



THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PSYCHOLOGY & COUNSELLING
ACADEMIC YEAR 2024/2025- SEMESTER II



BSC HONS IN PSYCHOLOGY
PLU3310 – BIOLOGICAL PSYCHOLOGY- LEVEL 3
CONTINUOUS ASSESSMENT TEST – NBT I
DURATION: 1 ½ HOURS

DATE: 11TH JULY 2025

TIME: 9.00AM-10.30AM

INDEX NO:

IMPORTANT INSTRUCTIONS/ INFORMATION TO CANDIDATES

- This question paper consists of **10 pages** with **TWO sections**

Section 1: 20 Multiple Choice Questions - (40 Marks)

Section 2: 12 Short Answer Questions - (60 Marks)
- Write your INDEX number in the space provided.
- **Multiple Choice Questions (Section 1):** Indicate answers in the **ANSWER SHEET** provided by placing a cross (**X**) in **INK** in the relevant cage (answers in pencil will **NOT** be marked)
- **Short Answer Questions (Section 2):** Write the answer within the space provided.
- Do **NOT** remove any page/part of this question paper from the examination hall.
- Do **NOT** keep unauthorized materials, including mobile phones and other electronic equipment, with you during the examination

SECTION 1: Multiple Choice Questions (20 Questions-40 Marks)

- 1.1 Which of the following is the most important polysaccharide in relation to human biology?
- a Sucrose
 - b Glucose
 - c Glycogen
 - d Maltose
- 1.2 Which of the following elements is always present in proteins?
- a Phosphorus
 - b Sulphur
 - c Zinc
 - d Nitrogen
- 1.3 According to cell theory, what is the basic unit of structure and function in the human body?
- a Cell
 - b Tissue
 - c Organ
 - d Nucleus
- 1.4 What is the primary function of ribosomes in a cell?
- a Storing genetic information
 - b Synthesizing proteins
 - c Producing energy through respiration
 - d Regulating substances entering and exiting the cell
- 1.5 Which organelle is known as the "powerhouse of the cell" because it produces ATP through cellular respiration?
- a Golgi apparatus
 - b Lysosome
 - c Endoplasmic reticulum
 - d Mitochondrion
- 1.6 Which part of the nervous system is responsible for involuntary control of cardiac and smooth muscles and glands?
- a Somatic nervous system
 - b Autonomic nervous system
 - c Sensory (afferent) division
 - d Sympathetic division

- 1.7 Which of the following statements about the autonomic nervous system (ANS) is TRUE?
- a It operates mainly at the conscious level
 - b It consists only of efferent (motor) neurons
 - c It uses neurotransmitters like acetylcholine and norepinephrine
 - d It functions independently without involvement in maintaining homeostasis
- 1.8 Which of the following is a typical effect of the sympathetic nervous system during an emergency?
- a Constriction of arterioles in skeletal muscles
 - b Decrease in heart rate
 - c Dilation of pupils
 - d Stimulation of intestinal smooth muscle activity
- 1.9 Which brain structures are most closely associated with emotional expression and the generation of emotions?
- a Hypothalamus and limbic system
 - b Medulla and spinal cord
 - c Occipital and parietal lobes
 - d Cerebellum and pons
- 1.10 Which hormone is released as part of the HPA axis response to prolonged stress?
- a Adrenaline
 - b Dopamine
 - c Cortisol
 - d Acetylcholine
- 1.11 What are the two main types of cells that make up the nervous system?
- a Neurons and erythrocytes
 - b Neuroglia and leukocytes
 - c Axons and dendrites
 - d Neurons and neuroglia
- 1.12 Which of the following correctly describes the main structural parts of a typical neuron?
- a Soma, axons, and platelets
 - b Soma, axons, and dendrites
 - c Neurocyte, glia, and synaps
 - d Axons, synapses, and hormones

- 1.13 What is the primary function of dendrites in a neuron?
- a To store genetic material
 - b To transmit impulses away from the cell body
 - c To increase the surface area for receiving signals and conducting impulses toward the cell body
 - d To generate ATP for the neuron's energy needs
- 1.14 Which type of neuron has one axon and one dendrite extending from opposite sides of the cell body?
- a Unipolar neuron
 - b Bipolar neuron
 - c Multipolar neuron
 - d Pseudounipolar neuron
- 1.15 Which of the following neurons has a long axon and may extend over 1 meter in length?
- a Golgi type I neuron
 - b Golgi type II neuron
 - c Sensory neuron
 - d Interneuron
- 1.16 Which type of neuroglia is responsible for forming a supporting framework and acting as an electrical insulator in the white matter of the Central Nervous System?
- a Microglia
 - b Ependymal cells
 - c Protoplasmic astrocytes
 - d Fibrous astrocytes
- 1.17 Which type of neuroglial cell is responsible for forming the myelin sheath in the central nervous system?
- a Astrocytes
 - b Oligodendrocytes
 - c Microglia
 - d Ependymal cells
- 1.18 Which of the following is TRUE about action potentials in neurons?
- a They are short-lived, local changes in membrane potential
 - b They can only be triggered by light stimuli
 - c They are large electrical signals transmitted over long distances
 - d They are only produced when neurons are at rest

- 1.19 What is the name of the gap between the presynaptic and postsynaptic membranes at a synapse?
- a Neurotransmitter junction
 - b Synaptic cleft
 - c Axon hillock
 - d Dendritic spine
- 1.20 What is the primary role of neurotransmitters in the nervous system?
- a They store genetic information
 - b They produce energy for the neuron
 - c They allow the transmission of signals across synapses
 - d They protect neurons from infection

INDEX NO:

ANSWER SHEET FOR SECTION-1

Q. No.	(a)	(b)	(c)	(d)
1.1				
1.2				
1.3				
1.4				
1.5				
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1.18				
1.19				
1.20				

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SECTION 2: SHORT ANSWER QUESTIONS (60 MARKS)

All Questions are compulsory

2.1 Define biological psychology (05 Marks)

2.2 Briefly explain two (02) assumptions of the biological approach in biological psychology (05 Marks)

2.3 Briefly describe the contributions of the following pioneers to the field of biological psychology (05 Marks)

I. Hippocrates:

II. Aristotle:

2.4 Explain the biological explanation of behaviour based on the four categories (05 Marks)

2.5 Briefly explain the two most common research methods used in the biological approach (05 Marks)

2.6 Categorize the essential elements in the human body (05 Marks)

- 2.7 Explain two main biological functions of lipids (05 Marks)
- 2.8 Explain two important aspects of learning about the biological structures of the body (05 Marks)
- 2.9 Explain the functions of two of the three types of white matter fibres found in the cerebral hemisphere (05 Marks)

2.10 Briefly describe the limbic system (05 Marks)

2.11 Explain resting potential and action potential (05 Marks)

2.12 Explain the importance of synapses (05 Marks)

-----END OF QUESTION PAPER-----