new objects.

The brain structure that would have enabled a memory of each object to be consolidated was the

- A. cerebral cortex.
- B. amygdala.
- C. cerebellum.
- D. hippocampus.

Question 8

Anterograde amnesia is often a symptom of Alzheimer's disease.

As the ultrasound treatment didn't work for 25% of the mice in the study, and they were still suffering from anterograde amnesia, their results on the memory tests would have shown an inability to

- A. run previously familiar mazes.
- B. recognise new objects.
- C. recognise familiar objects.
- D. remember how to run an unfamiliar maze.

Question 9

Often, it is more ethically acceptable to use animals in a study than it is to use humans, especially if there are risks involved for the participants.

In terms of ethical principles, the researchers in this study would still have had to consider

- A. protection and security of participant information.
- B. voluntary participation.
- C. the role of the experimenter in protecting participants from harm.
- D. withdrawal rights.

Use the following information to answer Questions 10–14.

Chenelle's house was recently burned down by a bushfire that wiped out most of the houses in her community. She lost everything in her house and will now have to rebuild. Meanwhile, she is staying in temporary accommodation with her husband and two children.

Question 10

In terms of type of stress, Chenelle losing her house and everything in it as a result of the bushfire is an example of

- A. a daily pressure.
- B. eustress.
- C. acculturative stress.
- D. major stress.

Question 11

The bushfire that affected Chenelle's community was considered a catastrophe due to the widespread damage it caused.

Catastrophes are different from other sources of stress, such as life events, because catastrophes

- A. are generally unpredictable, whereas life events can result from a pre-planned decision or choice.
- B. are generally negative and cause significant distress, whereas life events only cause eustress.
- C. generally involve temporary adjustments, whereas life events require long-term adjustments.
- D. affect a lot of people at once, whereas life events only affect one person.

Question 12

Chenelle is feeling overwhelmed by the things she now needs to do to rebuild her house. She feels like she might not get all the paperwork completed in time for the government to provide her family with funding. Chenelle is worried that they might end up without a place to stay.

In terms of the Transactional Model of Stress and Coping and primary appraisal, Chenelle thinking that her family might end up without a place to stay is an example of a

- A. harm.
- B. loss.
- C. threat.
- D. challenge.

Question 13

In terms of the Transactional Model of Stress and Coping, Chenelle going through secondary appraisal would involve

- A. assessing the significance of the event.
- B. assessing the coping resources available to her.
- C. determining whether she will experience eustress or distress.
- D. determining whether the event is a harm, loss, threat or challenge.

Question 14

A weakness of the Transactional Model of Stress and Coping is that it

- A. overlooks physiological responses to stress.
- B. overemphasises the physiological nature of the stress response.
- C. emphasises the personal nature and individuality of the stress response.
- D. suggests that people are able to change their thinking and responses in regards to a stressor.

Use the following information to answer Questions 15–18.

Petra puts on her blue jacket before she takes her dog for a walk every morning. Recently, Petra has noticed that her dog wags his tail excitedly and stands at the front door whenever she puts her blue jacket on.

Question 15

In terms of classical conditioning, the neutral stimulus was the

- A. walk.
- B. wagging tail.
- C. blue jacket.
- D. front door.

Question 16

In terms of classical conditioning, the unconditioned response was the dog wagging its tail in response to

- A. walking.
- B. the blue jacket.
- C. the front door.
- D. Petra.

Question 17

In terms of classical conditioning, the conditioned response was the dog wagging its tail in response to

- A. walking.
- B. the blue jacket.
- C. the front door.
- D. Petra.

Question 18

If Petra's dog demonstrated stimulus generalisation, it may

- A. stop wagging its tail in response to the blue jacket.
- B. wag its tail in response to Petra putting on a blue jumper.
- C. stop wagging its tail in response to Petra putting on a blue jumper.
- D. start wagging its tail in response to the blue jacket after a period of extinction during which Petra would wear her blue jacket but not take him for walks.

