VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

Victorian Certificate of Education 2013

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Figures									Letter
Words									

PSYCHOLOGY
Written examination

Friday 1 November 2013

Reading time: 9.00 am to 9.15 am (15 minutes)
Writing time: 9.15 am to 11.45 am (2 hours 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

Section	*Number of questions*	*Number of questions to be answered*	*Number of marks*
A	65	65	65
B	18	18	60
C	5	5	15
			Total 140

- 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 white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied
- Question and answer book of 36 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
- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- 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 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

Which one of the following is most likely to have the highest level of awareness?

A. dreaming
B. daydreaming
C. performing controlled processes
D. performing automatic processes

Question 2

If a patient sustained damage to her left temporal lobe, it is most likely that she could suffer from

A. spatial neglect.
B. Broca's aphasia.
C. Wernicke's aphasia.
D. the effects of split-brain surgery.

Question 3

The tip-of-the-tongue phenomenon occurs when

A. an individual is unable to recall any information.
B. deterioration of the neurons within the brain causes information to be lost.
C. an individual is aware that they know something, but can only remember some of the information.
D. there is difficulty saying certain words because of a speech problem in the language centres of the brain.

Question 4

The proportion of rapid eye movement (REM) sleep to non-rapid eye movement (NREM) sleep is

A. equal across the life span.
B. greater in infancy than later in the life span.
C. lower at birth and equal in later adolescence.
D. lower at birth and higher in late adolescence.

Question 5

The galvanic skin response (GSR) measures the

A. temperature of a person's skin.

B. electrical conductivity of a person's skin.

C. perspiration produced by a person's skin.

D. perspiration and temperature of a person's skin.

Question 6

After Anja's brain injury, her family and friends noticed that she was more moody and aggressive than before her accident. It was determined that damage had occurred to one of Anja's cortical lobes.

It was most likely that the damage was to the

A. frontal lobe.

B. parietal lobe.

C. occipital lobe.

D. temporal lobe.

Question 7

On the night of the presentation ball, Violet fell down the stairs in front of hundreds of people and was very embarrassed. Now, she chooses to forget the incident.

What is the most likely explanation of her forgetting?

A. repression

B. suppression

C. decay theory

D. retrieval failure theory

Question 8

Studies by Loftus on the effect of misleading questions on eyewitness testimonies have found that

A. exposure to misleading questions has no impact on an eyewitness's recollection of events.

B. it is unfair to expect eyewitness testimonies to be accurate, as people will remember only events that are positive.

C. eyewitness memories are reconstructions of events that can be manipulated by information that is given after the event.

D. eyewitness memories cannot be manipulated and therefore are highly reliable for use as evidence in court.

Question 9

According to the biopsychosocial approach, a psychological risk factor for developing a mental illness is

A. drinking alcohol.

B. an individual's personality.

C. a family history of mental illness.

D. the absence of a friendship group.

Question 10

In a repeated-measures design

A. different participants are used in both the control and experimental conditions.

B. the same participants are used in both the control and experimental conditions.

C. the same participants are used in one trial of both the control and experimental conditions, and different participants are used in subsequent trials.

D. participants are put into pairs and one member of each pair is placed in the control condition and the other member is placed in the experimental condition.

Use the following information to answer Questions 11–16.

Experimental research was conducted to trial medication for the management of schizophrenia. This medication was in a tablet that was given to participants.

Participants drew an odd or even number from a hat. Participants who drew odd numbers formed the control group; participants who drew even numbers formed the experimental group. A double-blind procedure with a placebo was used.

