

Student Name: _____

**2017****PSYCHOLOGY****WRITTEN EXAMINATION****Reading time: 15 minutes****Writing time: 90 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	40	40	65
B	16	16	50
			Total 90

- Students are permitted to bring the following items into the examination: pens, pencils, erasers, sharpeners and rulers
- Students are not permitted to bring into the exam: electronic devices such as phones or calculators or liquid paper (or similar) or any paper(s)

Materials provided

- Question & answer book of 16 pages & an answer sheet for multiple-choice questions (page 25).

Instructions

- Write your name in the space provided on both the question book and multiple-choice response sheet

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

Which of the following brain structures is part of the hindbrain?

- A. cerebrum
- B. cerebellum
- C. reticular formation
- D. hypothalamus

Question 2:

As a result of a brain trauma, experienced in a car crash, Val is experiencing impairments in balance, posture and coordination of motor movements. She has most likely suffered damage to her

- A. cerebrum.
- B. cerebellum.
- C. medulla
- D. hypothalamus.

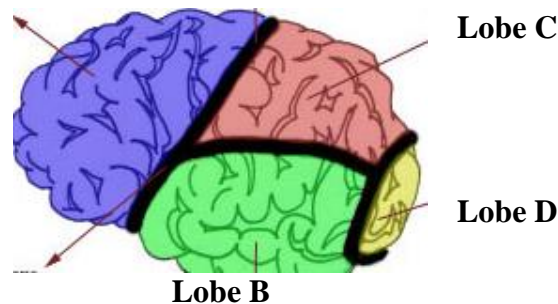
Question 3:

Which of the following brain structures plays a key role in the body's circadian rhythm (sleep-wake cycle)?

- A. cerebrum
- B. cerebellum
- C. medulla
- D. hypothalamus

Use the following information to answer questions 4 to 6

Lobe A



Lobe C

Lobe D

Lobe B

Question 4

Which of the lobes is responsible for your ability to monitor your body's position in space in relation to the desk you are using now as well as the other student's seated around you?

- A. A
- B. B
- C. C
- D. D

Question 5

Which of the lobes enables you to comprehend the language used on this exam paper?

- A. A
- B. B
- C. C
- D. D

Question 6

Which of the lobes enables you to pay attention to the amount of time you have left to complete this examination?

- A. A
- B. B
- C. C
- D. D

Question 7

Which of the following body parts occupy the greatest proportional area of the somatosensory cortex?

- A. back
- B. head
- C. hands
- D. thighs

Question 8

Which of the following brain researchers provided early evidence of neuroplasticity of the brain?

- A. Descartes with the mind-body experiments
- B. Gall with phrenology
- C. Florens with brain ablation experiments
- D. Galen and the encephalocentric experiments

Question 9

Which of the following neuroimaging techniques provides structural information of the brain via a series of X-ray images that are processed by a computer?

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

Question 10

Which of the following forms of brain research would be considered the most invasive?

- A. phrenology
- B. brain ablation
- C. a CT scan
- D. a PET scan

Question 11

In terms of Dualism, Descartes argued that the mind and the body interact through the

- A. corpus callosum
- B. pituitary gland
- C. cerebral cortex
- D. pineal gland

Question 12

Parkinson's Disease is largely the result of deficiencies of which of the following neurotransmitters?

- A. glutamate
- B. noradrenaline
- C. dopamine
- D. serotonin

Question 13

Parkinson's disease is a result of a progressive degeneration of neurons in the

- A. midbrain
- B. forebrain
- C. hindbrain
- D. spinal cord

Question 14

In terms of sensitive periods for learning to speak a native language, the sensitive period will begin closing during

- A. infancy
- B. childhood
- C. adolescence
- D. adulthood

Question 15

Which part of a neuron initiates an action potential?

- A. dendrites
- B. axon terminals
- C. axon
- D. soma

Question 16

Eve is a pathological gambler, her addiction to gambling would be most likely caused by excessive levels of which of the following neurotransmitters/

- A. GABA
- B. dopamine
- C. noradrenaline
- D. glutamate

Question 17

Glial cells do all of the following - EXCEPT

- A. make neurons
- B. insulate neurons
- C. remove dead neurons
- D. feed (supply nutrients to) neurons

Use the following information to answer questions 18 and 19

In terms of the Ainsworth strange situation test to measure the attachment of infants

Question 18

Which of the following best describes the dependent variable for the final stage of the experiment with infants?

