

Reg. No.:

Name:.....



U8390



University of Kerala
First Semester Degree Examination, November 2024
Four Year Under Graduate Programme
Discipline Specific Core Course
ZOOLOGY
UK1DSCZOO101 - NON-CHORDATE DIVERSITY-PART I
Academic Level: 100-199

Time: 1½ Hours

Max.Marks:42

Part A.

Answer All Questions, Objective Type. 1 Mark Each.

(Cognitive Level: Remember/Understand) 6 Marks. Time: 6 Minutes

Qn No	Question	Cognitive Level	Course Outcome(CO)
1	The International Code of Zoological Nomenclature (ICZN) is responsible for regulating the naming of which type of organisms? A) Bacteria C) Animals B) Algae D) Plants	Remember	1
2	True coelom is present in A) Acoelomata C) Eucoelomata B) Pseudocoelomata D) Coelenterata	Understand	2
3	The vector for <i>Trypanosoma gambiense</i> is _____. A) <i>Anopheles</i> mosquito C) Sandfly B) Tsetse fly D) Blackfly	Remember	3
4.	Name a representative species of the Phylum Ctenophora. A) Obelia C) Pleurobrachia B) Aurelia D) Physalia	Remember	2
5.	Obelia comes under the class A) Scyphozoa C) Hydrozoa B) Anthozoa D) Hydrospongia	Understand	2
6	Which of the following is commonly known as the "Portuguese man of war"? A) Obelia C) Aurelia B) Physalia D) Pleurobrachia	Remember	2

Part B.
Answer All Questions , Short Answer. 2 Marks Each.
(Cognitive Level: Understand/Apply)
8 Marks. Time: 24 Minutes

Qn No	Question	Cognitive Level	Course Outcome (CO)										
7.	Match the following <table border="1"><thead><tr><th>A</th><th>B</th></tr></thead><tbody><tr><td>a.Porifera</td><td>1.Bioluminescence</td></tr><tr><td>b.Cnidaria</td><td>2.Spiral cleavage</td></tr><tr><td>c.Ctenophora</td><td>3.Metagenesis</td></tr><tr><td>d.Protostomia</td><td>4. Choanocytes</td></tr></tbody></table>	A	B	a.Porifera	1.Bioluminescence	b.Cnidaria	2.Spiral cleavage	c.Ctenophora	3.Metagenesis	d.Protostomia	4. Choanocytes	Understand	2
A	B												
a.Porifera	1.Bioluminescence												
b.Cnidaria	2.Spiral cleavage												
c.Ctenophora	3.Metagenesis												
d.Protostomia	4. Choanocytes												
8.	Prepare a note on the zoological importance of <i>Noctiluca</i> in marine ecosystems?	Apply	4										
9.	What is a choanocyte ? Explain its structure	Remember	2										
10.	Explain the alternation of generation in <i>Obelia</i> .	Understand	3										

Part C.
Answer all 4 Questions, choosing among options within each question.
Long Answer. 7 marks each.
(Cognitive Level: Understand/ Apply/Analyse/Evaluate/Create)
28 Marks Time: 60 Minutes

Qn No.	Question	Cognitive Level	Course Outcome (CO)
11.	(a)Explain how a new species is named according to the International Code of Zoological Nomenclature (ICZN). OR (b) Explain five kingdom classification with its advantages and disadvantages	Understand	1
12.	(a)Give an account on the general characters of protista citing any two examples OR (b)Discuss the morphology, and life cycle of <i>Plasmodium vivax</i> .	Understand	2
13.	(a) Describe the polymorphic structure of <i>Physalia</i> (Portuguese Man of War) and explain how it functions as a colony. OR (b)What are coral reefs? Emphasize the value of coral reefs in both ecological and economic terms.	Apply	3
14.	(a)Explain the general characteristics of class Demospongia. Add a note on the morphology and feeding mechanism in <i>Spongilla</i> OR (b)Explain canal system in Sponges	Understand	2



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Discipline Specific Core Course
Zoology
UK1DSCZOO102 Diversity of Non Chordates
Academic Level:100-199

Time:1½ Hours

Max.Marks:42

Part A .