Use the following information to answer Questions 19 and 20.

Jai is 11 years old and has been sent to a sleep laboratory by his parents because he suffers from sleep-onset insomnia. This involves him having difficulty getting to sleep or lying awake for hours before finally falling asleep. Jai is therefore sleep deprived and his parents are concerned this might affect his development. Over several nights, Jai's sleep patterns were observed in the laboratory using a variety of machines, including those for electrooculography (EOG) and electromyography (EMG).

Question 19

The observations made about Jai's sleep patterns during his stay at the lab showed that he usually experienced one fewer cycle of rapid eye movement (REM) sleep and non-rapid eye movement (NREM) sleep per night than boys of his age. This was equivalent to around 90 minutes.

A biological cycle that is 90 minutes long is referred to as

- A. a circadian rhythm.
- B. a sleep rhythm.
- C. an infradian rhythm.
- D. an ultradian rhythm.

Question 20

According to the restorative theory of sleep, if Jai is getting one fewer sleep cycle per night than boys of his age, which one of the following impacts of him having less REM and NREM sleep would he experience?

	REM	NREM
A.	feeling weak and lacking in energy	poor concentration
B.	poor concentration	getting sick with cold and flu-like symptoms
C.	getting sick with cold and flu-like symptoms	feeling weak and lacking energy
D.	poor memory	difficulty with decision-making

Use the following information to answer Questions 21–25.

Sleep deprivation has the same effect as drinking too much, says study

A lack of sleep not only causes us to drop off at our desks in the afternoon and feel cranky, it also weakens crucial communications between the neurons in the brain, according to a new study.

That weakening in the brain's signalling network can lead to lapses in memory and problems concentrating, and in some ways is comparable to being drunk, say the researchers.

The international team behind the study wants to see the problem of sleep deprivation taken more seriously, both in the harm it can do to our own bodies and the risks that we might be taking when we get behind the wheel or do our daily jobs.

'We discovered that starving the body of sleep also robs neurons of the ability to function properly,' says lead researcher Itzhak Fried, from the University of California at Los Angeles (UCLA). 'This leads to cognitive lapses in how we perceive and react to the world around us.'

Fried and his colleagues studied 12 patients preparing to have surgery for epilepsy, which meant their brains had already been fitted with electrodes to try and detect the locations of seizures before their operations.

Each volunteer was asked to categorise a series of images as quickly as possible, while the researchers measured the firing of the neurons inside the brain. In total, the activity of almost 1500 brain cells was recorded across the 12 participants.

Particular attention was paid to the neurons in the temporal lobe, where visual perception and visual memory are managed.

The study found that as patients got more tired, the neuron firing activity slowed down and lost strength.

'We were fascinated to observe how sleep deprivation dampened brain cell activity,' says one of the team, Yuval Nir from Tel Aviv University in Israel. 'Unlike the usual rapid reaction, the neurons responded slowly and fired more weakly, and their transmissions dragged on longer than usual.'

The scans suggested a lack of sleep was interfering with the neurons' ability to translate what was being seen into coherent thoughts, in the same way that a tired driver takes a moment to react to a pedestrian stepping out into the road.

Researchers also noticed sleep-like waves disrupting parts of the brain, almost as if certain areas were dozing off and causing mental lapses of concentration, while other sections of the brain carried on running as normal.

Source: <https://www.sciencealert.com/tiredness-sleep-deprivation-the-same-as-drinking-too-much>

Question 21

Which one of the following methods of data collection was used by the researchers?

- A. self-report
- B. interview
- C. case study
- D. observational study

Question 22

The main limitation of this method of data collection is that

- A. it is difficult to generalise the results to the population because only one or a few people are studied.
- B. it provides a wealth of detailed qualitative information.
- C. participants know they are being watched and may change their behaviour accordingly.
- D. only quantitative data is obtained, meaning the results would be lacking in detail.

Question 23

The level of neuron firing in the participants' brains was

- A. a dependent variable.
- B. an extraneous variable.
- C. a confounding variable.
- D. an independent variable.