Question 11

In this research, the placebo could be defined as

A. the effect of the medication.

B. the tablet containing no medication.

C. a participant's expectation of the effect of the medication.

D. the tablet containing the medication that was being trialled.

Question 12

A placebo was most likely used in this experiment to

A. control for an extraneous variable and assess the effect of the medication.

B. standardise the experimental procedure and assess the effect of the medication.

C. control for an extraneous variable and assess the effect of the dependent variable.

D. standardise the experimental procedure and assess the effect of the dependent variable.

Question 13

The double-blind procedure aimed to control for

A. the placebo effect.

B. the experimenter effect.

C. all extraneous variables.

D. the placebo effect and the experimenter effect.

Question 14

The experimental design was

A. a repeated-measures design with counterbalancing.

B. a repeated-measures design with random allocation.

C. an independent-groups design with counterbalancing.

D. an independent-groups design with random allocation.

Question 15

Confidentiality was ensured so that

A. participants were aware of the purpose of the study.

B. the privacy of participants in the study was protected.

C. participants had the right to withdraw from the study at any time.

D. important data about the participant variables could be published in scientific journals.

Question 16

In order to safely report that the effect of the medication was significant, it would be most desirable for the results to have a p value that is

A. < 0.05

B. > 0.05

C. < 0.01

D. > 0.01

Question 17

Alzheimer's disease is

A. a form of dementia from which every person will eventually suffer.

B. a disease that progressively destroys neurons in the brain, causing memory loss.

C. caused by excessive consumption of alcohol and a diet that is deficient in vitamins.

D. a form of dementia that is characterised by irregular involuntary movements of the body and rapid intellectual deterioration.

Question 18

According to the biopsychosocial framework, which one of the following would best be described as a biological factor?

A. grief

B. genetics

C. education

D. family interactions

Question 19

The sleep-wake cycle shift during adolescence is typically caused by

A. depression and the sleep debt.

B. delayed release of the hormone adrenaline.

C. delayed release of the hormone melatonin.

D. overproduction of the hormone melatonin.

Question 20

Research indicates that the brain area that is involved in enabling intense, emotionally significant experiences to be well remembered is the

A. amygdala.

B. visual cortex.

C. corpus callosum.

D. somatosensory cortex.

Question 21

Which part of memory holds the knowledge that 'dogs bark', '6 + 4 = 10' and 'there are 365 days in a year except in a leap year'?

A. episodic memory

B. semantic memory

C. procedural memory

D. short-term memory

Question 22

In an experiment studying the impact of meditation on stress, the control group should

A. not meditate at all.

B. meditate as often as the experimental group.

C. be able to choose whether to meditate or not.

D. meditate more often than the experimental group.

Question 23

In an experiment, it is essential to control for extraneous variables so that

A. there is a probability that the results will be obtained by chance.

B. a valid conclusion can be made about the effect of the independent variable on the dependent variable.

C. a valid conclusion can be made about the effect of the dependent variable on the independent variable.

D. the hypothesis is supported and the results of the experiment can be generalised to the broader population.

Question 24

It is most likely that during the first few weeks of life, human babies will display

A. simple reflexes but not fixed action patterns of behaviour.

B. fixed action patterns of behaviour but not simple reflexes.

C. fixed action patterns of behaviour that will then disappear as the babies mature.

D. simple reflexes that will turn into fixed action patterns of behaviour as learning occurs.

Question 25

Jack is four months old and his parents are trying to help him to start walking. Every day they hold him up as if he is standing and then help him to move his legs.

It is most likely that Jack

A. responds to his parents' teaching and starts walking within a few weeks.

B. does not walk until his body reaches the maturational stage for walking.

C. learns to walk in the following weeks if he is also given positive reinforcement.

D. walks at 12 months of age as this is when the fixed action pattern of walking behaviour begins in infants.

Question 26

A neuroscientist who is studying the effects of learning on the structure of an infant's brain is most likely to observe

A. sprouting and pruning of synapses.

B. a decrease in the total weight of the brain.

C. a decrease in the overall number of neurons.

D. pruning of dendritic branches of neurons in the frontal lobe.

Question 27

Brain plasticity

A. occurs only in people recovering from serious brain injuries.

B. is a typical feature of childhood and does not occur in adult brains.

C. is evident in equal degrees in both a child's brain and an adult's brain.

D. may be more evident in some areas of the brain than in other areas of the brain.

Question 28

In terms of the conditioned stimulus (CS) and the unconditioned stimulus (UCS), the best circumstance for the acquisition of a conditioned response (CR) would be when the

A. CS is presented and remains until the UCS is presented about five seconds later.

B. UCS is presented and remains until the CS is presented about five seconds later.

C. CS is presented and remains until the UCS is presented about half a second later.

D. UCS is presented and remains until the CS is presented about half a second later.

Use the following information to answer Questions 29 and 30.