Answer All Questions Objective Type. 1 Mark Each.
(Cognitive Level: Remember/Understand)
6 Marks. Time: 6 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome(CO)
1.	Carolus Linnaeus A) Botanist B) Microbiologist C) Taxonomist D) Geologist	Remember	1
2.	Which of the following is true for Radula? A) It is a respiratory organ B) It is a locomotory organ C) It is an excretory organ D) It is a feeding organ	Understand	2
3.	Flatworms are..... A)Bilaterally symmetrical B)Radially symmetrical C)Diagonal D)Not symmetrical	Understand	2
4.	Which characteristic is common to all Cnidarians? A) They have a thick exoskeleton. B) They are aquatic. C) They have well developed digestive system. D) They are coming under plantae	Understand	4
5.	In which Phylum the Cockroach is included? A)Annelida B)Mollusca C) Arthropoda D) Onychophora	Understand	
6.	Vermiculture denotes the culture of A)Earthworm B) Fish C) Crab D)Prawn	Remember	2

Part B.
 Answer All Questions Short Answer .2 Marks Each.
 (Cognitive Level: Understand/Apply)
 8 Marks. Time: 24 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)										
7.	Match the following	Understand	2										
	<table><tr><th>Column A</th><th>Column B</th></tr><tr><td>a.Limulus</td><td>1.Fresh water sponge</td></tr><tr><td>b.Wuchereria</td><td>2.Mollusca</td></tr><tr><td>c.Sepia</td><td>3.King Crab</td></tr><tr><td>d.Spongilla</td><td>4.Parasite</td></tr></table>			Column A	Column B	a.Limulus	1.Fresh water sponge	b.Wuchereria	2.Mollusca	c.Sepia	3.King Crab	d.Spongilla	4.Parasite
	Column A			Column B									
	a.Limulus			1.Fresh water sponge									
	b.Wuchereria			2.Mollusca									
	c.Sepia			3.King Crab									
d.Spongilla	4.Parasite												
8.	Explain the distinguishing characters of Phylum Arthropoda?	Apply	4										
9.	Differentiate Protostomia and Deuterostomia.	Apply	1										
10.	Comment on the life cycle of <i>Taenia solium</i>	Understand	5										

Part C .
 Answer all 4 Questions, choosing among options within each question.
 Long Answer. 7 marks each.
 (Cognitive Level: Understand/Apply/Analyse/Evaluate/Create)
 28 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
11.	(a) Evaluate the levels of organization in animals with examples	Apply	1
	OR (b) Discuss the five-kingdom classification. Add a note on its merits and demerits		
12.	(a) Analyse the pathogenicity and prophylaxis of <i>Plasmodium vivax</i> .	Apply	5
	OR (b) Explain the larval stages in Phylum Cnidaria		
13.	(a) Assess the zoological importance of Protists.	Understand	3
	OR (b) Discuss the pathogenicity of human nematode parasites		
14.	(a) Comment on the economic importance of Mollusca	Understand	4
	OR (b) Distinguish Aedes and Culex mosquitoes and comment on their pathogenicity.		



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Zoology
UK1DSCZOO102 Diversity of Non-Chordates
AcademicLevel: 100-199

Time:1½ Hours

Max.Marks:42

Part A .
Answer All Questions Objective Type. 1 Mark Each.
(Cognitive Level: Remember/Understand)
6 Marks. Time: 6 Minutes

Qn No.	Question	Cognitive Level	Course Outcome(CO)
1.	Which organism belongs to the Kingdom Protista? A) Ascaris B) Paramecium C) Hydra D) Earthworm	Remember	1
2.	Which mosquito species is responsible for transmitting dengue fever? A) Culex B) Anopheles C) Aedes D) Wuchereria	Understand	2.
3.	Which organism is a human nematode parasite? A) Obelia B) Ascaris C) Aurelia D) Euplectella	Remember	3
4.	Which one of the following is a characteristic feature of Phylum Cnidaria? A) Bilateral symmetry B) Presence of stinging cells or cnidocytes C) Segmentation D) Presence of a pseudocoelom	Understand	2
5.	The life cycle of <i>Taenia solium</i> includes which stage? A) Cysticercus in the pig B) Larva in the water C) Adult worm in the liver D) Egg in the soil	Understand	2
6.	Which of the following organisms is known as the 'King Crab'? A) Sacculina B) Sepia C) Limulus D) Sycon	Understand	2