Question 24

When measuring the brain activity of the participants, researchers noticed sleep-like waves in parts of the brain that were causing lapses in concentration during testing.

It is likely the researchers observed

- A. an increase in alpha waves, which are lower in amplitude and higher in frequency.
- B. an increase in alpha waves, which are higher in amplitude and lower in frequency.
- C. a decrease in theta waves, which are higher in amplitude and lower in frequency.
- D. a decrease in theta waves, which are lower in amplitude and higher in frequency.

Question 25

The researchers suggested that being sleep deprived is equivalent to being drunk.

Using your understanding of the effects of both partial sleep deprivation and legal blood alcohol concentration (BAC) on cognitive functioning, which of the following statements is the most correct?

- A. After longer periods without sleep (20+ hours), performance on speed and accuracy tests is equivalent to a legal BAC of 0.025%.
- B. After 17–19 hours without sleep, performance on speed and accuracy tests is equivalent or worse than a legal BAC of 0.025%.
- C. After longer periods without sleep (20+ hours), performance on speed and accuracy tests is equivalent to a legal BAC of 0.05%.
- D. After 17–19 hours without sleep, performance on speed and accuracy tests is equivalent or worse than a legal BAC of 0.05%.

Question 26

Dyssomnia can be distinguished from parasomnia because

- A. dyssomnia involves inappropriate activity during sleep, whereas parasomnia involves difficulty initiating or maintaining sleep.
- B. dyssomnia involves difficulty initiating or maintaining sleep, whereas parasomnia involves inappropriate activity during sleep.
- C. dyssomnia involves changes in the quality of sleep, whereas parasomnia does not.
- D. dyssomnia often occurs during a sleep stage transition, whereas parasomnia does not.

Question 27

In terms of ethical implications, an ethics committee would not approve the 'Little Albert' experiment today because

- A. Little Albert's fear was extinguished at the end of the experiment.
- B. Little Albert was not fully informed of his rights, the nature of the study or any risks involved.
- C. Little Albert experienced significant distress and should have been protected from harm.
- D. Little Albert was not given withdrawal rights and allowed to leave when he wanted to.

Use the following information to answer Questions 28 and 29.

Joel and his little brother Luke love playing soccer in their backyard. Luke idolises Joel and admires how good he is at goal kicking. Luke closely watches Joel's goal-kicking technique and tries to imitate it when Joel is around so that he receives praise from his brother.

Question 28

In terms of observational learning, when Luke closely watches Joel's goal-kicking technique, which stage is he likely to be in?

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

Question 29

In terms of observational learning, an example of Luke's motivation would be

- A. receiving praise from Joel for kicking the ball well.
- B. wanting to imitate Joel's goal kicking to receive praise from him.
- C. trying to imitate Joel's goal kicking and having the physical and mental capabilities to do so.
- D. remembering how to imitate Joel's goal-kicking technique.

Use the following information to answer Questions 30–32.

Heidi is learning Japanese at school and her teacher gives the class a vocabulary quiz every Friday. The test always has two sections. Section 1 requires the students to match Japanese words with their English meanings. Section 2 requires the students to write a story about their week in Japanese, using as many of the new words that they had learned in class that week as they can. Heidi always finds Section 1 much easier.

Question 30

Section 1 in the weekly quiz is an example of

- A. reconstruction.
- B. relearning.
- C. recognition.
- D. recall.