Harry bought a complicated new home entertainment system. He did not know anything about electronics. He tried randomly connecting different pieces of equipment until eventually the system worked. Five-year-old Max watched his father, Harry, connect the equipment. A week later, when the family moved to a new house, the home entertainment system was taken apart. At the new house, Max was quickly able to reconnect the entertainment system.

Question 29

Harry's learning is best described as

A. shaping.
B. classical conditioning.
C. observational learning.
D. trial-and-error learning.

Question 30

Max's learning is best described as

A. shaping.
B. classical conditioning.
C. observational learning.
D. trial-and-error learning.

Question 31

After his stroke, a patient was unable to recognise his parents' faces although he could identify their voices.

A scan of the patient's brain would most likely indicate damage to the

A. frontal lobe.
B. parietal lobe.
C. occipital lobe.
D. temporal lobe.

Question 32

A patient who had his right somatosensory cortex probed would most likely

A. move the left side of his body.
B. move the right side of his body.
C. feel a sensation on the left side of his body.
D. feel a sensation on the right side of his body.

Question 33

Brain waves with mostly high frequency and low amplitude typically occur when both

A. awake and in REM sleep.
B. in stage 1 sleep and REM sleep.
C. in stage 4 sleep and sleepwalking.
D. falling asleep from a wakeful state and awakening.

Question 34

A researcher who is taking readings from an electroencephalograph (EEG), electro-oculograph (EOG) and electromyograph (EMG), and measuring the galvanic skin response (GSR), is most likely to infer that a healthy adult is dreaming if the

A. EEG shows low activity and the EOG shows low activity.

B. GSR shows low activity and the EMG shows high activity.

C. EOG shows high activity and the EMG shows low activity.

D. EMG shows high activity and the GSR shows high activity.

Question 35

Samuel is a healthy 55-year-old who sleeps for an average of seven hours per night.

It is likely that his sleep pattern

A. is normal for a man of his age.

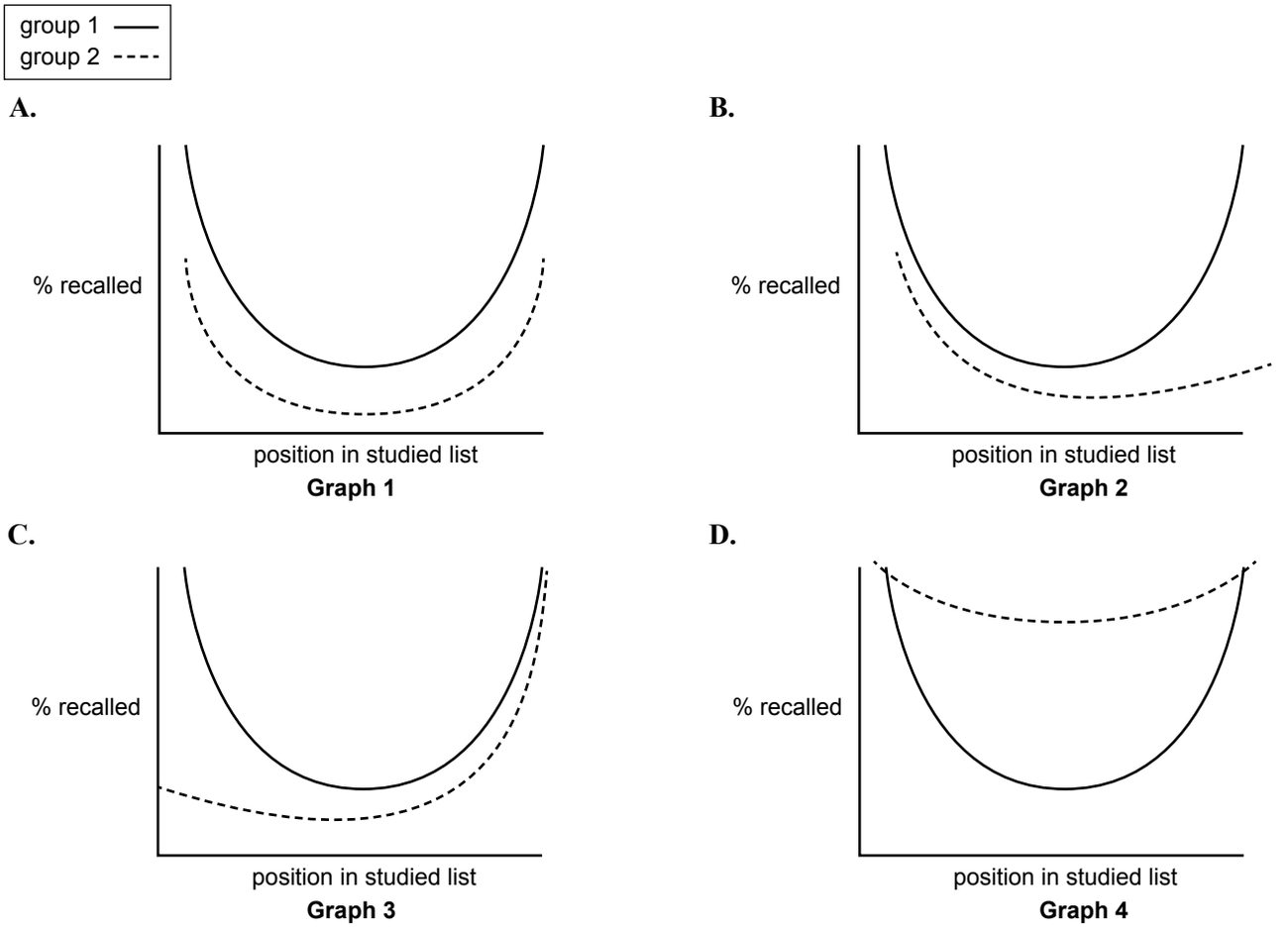
B. demonstrates partial sleep deprivation.