PartB
Answer All Questions Short Answer. 2 Marks Each.
(Cognitive Level: Understand/Apply)
8 Marks.Time: 24 Minutes

3 Marks: Time: 24 Minutes													
Qn. No.	Question	Cognitive Level	Course Outcome (CO)										
7.	Match the following	Understand	1										
	<table><tr><th>Column A</th><th>Column B</th></tr><tr><td>a.Spongilla</td><td>1.Mollusca</td></tr><tr><td>b.Obelia</td><td>2.Annelida</td></tr><tr><td>c.Sepia</td><td>3.Porifera</td></tr><tr><td>d. Nereis</td><td>4.Cnidaria</td></tr></table>			Column A	Column B	a.Spongilla	1.Mollusca	b.Obelia	2.Annelida	c.Sepia	3.Porifera	d. Nereis	4.Cnidaria
	Column A			Column B									
	a.Spongilla			1.Mollusca									
	b.Obelia			2.Annelida									
	c.Sepia			3.Porifera									
d. Nereis	4.Cnidaria												
8.	Compare and contrast Acoelomata and Eucoelomata.	Apply	2										
9.	Explain metamerism Giving examples.	Apply	2										
10.	Give two examples of organisms from Phylum Platyhelminthes.	Apply	4										

Part C.
Answer all 4 Questions, choosing among options within each question.
Long Answer. 7 marks each. (Cognitive Level: Understand/Apply/Analyse/Evaluate/Create)
28 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
11.	(a)Describe the salient features of the two-kingdom and five-kingdom classification systems and evaluate their key differences	Understand	3
	OR (b)What are the general characteristics of Phylum Nematelminthes? Explain any two important human nematode parasites.		
12.	(a)With suitable diagrams, discuss the life cycle of <i>Taenia solium</i> and its pathogenic effects on humans.	Understand	5
	OR (b)Describe any four characteristics of Phylum Annelida, focusing on the structure and function of parapodia and setae.		
13.	(a)With a neat diagram, write a detailed account of the nervous system of <i>Panaeus</i>	Apply	4
	OR (b)Investigate the pathogenicity of any two mosquito species and their role in the transmission of diseases.		
14.	(a)Illustrate and discuss the mouthparts of a cockroach.	Apply	2
	OR (b)Examine the economic importance of molluscs, highlighting their roles in industries such as food, pearls, and biomedicine.		



U7769

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**University of Kerala**

First Semester Degree Examination, November 2024

Four Year Under Graduate Programme

Discipline Specific Core Course

ZOOLOGY

UK1DSCZOO104 - Human Nervous System and Behaviour

Academic Level: 100-199

Time:2Hours**Max.Marks:56****Part A.**

Answer All Questions, Objective Type. 1 Mark Each.

(Cognitive Level: Remember/Understand)

6 Marks. Time: 5 Minutes.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	Pyramidal cells are predominantly found in A) Cerebellum B) Cerebral cortex C) Spinal cord D) Brain stem	Remember	1
2.	The sodium potassium pump A) Creates a negative potential inside the neuron by moving three sodium ions out of the neuron and two potassium ions into the neuron. B) Creates a negative potential inside the neuron by moving two sodium ions out of the neuron and three potassium ions into the neuron. C) Creates a positive potential inside the neuron by moving three sodium ions out of the neuron and two potassium ions into the neuron. D) Is a passive mechanism that requires no metabolic energy.	Remember	2
3.	A patient has great difficulty in articulating words but no difficulty in comprehending spoken and written language, which probably indicates damage in: A) Broca's area B) Wernicke's area C) Corpus callosum D) Pons Varolii	Understand	1

4.	Which of the following techniques uses X-rays? A) EEG B) CT scan C) MRI D) fMRI	Understand	2
5.	Which of the following statements is not true? A) Stereotactic brain surgery uses MRI images. B) Brain lesioning is irreversible. C) Deep brain stimulation is safer than brain lesioning. D) Transcranial magnetic stimulation is an invasive technique	Remember	3
6.	Which of the following is a neuron cell? A) Stellate cells B) Astrocytes C) Ependymal cells D) Schwann cells	Remember	3

Part B.

