



Reg. No.:

Name:

University of Kerala

First Semester FYUGP Degree Examination, December 2025

Discipline Specific Core Course

ZOOLOGY

UK1DSCZOO104 - Human Nervous System and Behaviour

Academic Level: 100-199

2025-Admission onwards

Time: 2 Hours(120 Mins)

Max. Marks: 56

Part A.6 Marks:Time 5 Minutes.(Cognitive Level :Remember(RE)/Understand(UN)) Objective Type.1 mark each,
Answer all questions

Qn No.	Question	CL	CO
1	Which structure connects the two hemispheres of the cerebrum? Options : A)Thalamus B)Corpus callosum C)Pons D)Medulla oblongata	RE	1
2	1.The part of the nervous system consisting of the brain and spinal cord is the Options : A)Peripheral nervous system B)Autonomic nervous system C)Central nervous system D)Somatic nervous system	RE	1
3	Functionally, the arcuate fasciculus plays an important role in: Options : A)Visual memory B)Coordinating voluntary movement C)Connecting language comprehension to speech production D)Regulating circadian rhythms	UN	3
4	What is the main function of Schwann cells? Options : A)Production of cerebrospinal fluid B)Forming the myelin sheath in the peripheral nervous system C)Removing cellular debris in the brain D)Transmitting nerve impulses	UN	1
5	Saltatory conduction occurs in: Options : A)Unmyelinated axons B)Myelinated axons C)Dendrites D)Cell bodies	UN	2
6	5. EEG is used to measure	UN	4

Qn No.	Question	CL	CO
	Options : A)Brain structure B)Blood flow C)Electrical activity of the brain D)Neurotransmitter release		

Part B.10 Marks.Time:20 Minutes (Cognitive Level:Understand(UN)/Apply(AP))Two-three sentences.2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	8.List any two functions of the cerebrum.	UN	1
8		UN	2
9	Apply the concept of threshold potential to explain why weak stimuli do not generate action potentials.	AP	2
10	Apply the concept of hemispheric specialization to explain why a left-hemisphere stroke may affect language	AP	3
11	Give any two clinical uses of TMS (Transcranial Magnetic Stimulation).	AP	3

Part C.16 Marks.Time:35 Minutes.(Cognitive Level :Apply(AP)/Analyse(AN))Short Answer.4 marks each, Answer all 4 questions,choosing among options * within each question

Qn No.	Question	CL	CO
12	A) Apply the concept of cerebral lateralization to explain why some people are left-handed and others are right-handed. OR B) Compare Broca's and Wernicke's aphasia.	AP	3, 3
13	A) Explain the major areas of the cerebrum and their functions. OR B) Apply your knowledge of the sympathetic and parasympathetic systems to explain what happens in the body during stress vs. relaxation.	AP	3, 1
14	A) Compare excitatory and inhibitory neurotransmitters.	AN	1, 3

Qn No.	Question	CL	CO
	OR B) Analyse the difference between somatic and visceral reflex arc.		
15	A) Explain different types of brain waves observed in EEG. OR B) Illustrate the significance of cerebral blood flow (CBF).	AN	3, 2

Part D.24 Marks. Time: 60 Minutes. (Cognitive Level :Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer 6 Marks each. Answer all 4 questions choosing among options * within each question

Qn No.	Question	CL	CO
16	A) Analyse conduction aphasia, global aphasia, and transcortical aphasia based on symptoms and causes. OR B) Analyse Wernicke-Geschwind model of language perception and production	AN	3, 3
17	A) Evaluate the mechanism of nerve impulse generation and transmission across the nerve fibre. OR B) Design the structure of a synapse and the mechanism of synaptic transmission.	EV	2, 2
18	A) Compare different types of glial cells found in nervous system. OR B) Explain the components of limbic system.	EV	3, 2
19	A) Propose the applications of fMRI and MRI in neuroscience. OR B)	CR	3, 3

Qn No.	Question	CL	CO
	Create a simple explanation of how PET Scan works and comment on its application.		

Model QP