C. is abnormally short for a man of his age.

D. is likely to consist of proportionately more stages 3 and 4 sleep than other stages of sleep.

Use the following information to answer Questions 36–38.

Two groups of adults were tested on their memory. Group 1 was given a list of 15 nonsense syllables to study and was tested on their immediate free recall of the list. Group 2 studied the same list and, after 10 minutes of completing simple mathematical problems, was tested on their free recall of the list.



Question 36

Which graph is the most likely representation of the results?

A. graph 1
B. graph 2
C. graph 3
D. graph 4

Question 37

According to the Atkinson-Shiffrin model of memory, which one of the following statements best accounts for the results?

In group 2, the nonsense syllables at the

A. start of the list were retained in short-term memory.
B. end of the list were transferred to long-term memory.
C. end of the list were not retained in short-term memory.
D. start of the list were not transferred to long-term memory.

Question 38

A different experiment was conducted. Group 1 was tested on immediate free recall of 15 nonsense syllables and group 2 on immediate free recall of a list of 15 friends' names.

Which graph is the most likely representation of these results?

A. graph 1

B. graph 2

C. graph 3

D. graph 4

Question 39

The medial temporal lobe includes the

A. association area, which allows memories to be stored for later retrieval.

B. primary cortex, which allows information to be consolidated, and the hippocampus.

C. hippocampus, which is involved in the formation of procedural memories, and the amygdala.

D. amygdala, which is involved in the formation of memories of emotional experiences, and the hippocampus.

Question 40

Compared to young people, elderly people typically perform

A. better on both recall and recognition tasks.

B. better on recall tasks, but have weaker recognition.

C. better on recognition tasks, but have weaker recall.

D. just as well on recognition tasks, but have weaker recall.

Question 41

When Troy met his girlfriend's family for the first time, he wanted to remember their names. To do this, he mentally repeated each name in his head over and over again.

The process that he used is called

A. chunking.

B. an acrostic.

C. elaborative rehearsal.

D. maintenance rehearsal.

Question 42

Bob's job as a tennis umpire requires him to store and retrieve memories quickly.

