22PSU519N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Fifth Semester)

Branch - **PSYCHOLOGY**

BIOLOGICAL PSYCHOLOGY

Time: Three Hours | Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Question No.	Question	K Level	CO
1	Which scientist proposed the Theory of Natural Selection? a) Gregor Mendel b) Charles Darwin c) Jean-Baptiste Lamarck d) James Watson	K1	CO1
2	Down's syndrome is caused by: a) A deletion in chromosome 5 b) An extra copy of chromosome 21 c) A mutation in the haemoglobin gene d) A recessive allele on the X chromosome	K2	CO1
3	Which type of neuron carries impulses from sensory organs to the CNS? a) Efferent neuron b) Motor neuron c) Afferent neuron d) Interneuron	K1	CO2
4	The brain's left hemisphere is generally dominant for: a) Spatial navigation b) Musical appreciation c) Language and analytical tasks d) Facial recognition	K2	CO2
5	The small gap between two neurons where neurotransmission occurs is called: a) Axon hillock b) Synaptic cleft c) Myelin sheath d) Soma	K1	CO3
6	Which neurotransmitter is the primary inhibitory neurotransmitter in the mammalian brain? a) Dopamine b) GABA c) Glutamate d) Acetylcholine	K2	CO3
7	The pituitary gland is an example of a(n): a) Exocrine gland b) Endocrine gland c) Paracrine gland d) Excretory organ	K1	CO4
8	According to Ayurvedic physiology, the concept most closely related to mind–body balance is: a) Qi b) Tridosha (Vata, Pitta, Kapha) c) Yin and Yang d) Chakras	K2	CO4
9	Which of the following best explains Hebb's theory of learning? a) Learning occurs when action potentials stop. b) Neurons that fire together wire together. c) Learning only requires neurotransmitter depletion. d) Memory depends solely on the cerebellum.	K1	CO5
10	In neuroimaging, PET scans measure: a) Brain electrical activity b) Magnetic resonance of protons c) Glucose metabolism and blood flow d) Skull bone density	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Explain Mendel's Laws of Inheritance with suitable examples.	K2	CO1
	(OR)		
11.b.	Classify any two genetic disorders including their cause, symptoms, and mode of inheritance.		
12.a.	Analyse the roles of astrocytes and microglia in the nervous system.	K3	CO2
	(OR)		
12.b.	Distinguish sympathetic and parasympathetic nervous systems with examples.		
13.a.	Draw and explain the structure of a neuron, highlighting each major part and its function.	K3	CO3
	(OR)		
13.b.	Categorize the types of neurotransmitters and give examples of each.		
14.a.	Analyse the role of hormones in sex and gender development.	K4	CO4
	(OR)		
14.b.	Classify the types of hormone signalling like paracrine, endocrine, and autocrine.		
15.a.	Distinguish associative learning, habituation, and instrumental learning with examples.	K4	CO5
	(OR)		
15.b.	Differentiate between anatomical and functional neuroimaging techniques with examples.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Analyse the key concepts of Darwin's Theory of Evolution.	K4	CO1
17	Examine the processes of neural lateralization and specialization, and discuss how these contribute to complex functions such as language, creativity, and "genius."	K4	CO2
18	Survey the intracellular signalling in neurons, covering resting potential, action potential, and the All-or-None law.	K4	CO3
19	Infer the role of hormones in sex and gender development.	K4	CO4
20	Examine the artificial neural networks (ANNs), learning rules, and how they model internal neural construction.	K4	CO5

Z-Z-Z END