Question 31

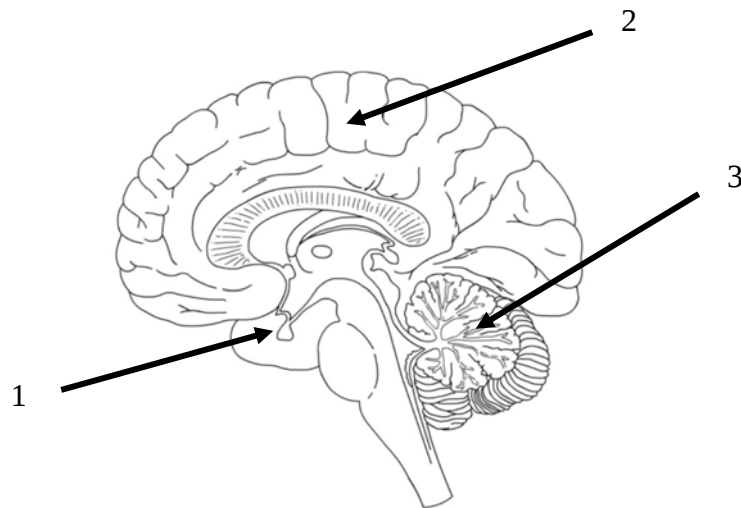
Section 2 in the weekly quiz is an example of

- A. reconstruction.
- B. relearning.
- C. recognition.
- D. recall.

Question 32

Heidi finds Section 1 in the weekly quiz easier because

- A. in Section 2 she is provided with more retrieval cues, making it easier to access the information.
- B. in Section 1 she is provided with more retrieval cues, making it harder to access the information.
- C. in Section 2 she is provided with fewer retrieval cues, making it easier to access the information.
- D. in Section 1 she is provided with more retrieval cues, making it easier to access the information.

Question 33

Each region of the brain labelled 1 to 3 on the diagram above has a role in the formation of long-term memories, including implicit and explicit memories.

Which one of the following correctly identifies the role of each region?

	1	2	3
A.	consolidates emotionally arousing explicit memories	stores procedural-based implicit memories	stores implicit memories, including facts and personal experiences
B.	stores explicit memories, including facts and personal experiences	consolidates emotionally arousing explicit memories	stores procedural-based implicit memories
C.	consolidates emotionally arousing implicit memories	stores explicit memories, including facts and personal experiences	stores procedural-based implicit memories
D.	consolidates emotionally arousing explicit memories	stores implicit memories, including facts and personal experiences	stores procedural-based implicit memories

Use the following information to answer Questions 34–37.

Chad is a Year 12 student who was recently diagnosed with depression. He has missed a lot of school, which makes him anxious because he wants to do well and study medicine at university.

Chad's mum became concerned when she noticed that Chad was exhibiting symptoms that were similar to what she experienced when she was diagnosed with depression five years ago. Chad's symptoms worsened when he broke up with his girlfriend. His mum then decided to book an appointment for him with their family doctor. Despite making progress with his psychologist by talking through his negative thinking patterns, Chad still finds himself dwelling on how terrible his situation is, without coming up with any practical solutions.

Question 34

Chad's mum having been diagnosed with depression five years ago is a

- A. biological, predisposing risk factor.
- B. psychological, predisposing risk factor.
- C. biological, precipitating risk factor.
- D. social, perpetuating risk factor.

Question 35

Chad breaking up with his girlfriend is a

- A. social, perpetuating risk factor.
- B. biological, predisposing risk factor.
- C. psychological, precipitating risk factor.
- D. social, precipitating risk factor.

Question 36

Chad dwelling on how terrible his situation is without coming up with any practical solutions is an example of

- A. rumination, which is a predisposing, psychological risk factor.
- B. rumination, which is a perpetuating, psychological risk factor.
- C. poor self-efficacy, which is a precipitating, social risk factor.
- D. impaired reasoning, which is a perpetuating, psychological risk factor.

Question 37

With the help of his psychologist, Chad decides to increase his resilience to future stressors by ensuring that he gets adequate sleep.

This is an example of a

- A. psychological, protective factor.
- B. biological, protective factor.
- C. social, protective factor.
- D. biological, perpetuating factor.

Question 38

With reference to drug-induced altered states of consciousness and changes in brain activity, the difference between a stimulant and a depressant is that a

- A. stimulant increases the frequency and decreases the amplitude of brainwaves.
- B. depressant increases the frequency and decreases the amplitude of brainwaves.
- C. stimulant increases the frequency and increases the amplitude of brainwaves.
- D. depressant decreases the frequency and decreases the amplitude of brainwaves.