The component of his working memory that is responsible for storing and representing the information about the rules of the game that he retrieves from long-term memory is the

A. episodic buffer.

B. central executive.

C. phonological loop.

D. visuo-spatial sketchpad.

Question 43

As a child, Enid learned how to knit, but she has not knitted for 50 years. When a charity organisation asks her to knit some socks, she finds that she still knows how to knit and is able to knit the socks.

This is due to her

A. echoic memory.

B. episodic memory.

C. short-term memory.

D. procedural memory.

Question 44

A forgetting curve indicates the amount of information that is

A. lost in relation to the percentage of information that is learnt.

B. retained in relation to the time since the information was learnt.

C. retained in relation to the percentage of information that is learnt.

D. lost in relation to the time since the information was consolidated in short-term memory.

Question 45

When Peter was in high school, he spent every weekend working in a bakery. Thirty years later, whenever Peter feels hungry and thinks about freshly baked bread, he recalls his experience in the old shop.

What is prompting Peter's memory?

A. an acrostic

B. an acronym

C. state-dependent cues

D. context-dependent cues

Question 46

Emilio learnt to play the piano for six months when he was a young boy. He stopped playing for several years and found that when he began to learn to play again, it took him only three months to return to the same level at which he once played.

The decrease in the time that it took Emilio to learn to play the piano is most likely an example of

A. recall.

B. relearning.

C. recognition.

D. elaborative rehearsal.

Use the following information to answer Questions 47–49.

Before suffering a stroke, Bettina was a healthy 36-year-old woman. Since her stroke, she applies make-up to the right side of her face only.

Question 47

Bettina's behaviour since the stroke suggests that she has

A. spatial neglect.
B. Broca's aphasia.
C. Wernicke's aphasia.
D. had split-brain surgery.

Question 48

Bettina's behaviour suggests that the stroke has most likely caused damage to her

A. left parietal lobe.
B. left occipital lobe.
C. right parietal lobe.
D. right occipital lobe.

Question 49

Since her stroke, it is likely that Bettina

A. cannot see the left side of her face.
B. cannot see the right side of her face.
C. leaves the food on the left side of her plate untouched.
D. leaves the food on the right side of her plate untouched.

Use the following information to answer Questions 50–52.

Bill was very happy when his son was born. A few weeks after the birth, Bill lost his job and became worried about providing for his family in the future, especially since his wife did not have paid work.

Question 50

When the baby was born, Bill immediately experienced

A. distress.

B. eustress.

C. allostasis.

D. the fight-flight response.

Question 51

In terms of Lazarus and Folkman's Transactional Model of Stress and Coping, Bill's immediate appraisal of becoming a father was most likely to have been

A. a threat.

B. stressful.

C. irrelevant.

D. benign/positive.

Question 52

In terms of Lazarus and Folkman's Transactional Model of Stress and Coping, Bill's appraisal was likely to be that the loss of his job was

A. a threat.

B. harm/loss.

C. a challenge.

D. benign/positive.

Question 53

$p < 0.05$ means that

A. 5 per cent of the results are not significant.

B. the probability of the results of an experiment occurring by chance is less than 5 in 100.

C. the results for the experimental group are significantly better than the results for the control group.

D. the results for the experimental group are not significantly better than the results for the control group.

Use the following information to answer Questions 54 and 55.

Dr Tran conducted an independent-groups design experiment on a technique for remembering nonsense syllables. The experimental group used Dr Tran's learning technique and had a greater recall of nonsense syllables than the control group.

Question 54

To prevent a biased sample and to control for participant differences in her experiment, Dr Tran would respectively need to use

A. counterbalancing and random sampling.

B. random sampling and counterbalancing.

C. random allocation and random sampling.

D. random sampling and random allocation.

Question 55

In Dr Tran's experiment, independent variable (IV) and dependent variable (DV) were

A. IV: participant characteristics; DV: learning technique.

B. IV: number of nonsense syllables correctly recalled; DV: learning technique.

C. IV: learning technique; DV: number of nonsense syllables correctly recalled.

D. IV: participant characteristics; DV: number of nonsense syllables correctly recalled.

Question 56

Which one of the following statements applies to **both** developmental plasticity and adaptive plasticity?