- A. Whether a stranger or the caregiver accompanied the child in the room
- B. Whether a stranger or the caregiver left the child in the room alone
- C. The nature of the response of the child when the caregiver returned to the room after an absence
- D. The nature of the response of the child when the stranger returned to the room after an absence

Question 19

According to the Ainsworth strange situation test, a young child that rejected the mother when there was a reunion between the mother and child (after the mother briefly stepped out of the room) would be classified as

- A. securely attached
- B. resistance insecure
- C. avoidant insecure
- D. normal

Question 20

Which of the following was the independent variable in Harlow's experiments with rhesus monkeys to test the theory of attachment?

- A. which surrogate mother the baby monkey would gravitate to if hungry
- B. which surrogate mother the baby monkey would gravitate to if threatened
- C. whether the baby monkey was raised by a terry cloth mother or a wire mother
- D. whether the baby monkey was raised by a natural mother or a surrogate mother

Question 21

All of the following are parts of the peripheral nervous system – EXCEPT the

- A. eyes
- B. ears
- C. skin receptors
- D. somatosensory cortex

Question 22

Synaptogenesis - occurs rapidly in the sensory areas of the brain during

- A. infancy.
- B. early childhood.
- C. Adolescence.
- D. early adulthood.

Question 23

Which of the following is a feature of adaptive plasticity?

- A. synaptic pruning
- B. rerouting
- C. neural migration
- D. synaptogenesis

Question 24

Sprouting can be best explained by the following statements

- A. rapid cell division in the unborn baby as the brain grows at a rapid rate
- B. the growth of new dendritic fibres in response to learning new skills/ facts.
- C. the growth of a protective layer around the axon to enhance transmission
- D. altering neuronal pathways as a result of brain damage.

Question 25

The total number of synaptic connections peaks during _____, before synaptic pruning reduces many of our disused pathways.

- A. infancy.
- B. early childhood.
- C. adolescence.
- D. early adulthood.

Question 26

After walking out of a very stressful examination, Alice walks out of the exam room and starts to feel her body relax. Her parasympathetic nervous system will now increase which of the following?

- A. heart rate
- B. respiration rate
- C. bladder activity
- D. sweat gland activity

Question 27

Adoption studies that have researched the effects of nature vs. nurture on intelligence, through IQ testing have typically revealed that adopted children's IQ scores

- A. are more similar to their adopted parents than their biological parents
- B. are more similar to their biological parents than their adopted parents
- C. will not be largely affected by either their biological or adopted parents.
- D. will be largely affected by the size of their adopted family.

Question 28

According to Piaget's 4 stage theory of cognitive development, a child first starts to demonstrate intellectual growth by resolving the conflict between assimilation and accommodation during which of the following stage?

- A. formal operational
- B. concrete operational
- C. pre operational
- D. sensorimotor

Question 29

It is not until the _____ stage of Piaget's 4 stage theory of cognitive development that a child has mastered conservation of mass, liquids and numbers.

- A. formal operational
- B. concrete operational
- C. pre operational
- D. sensorimotor

Question 30

Little Rufus saw a 4 legged furry animal jump over the fence and run through his back yard and yelled 'dog'. His mum was watching and corrected him by stating 'No Rufus that is a cat'. Rufus in this case demonstrated the Piaget concept of _____.



- A. assimilation
- B. accommodation
- C. adaptation
- D. egocentrism

Question 31

According to Piaget's four stage theory, we first demonstrate the ability to demonstrate deductive reasoning during the _____ stage of cognitive development

- A. formal operational
- B. sensorimotor
- C. concrete operational
- D. preoperational

Question 32

According to Erikson, the first psychosocial crisis experienced in life (during infancy) is

- A. autonomy vs. shame and doubt
- B. initiative vs. guilt
- C. industry vs. inferiority
- D. trust vs. mistrust

Question 33

According to Erikson, autonomy vs shame & doubt is the psychosocial crisis that results from _____

- A. feeding
- B. school
- C. establishing peer relationships
- D. toilet training

Question 34

During the adolescence, according to Erikson which of the following psychosocial crises does the teenager face in their psychosocial development?

- A. trust vs. mistrust
- B. generativity vs. despair
- C. identify vs. identity confusion
- D. integrity vs. despair

Question 35

OCD (Obsessive Compulsive disorder) is a type of _____ disorder

- A. mood
- B. anxiety
- C. personality
- D. psychotic

Question 36

Which of the following statements best describes the relationship between genetics and mental illness?

- A. genetics has no influence on mental illness.
- B. the majority of people who have a have a family history of mental illness will suffer from the same type of mental illness during their life
- C. a family history of mental illness is a predisposing factor to the development of a mental illness that simply puts these people at a higher risk category than the general population.
- D. a family history of mental illness will decrease the likelihood of developing a mental illness due to the immunity developed in response to the condition over generations.