Question 39

A difference between the sleep patterns of children and those of elderly people would be

- A. children experience less NREM than elderly people, particularly NREM stages 3 and 4.
- B. elderly people experience a greater proportion of REM sleep than children.
- C. children wake up less and sleep more deeply than elderly people so children have more NREM stages 3 and 4 sleep.
- D. elderly people wake up less and sleep more deeply than children so elderly people have more NREM stages 3 and 4 sleep.

Use the following information to answer Questions 40 and 41.

Charlie has recently started work as a nurse and has been put on a rotating shift. He has just done his first week of night shifts and is experiencing severe sleep deprivation because he finds it very difficult to sleep during the day.

Question 40

In terms of circadian phase disorders, Charlie's difficulty sleeping during the day would be due to

- A. him not feeling tired because there is not enough melatonin in his system.
- B. him not feeling tired from high levels of melatonin in his system.
- C. a mismatch between the requirements of his external environment and those of his biological clock.
- D. a mismatch between the requirements of his sleep patterns and those of his biological clock.

Question 41

Charlie has been told that bright light therapy could be used to resynchronise his sleep patterns after he has finished his week of night shifts.

This would involve

- A. exposing him to bright light in the early evening.
- B. exposing him to bright light first thing in the morning.
- C. minimising bright light in the early evening.
- D. minimising bright light in the early morning.

Use the following information to answer Questions 42–46.

Lauren is a high school Maths teacher who would like to determine whether using food incentives during her lessons improves learning outcomes for her students. She pre-tests the students of two of her Maths classes on their understanding of the current topic: probability. She then offers the students in one of her classes food incentives for completing tasks during each lesson for one month. Lauren does not offer any food incentives to her other class during this time. She then tests both classes again on the topic of probability, using a similar test. Lauren calculates the mean difference in the improvement of each class' scores.

Probability test results before and after one month of lessons			
	Before	After	Mean difference
Food incentives	67%	82%	+15%
No food incentives	57%	60%	+3%

Question 42

The type of data Lauren collated is

- A. primary, qualitative.
- B. secondary, quantitative.
- C. primary, quantitative.
- D. secondary, qualitative.

Question 43

Lauren calculated the mean test score for her classes.

A limitation of this measure of central tendency is that

- A. the mean uses every value in the data and is not representative of the data.
- B. repeated samples drawn from the same population tend to have similar means.
- C. it is closely related to standard deviation, the most common measure of variability.
- D. it is heavily influenced by outliers or extreme scores in the data.

Question 44

Which one of the following is not considered a likely extraneous variable in Lauren's experiment?

- A. practice effects, which would be a result of the participants completing the pre-test and then a similar test one month later
- B. participant differences, such as differences in maths ability between Lauren's two classes
- C. the type of food offered and whether students like that food
- D. whether or not food is offered as an incentive

Question 45

Lauren providing food as an incentive for completing certain tasks in class is an example of

- A. positive reinforcement, which decreases the likelihood of students completing the tasks.
- B. positive reinforcement, which increases the likelihood of students completing the tasks.
- C. negative reinforcement, which increases the likelihood of students completing the tasks.
- D. positive punishment, which increases the likelihood of students completing the tasks.

Question 46

If Lauren takes the food incentives away from the students when they are disruptive during her lessons, this would be an example of

- A. positive reinforcement, which increases the likelihood of students completing the tasks.
- B. negative reinforcement, which increases the likelihood of students completing the tasks.
- C. positive punishment, which decreases the likelihood of students being unproductive or disruptive in class.
- D. response cost, which decreases the likelihood of students being unproductive or disruptive in class.

Question 47

Controlled processes differ from automatic processes because

- A. controlled processes require a higher level of awareness and more mental effort than automatic processes.
- B. automatic processes require a higher level of awareness and more mental effort than controlled processes.
- C. automatic processes are required when a task is novel, unfamiliar or difficult, whereas controlled processes are not.
- D. controlled processes don't usually take a long time to complete, whereas automatic processes are usually quite time consuming.