Structural changes to the brain

A. occur as a result of experience and learning.

B. occur as a result of learning but do not occur as a result of experience.

C. can occur equally quickly and extensively throughout the life span of an individual.

D. can be observed only in individuals who are recovering from brain injury and not in those with intact brains.

Question 57

During learning, the dendrites of some nerve cells will

A. release neurotransmitters into the synaptic gap.

B. receive neurotransmitters across the synaptic gap.

C. transmit impulses towards the synapses with other neurons.

D. integrate and process incoming information from other connecting neurons.

Use the following information to answer Questions 58–62.

Jane has to walk down a long, dark corridor from her bedroom to get to the bathroom at night. Often, her brother, John, jumps out from behind one of the doors along the way and frightens her. After this happens a few times, Jane's heart races and she feels very fearful as soon as she steps into the corridor at night, even when John is not there.

Question 58

Which one of the following best describes Jane's experience?

A. operant conditioning
B. classical conditioning
C. observational learning
D. trial-and-error learning

Question 59

When Jane feels frightened, which nervous system is most likely to be dominant?

A. the somatic nervous system
B. the peripheral nervous system
C. the sympathetic nervous system
D. the parasympathetic nervous system

Question 60

Jane also becomes fearful when she stays at her grandmother's house and has to go to the bathroom at night. However, she is not fearful when she walks down the corridor to the bathroom at school.

In these two situations respectively, Jane is demonstrating

A. extinction, then spontaneous recovery.
B. spontaneous recovery, then extinction.
C. stimulus discrimination, then stimulus generalisation.
D. stimulus generalisation, then stimulus discrimination.

Question 61

Jane's mother tries to assist Jane with overcoming this fear. For a few nights, she accompanies Jane to the bathroom, until Jane's heart is no longer racing during the walk. Over the next few weeks, Jane's mother walks less and less of the way with her, until it is possible for Jane to step into the corridor and walk to the bathroom by herself without feeling afraid.

The strategy Jane's mother is using is best described as

A. shaping.
B. flooding.
C. aversion therapy.
D. graduated exposure.

Question 62

Jane's mother decides that she will also try to change John's bad behaviour. Each time she catches John trying to frighten Jane, she takes one dollar from his pocket money. John then stops frightening his sister.

Which one of the following best describes John's experience?

A. punishment
B. response cost
C. positive reinforcement
D. negative reinforcement

Question 63

Shelley suffers a head injury that causes damage to the association area of her left occipital lobe.

It is most likely that Shelley is

A. blind in her left visual field.
B. blind in her right visual field.
C. unable to recognise objects by sight in her left visual field.
D. unable to recognise objects by sight in her right visual field.

Use the following information to answer Questions 64 and 65.

Every time that six-month-old Akira is tired, hungry and starts to cry, his mother immediately picks him up and cuddles him. Akira feels comforted by the cuddle and soon stops crying. His mother feels relieved that the crying has stopped.

Question 64

In terms of the three-phase model of operant conditioning, Akira's feeling of comfort and his mother's feeling of relief respectively are examples of

A. positive reinforcement, response cost.
B. response cost, negative reinforcement.
C. negative reinforcement, positive reinforcement.
D. positive reinforcement, negative reinforcement.

Question 65

According to this scenario, Akira is most likely to

A. cry only when he is very tired and hungry.
B. cry more often when he is near his mother.
C. cry very rarely when he is near his mother.
D. continue to cry even after he is picked up by his mother.

END OF SECTION A
TURN OVER

SECTION B – Short-answer questions

Instructions for Section B

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

Question 1 (2 marks)

James experienced brain damage as a result of an accident. The doctor concluded that James was suffering from damage to Broca's area.

Describe **two** symptoms that the doctor may have found that led him to this conclusion.

Question 2 (2 marks)

Referring to cortical representation, why is it likely that you would perceive more pain from a cut on your tongue than a cut on your elbow?

Question 3 (3 marks)

Maureen learned to speak French as a second language when she was a child, but as an adult she did not hear or speak French for many years. When Maureen retired, she travelled to France and started speaking French again.