Question 37

All of the following terms are used to help determine abnormal behaviour - EXCEPT

- A. atypical
- B. maladaptive
- C. dysfunctional
- D. introversion

Question 38

_____ disorders are often acquired through classical conditioning

- A. anxiety
- B. mood
- C. psychotic
- D. addictive

Question 39

Catatonia is a symptom of

- A. an anxiety disorder
- B. depression
- C. schizophrenia
- D. a phobic response

Question 40

According to the mental health continuum, an individual who is experiencing marked distress, insomnia, constant fatigue and is socially withdrawn would be identified as

- A. mentally healthy
- B. experiencing mental health problems
- C. typical
- D. experiencing a mental disorder

SECTION B: Short-answer questions**Question 1 (3 marks)**

In terms of adaptive plasticity

- a. define Adaptive plasticity
-
-

2 marks

b. What causes rerouting of neurons to occur?

1 mark

Question 2 (2 marks)

Provide two explanations for the manner in which the frontal lobe regulates emotions.

Question 3 (4 marks)

a. Describe in detail, the manner in which a PET scan generates a functional image of the brain

2 marks

b. Describe one advantage of a PET scan over an MRI scan

1 mark

c. Describe one disadvantage of using a PET scan in comparison to an fMRI.

1 mark

Question 4 (2 marks)

Identify both an internal and external factor that can affect mental health

Internal

External

Question 5 (3 marks)

Claudia was sitting on the grass at lunch time, when she feels a sharp pain on her pinky finger in her left hand as a result of a bee sting.

Identify and explain how both components of her central nervous system as well as a division of her peripheral nervous system have resulted in processing the pain from her pinky finger

Question 6 (2 marks)

Explain the neuronal function and relationship between the axon and myelin sheath

Question 7 (2 marks)

In terms of the brain vs heart debate, provide one point for each side of the debate.

Question 8 (2 marks)

Describe two key functions of the thalamus

Question 9 (2 marks)

Describe the role of synaptogenesis and synaptic pruning in frontal lobe development.

Question 10 (2 marks)

How did Harlow arrive at the conclusions that close comfort was more important in forming attachments than provision of nourishment – briefly describe experimentally

Question 11 (2 marks)

Identify and briefly describe two characteristics of an individual who is demonstrating a formal operational level of cognitive development – according to Piaget’s 4-stage theory.

Question 12 (2 marks)

Describe how parenting can either result in **industry** or **Inferiority** for a child according to Erikson’s Psychosocial crises.

Question 13 (4 marks)

Provide two clear distinctions between sensitive periods and critical periods of learning.

Question 14 (2 marks)

Distinguish normal behaviour from abnormal behaviour in relation to mental illness.

Question 15 (3 marks)

In terms of Schizophrenia

a. describe a biological cause of schizophrenia.

1 mark

- b. describe what is meant by the ‘two-hit’ hypothesis as an explanation for the development of schizophrenia.

2 marks

Question 16 (3 marks)

In terms of contributing factors to mood disorders such as depression

- a. describe a biological cause.

1 mark

- b. describe a psychological cause

1 mark

- c. describe a social cause

1 mark

Question 16 (10 marks)

- Dr Scott aimed to investigate the relationship between sleep and mental health for adolescents.
- Dr Scott advertised via various social media avenues and websites calling for volunteers who are full-time secondary students aged between 15-18.
- 522 participants agreed to volunteer.
- All students were sent a pair of reusable wireless electrodes that could be stuck to 3 areas of the forehead just prior to going to sleep.
- The students were required to wear the wireless electrodes every night for the two week period during the middle of second term.
- The electrodes were monitored by an external computer that could accurately record the duration of sleep (including deductions for periods of wakefulness during the night).

- To simplify the research investigation Dr Scott decided that phase two of the experiment would only involve students who averaged less than 6 hours sleep per night and students who averaged between 8-9 hours per night for the two week period.
- Consequently there were 193 participants who fulfilled these criteria.
- Then all students were given a self-rating well-being test which measured their mood, level of anxiety, resilience, temperament, etc.
- A score between 80-100 indicated mental health on a mental health continuum, a score of 50-79 indicated mental health problems and a score of 49 or less indicated mental illness.
- The results for the two groups are summarised as follows.

	Students who averaged less than 6 hours sleep per night for 2 week period	Students who averaged between 8-9 hours' sleep per night for 2 week period
Number of students	55	136
Average scored for virtual well-being test out of 100	62.3	81.1

Question 16 (10 marks)

Write a discussion that includes

- A conclusion and implications
- identification and evaluation of the research design used
- discussion of the impact of these two extraneous variable on the results: non-standardised procedures; placebo effect
- discussion of methods that could be used to overcome these 2 extraneous variables
- discussion of extent to which results can be generalised to the wider population.

Student Name: _____

Multiple-choice response sheet

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40