Question 48

An individual would be in a naturally occurring altered state of consciousness if they are

- A. meditating.
- B. under the influence of an anaesthetic.
- C. sleeping.
- D. hypnotised.

Use the following information to answer Questions 49 and 50.

Mary and Kate both play the flute and recently auditioned for the school orchestra. They were both rejected but encouraged to return mid-year to audition again. Mary acknowledged that she was nervous and committed to playing her flute in front of people more often. She started playing a song to her family or friends once a week. Kate, on the other hand, thinks that she doesn't have a problem with performing and doesn't need to practise more than she already does.

Question 49

According to the transtheoretical model of behaviour change, Mary is in the

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

Question 50

If Kate was in the contemplation stage of the transtheoretical model of behaviour change, which example would best represent this?

- A. Kate would be practising weekly to improve her performance skills.
- B. Kate would have no intention to change her behaviour in the near future.
- C. Kate would intend to practise more in the next month.
- D. Kate would acknowledge that she needs to practise more and has plans to overcome this at some point in the next six months.

SECTION B**Instructions for Section B**

Answer **all** questions in the spaces provided. Write using blue or black pen.

Question 1 (3 marks)

With reference to the role of dopamine in Parkinson's disease, explain how interference to neurotransmitter functioning causes symptoms such as bradykinesia.

Question 2 (15 marks)

Devorah has had a severe and irrational fear of birds since she was a little girl. This started when Devorah saw her friend Alisha get swooped by a magpie in primary school. Since then, Devorah's fear has worsened. Now, just seeing a feather, hearing a bird tweet or thinking about birds will prevent her from leaving her house and socialising with her friends.

- a.** Identify whether Devorah is suffering from anxiety or a phobia. Justify your response.

3 marks

- b.** Identify each phase of operant conditioning and explain how each phase perpetuates Devorah's fear of birds.

6 marks

Phase 1 _____

Explanation _____

Phase 2 _____

Explanation _____

Phase 3 _____

Explanation _____

- c. With reference to operant conditioning, explain how Devorah is demonstrating stimulus generalisation.

2 marks

- d. Devorah decides to seek help from a psychologist to manage her fear so that she feels more relaxed leaving the house and seeing her friends.

Outline how the psychologist could use cognitive behavioural therapy (CBT) to help Devorah.

4 marks

Question 3 (7 marks)

Emily is on a diet and agrees to go to the footy with her sister, Verity, as long as they bring healthy snacks along with them. Verity is running late so Emily finds their seats and waits for her. A man selling snacks walks past saying, 'Hot pies, cold drinks!' Emily begins to salivate when she smells the meat pie. Despite bringing carrot sticks and dips with her, the meat pie smells so good that Emily decides to buy one to eat.

- a.** With reference to how Emily responded to the sensory stimuli of smelling the meat pie, explain the difference between conscious and unconscious responses.

3 marks

- b.** Outline how **two** divisions of Emily's nervous system would have been involved when she bought the meat pie and ate it.

4 marks

Question 4 (11 marks)

Jane is an organisational psychologist. She was employed by the Ace accounting firm to help reduce the stress levels of employees. Jane was provided with the following background information about the company.

Ace is an Australia-based accounting firm that employs 196 full-time staff. Managers within the firm have noticed that during particular times in the year (e.g. towards the end of financial year in June), the stress levels of staff significantly increases. This also coincides with many staff experiencing sore throats and colds. As a result, many staff take time off work, resulting in reduced productivity at an important time of the year. Ace wants to reduce its employees' stress levels by educating them and providing them with opportunities to learn how to effectively cope with stress.

At the beginning of her contract, Jane asked for volunteers from all areas in the company to take part in her study. She wanted to establish the employees' baseline stress levels and compare them with their stress levels at the conclusion of the three-month study after different coping strategies had been introduced. The 80 employees who agreed to participate were divided into four equal groups, as shown below.