Identify **one** possible structural change in Maureen's brain in relation to speaking French that may have occurred in each of the following three stages.

- learning French as a child

- not speaking French as an adult

- speaking French in retirement

Question 4 (2 marks)

In terms of brain plasticity, why might a child typically recover more quickly from a brain injury than an adult with a similar brain injury?

Question 5 (3 marks)

Ruth's parents sent her to a health resort that focused on encouraging teenagers to increase their physical activity levels through sport. Participation in sport was rewarded with points that could later be used to purchase food and drinks at the resort's cafe. Three points were equivalent to one dollar at the cafe.

a. Name the type of reward system that was used by the resort. 1 mark

b. After a few days of continuous reinforcement, Ruth was participating in one or two sports activities each day. The resort's management wanted to get her to participate in even more activities.

Would a ratio or interval schedule of reinforcement lead to the highest response rate from Ruth? Why? 2 marks

Question 6 (3 marks)

Bernie is a taxi driver. When his driving partner fell ill recently, Bernie took over his partner's shift, in addition to continuing his own shift. This resulted in a two-week period during which he experienced only four hours of sleep per night.

When waiting for a passenger, Bernie liked to challenge himself with the crossword puzzle in the newspaper.

Which would more likely be affected by Bernie's sleep deprivation – his ability to do the crossword puzzle or his ability to drive safely? Justify your answer.

Question 7 (4 marks)

Hannah was baking a cake for the first time. While waiting for the cake to cook, Hannah was daydreaming and accidentally burnt the cake.

Identify and explain **two** characteristics of daydreaming that may have contributed to the burning of Hannah's cake.

Question 8 (3 marks)

With reference to memory, explain why a contestant on a quiz show is more likely to score better on multiple-choice questions than on short-answer questions.

Question 9 (3 marks)

Use an example to explain how chunking can be used to increase the amount of information that is held in short-term memory.

Question 10 (3 marks)

The night before the History test, Roger and Toby studied History for three hours. After studying, Toby went straight to bed and slept for nine hours. Roger spent an hour studying for his Politics test before going to bed and sleeping for nine hours.

Using only the information given, indicate which of the two boys is likely to be more successful at remembering the History information that they studied the night before. Provide **two** reasons to justify your answer.

Question 11 (3 marks)

When she was 16, Amanda won first place in a ballroom dancing competition, dancing to the song 'Twinkle Toes' at the local dance hall. Today, Amanda is a healthy 85-year-old who can remember winning the competition, but she cannot remember the details of the evening, such as who her dance partner was or the colour of her dress.

In terms of the retrieval failure theory, explain why Amanda is unable to retrieve the details of the event from her memory and how Amanda could make use of a context-dependent cue to help her retrieve her memory of the event.

Question 12 (5 marks)

Researchers conducted an investigation into hemispheric specialisation with two groups of healthy, male, right-handed adults with intact brains. The research is summarised in the table below.

Group	Details	Average response time	
		Right visual field	**Left visual field**
1	Participants were required to focus on a central point on a screen. **A word was flashed to one side of the screen and participants had to say the word aloud as quickly as possible.** Half of the words were presented to the participants' right visual field and half to the left visual field.	350 milliseconds	450 milliseconds
2	Participants were required to focus on a central point on a screen. **A picture was flashed to one side of the screen and participants were required to press a space bar on a keyboard with either hand as quickly as possible when they saw the picture.** Half of the pictures were presented to the participants' right visual field and half to the left visual field.	450 milliseconds	350 milliseconds

a. Explain why there is a difference in the average response times for the right and left visual fields for groups 1 and 2. 3 marks

b. What do the results of this research indicate about hemispheric specialisation and the processing of verbal and non-verbal information? 2 marks

Question 13 (6 marks)

Mr Simpson was speaking over the phone to Mrs Davis, who is the mother of his student, John. He was looking at John's report and summarising the information for Mrs Davis, who had been unable to attend the parent–teacher interview. Mrs Davis listened carefully while Mr Simpson spoke.