- Group A were told to use their existing coping strategies.
- Group B were told to exercise at a moderate level for at least 20 minutes three times a week.
- Group C were told to use approach coping strategies, such as seeking support from others, writing a to-do list and setting goals.
- Group D were told to exercise at a moderate level for at least 20 minutes three times a week and were also told to use approach coping strategies, such as seeking support from others, writing a to-do list and setting goals.

a. Name the experimental research design Jane used in this study.

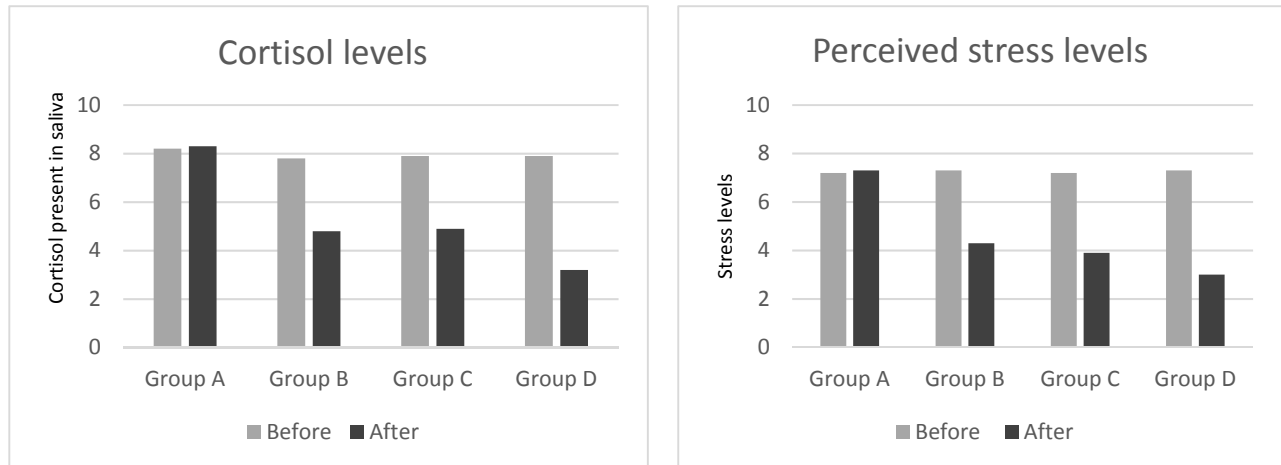
1 mark

b. Outline **one** advantage of using this experimental research design.

1 mark

Jane's investigation involved two parts. The first part involved assessing cortisol levels in a saliva test before the study commenced and at the end of the three-month period. This was represented as a score from 1 to 10 (1 being the lowest and 10 being the highest). The second part involved the employees rating their perceived stress levels before the study commenced and again at the end. This was also rated on a scale from 1 to 10 (1 being no stress and 10 being extremely stressed).

Jane's results are shown below.



- c. Outline a benefit of cortisol being released during the employees' stress responses.

1 mark

- d. With reference to Selye's General Adaptation Syndrome (GAS), explain how cortisol levels could be linked to the Ace employees experiencing sore throats and colds during busy, stressful periods.

3 marks

- e. What conclusions could Jane draw from her results about the effectiveness of exercise and approach strategies at lowering stress levels? In your response, refer to results for each group in the study.

5 marks

Question 5 (11 marks)

For his VCE Psychology practical investigation, Hugo decided to determine whether context-dependent cues affect the recall of information for VCE students at his school, Boston High. He used a sample of 80 students from Years 11 and 12. He found out how many males and females there were in each year level and ensured that his sample contained the same proportion of males and females from each level. He then randomly allocated them into two equal groups. Group 1 students learned a list of fifteen words in a classroom. Group 2 students learned the same fifteen words on the school oval. A day later, Hugo further divided the students into two groups of twenty to recall the words in either the same environment they learned them in or in a different environment.

Hugo calculated the mean number of words correctly recalled in each condition and presented the following results.

Mean number of words correctly recalled out of 15		
	Recalled in the classroom	Recalled on the oval
Group 1: Learned in the classroom	13.1	8.7
Group 2: Learned on the oval	9.1	14.3

- a. Write a research hypothesis for Hugo's investigation.

3 marks

- b.** Identify the sampling procedure used by Hugo and explain a potential limitation of this procedure for his investigation.

3 marks

Sampling procedure _____

Potential limitation _____

- c.** Explain what the results of Hugo's investigation means in terms of the effect of context-dependent cues on the recall of information.

2 marks

- d. i.** In terms of the multi-store model of memory, identify which level of memory the fifteen words would have been recalled from when retrieved the next day.

1 mark

- ii.** State the capacity and duration of this level of memory.

2 marks

Capacity _____

Duration _____

Question 6 (6 marks)**New parents face 6 years of disrupted sleep**

A new study by researchers from the University of Warwick shows that after birth of the first child and up to 6 years after birth mothers and fathers sleep duration and sleep satisfaction do not fully recover to the levels before pregnancy.

In the paper ‘Long-term effects of pregnancy and childbirth on sleep satisfaction and duration of first-time and experienced mothers and fathers’, a collaboration with the German Institute for Economic Research and the West Virginia University studied sleep in 4659 parents who had a child between 2008 and 2015.

During these years parents also reported on their sleep in yearly interviews. In the first three months after birth mothers slept, on average, one hour less than before pregnancy while fathers’ sleep duration decreased by approximately 15 minutes.

...

However, when the children were 4–6 years old sleep duration was still about 20 minutes shorter in mothers and 15 minutes shorter in fathers compared to their sleep duration before pregnancy. A similar time course was also observed for their satisfaction with sleep.

...

Dr Sakari Lemola, from the Department of Psychology at the University of Warwick, comments:

‘While having children is a major source of joy for most parents it is possible that increased demands and responsibilities associated with the role as a parent lead to shorter sleep and decreased sleep quality even up to 6 years after birth of the first child.’

Source: University of Warwick. (2019, February 25). New parents face 6 years of disrupted sleep. *ScienceDaily*. Retrieved March 16, 2019 from www.sciencedaily.com/releases/2019/02/190225192116.htm

- a. It is possible that parents from this study were suffering from the effects of partial sleep deprivation.

With reference to the total amount of sleep that is required by adults, explain how partial sleep deprivation would affect the cognitive functioning of new parents.

3 marks

- b.** The researchers gathered data by conducting yearly interviews.

Describe what this method of data collection involves and how its subjective nature could affect the validity of the results.

3 marks

Question 7 (7 marks)

Glenda's doctor suggested that she should try to use relaxation techniques, such as breathing retraining, to reduce her stress levels. After a few weeks of practising the techniques, she reports to her doctor that she feels much more relaxed and less stressed, particularly after completing the breathing retraining techniques. Out of curiosity, her doctor decides to conduct a test using an electroencephalograph (EEG) to see how the breathing retraining is affecting her brainwave patterns. He records Glenda's brainwave patterns before and after she performs the breathing retraining techniques, shown in the table below.

Before	
After	

- a. Suggest how Glenda's doctor may have described the changes in the amplitude and frequency of Glenda's brainwaves that occurred after she had completed the breathing retraining techniques.

2 marks

- b. Glenda reported feeling relaxed after completing the breathing retraining techniques. Identify the type of brainwave usually associated with relaxation.

1 mark

- c. Glenda also reported that she felt like she was in an altered state of consciousness during the breathing retraining exercise.

Describe **two** psychological changes that she may have experienced as a result of using the breathing retraining technique and entering an altered state of consciousness.

4 marks

[illegible]

END OF QUESTION AND ANSWER BOOK

Clearly number all responses in this space.

[illegible]

[illegible]

[illegible]

[illegible]