Identify **two** components of Baddeley and Hitch's model of working memory. Then, explain the role of each of these components with respect to Mr Simpson's and Mrs Davis's working memory.

component of working memory _____

Mr Simpson _____

_____

Mrs Davis _____

_____

component of working memory _____

Mr Simpson _____

_____

Mrs Davis _____

_____

Question 14 (4 marks)

Jeannie's doctor suggests that she use biofeedback to reduce headaches, which the doctor believes are triggered by Jeannie's stressful job.

Explain how Jeannie could reduce her headaches using biofeedback.

Question 15 (4 marks)

Stephanie recently moved out of home to start her university degree. She found it difficult to pay all her bills with the money that she made from her part-time job in a supermarket and did not enjoy the work. She also found her coursework difficult, had no time to make friends and was missing her family. As the demands of university increased, Stephanie found it harder and harder to cope.

In terms of allostasis, explain why Stephanie is at risk of developing a stress-related illness.

Question 16 (5 marks)

When Devika was a little girl, she was bitten by a dog and now she is terrified of all dogs. This problem often causes embarrassment and disruption in Devika's adult life. She goes to a psychologist to try to overcome this problem. The psychologist has to decide whether to use graduated exposure, flooding, or aversion therapy to help Devika.

a. Give **two** reasons why the psychologist would be unlikely to use aversion therapy. 2 marks

b. Using the language of classical conditioning, explain how flooding could be used in this scenario to assist Devika with overcoming her fear of dogs. 3 marks

Question 17 (3 marks)

Mac's dog, Raffi, barks excessively every time someone comes into the house. Mac finds this very annoying and yells at Raffi, but Raffi keeps barking.

Give **three** reasons why this scenario is an example of operant conditioning rather than classical conditioning.

Question 18 (2 marks)

At the beginning of a class, Mrs Jones gave her students 10 minutes to learn a list of 15 unrelated words, including 'horse', 'tree', 'fish', 'diamond' and 'cauliflower', in that order.

How could the method of narrative chaining be used to remember the words on the list in the correct order?

END OF SECTION B
TURN OVER

SECTION C – Research scenario

Instructions for Section C

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

Your responses may include diagrams, charts and tables.

In 1964, for a high-school project, American student Randy Gardner and two classmates wanted to set a world record for staying awake.

Gardner stayed awake for 264 hours (11 days). To ensure that Gardner was not damaging his health, he received regular medical check-ups throughout the project.

Gardner had been awake for several days when Stanford University sleep researcher William Dement heard about the high-school students' project. Dement became involved in the project during the last three days of Gardner's period of sleep deprivation. Once Gardner had reached the goal of 264 hours of wakefulness, he was given a medical check-up. He then slept for 14 hours and 40 minutes and awoke naturally.

Dement collected data on the effect of prolonged sleep deprivation on Gardner and later reported the findings of this research.

He collected some of the data by using an electroencephalograph (EEG), an electromyograph (EMG) and an electro-oculograph (EOG).

Question 1 (1 mark)

Identify the sampling procedure that was used by Dement to collect the data for this particular research on sleep deprivation.

Question 2 (1 mark)

Did Dement collect quantitative data or qualitative data by means of the EEG, EMG and EOG?

Question 3 (1 mark)

In terms of psychological research methodology, provide **one** reason to explain why the students' project is best classified as a case study rather than an experiment.

Question 4 (2 marks)

Dement's study of the effect of sleep deprivation on Gardner has made a useful contribution to our understanding of sleep.

Provide **two** reasons why it is difficult to generalise Dement's results.

Question 5 (10 marks)

Write a possible research hypothesis and method section for an experiment that aims to collect quantitative data on the effect of different levels of sleep deprivation on the sleep recovery patterns of adolescents. Use the appropriate conventions of psychological report writing.

In your response, include the following.

- research hypothesis
- participants (including sampling and allocation procedures)
- procedure (including appropriate research design and data collection methods)
- ways of controlling extraneous variables

NO WRITING ALLOWED IN THIS AREA

END OF SECTION C
TURN OVER

Extra space for responses

Clearly number all responses in this space.

NO WRITING ALLOWED IN THIS AREA

TURN OVER

NO WRITING ALLOWED IN THIS AREA

END OF QUESTION AND ANSWER BOOK