Answer All Questions , Two-Three sentences. 2 Marks Each.
(Cognitive Level: Remember/Understand/Apply)

10 Marks. Time: 20 Minutes

10 Marks/ Part: 20 Minutes				
Qn. No.	Question		Cognitive Level	Course Outcome (CO)
7.	Match the following			
	A	B	Remember	1
	a. Corpus callosum	1. Limbic system		
	b. Hippocampus	2. Relay centre		
	c. Thalamus	3. Basal ganglia		
	d. Caudata nucleus	4. Cerebral commissure		
8.	What are Schwann cells? Describe their functions.		Remember	2
9.	How and where does saltatory conduction of impulses occur?		Remember	2
10	Locate Broca's area and Wernicke's area in the brain.		Understand	3
11.	Describe how stereotactic surgery can be used in the treatment of neural disorders.		Apply	4

Part C.

Answer all 4 questions, choosing among options (a) and (b) within each question.
Short Answer. 4 Marks Each. (Cognitive level: Remember/Understand/Apply/Analyse)

16 Marks. Time: 35 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
12.	(a) Elaborate on the Wernicke-Geschwind model of language processing. OR (b) Describe transcortical aphasia.	Understand	1

13.	(a) Classify neurons based on their function. OR (b) Explain the differences between somatic and visceral reflexes, including suitable examples.	Understand	2
14.	(a) Why is transmission at chemical synapses unidirectional and what is the significance of this? OR (b) What is the cerebral cortex, and how is it specialized in its structure and function?	Analyse	3
15.	(a) Explain how EEG can be used to analyze brain functions. OR (b) Connect the variations in heart rate to the functioning of the autonomic nervous system.	Apply	4

Part D.

Answer all 4 questions, choosing among options (a) and (b) within each question.

Long Answer. 6 Marks Each (Cognitive Level: understand/Apply/Analyse/Evaluate/Create)

24 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
16.	(a) Outline the divisions of the human nervous system with brief descriptions. OR (b) Describe the limbic system, including its major components and their physiological functions.	Understand	1
17.	(a) Explain the ionic mechanisms of action potential production in a neuron. OR (b) Identify three neurotransmitters in the brain and mention their physiological functions.	Understand	2
18.	(a) 'Aphasia depends on the area of the brain that is damaged.' Analyse the statement by providing two examples. OR (b) 'The cerebral hemispheres show a considerable degree of lateralization of function.' Analyse this statement citing two examples.	Analyse	3
19.	(a) Identify and provide a brief description of two imaging techniques that can be used by a physician to analyze the functioning of the human brain. OR (b) Explain brain lesioning and deep brain stimulation techniques, with special reference to the conditions in which they can be applied in neuroscience.	Apply	4



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First Semester Degree Examination, November 2024
 Four Year Under Graduate Programme
 Discipline Specific Core Course
ZOOLOGY
UK1DSCZOO104 - Human Nervous System and Behaviour
 Academic Level: 100-199

Time:2 Hours**Max.Marks:56****Part A.**

Answer All Questions Objective Type. 1 Mark Each.
 (Cognitive Level: Remember/Understand)

6 Marks. Time: 5 Minutes.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	Which glial cell type acts as immune cells in the central nervous system? A) Oligodendrocytes B) Microglia C) Schwann cells D) Satellite cells	Remember	1
2.	Which nerve type is primarily involved in carrying information from the peripheral organs to the CNS? A) Motor nerves B) Cranial nerves C) Spinal nerves D) Sensory nerves	Understand	1
3.	Gamma waves are typically associated with which of the following? A) Deep sleep B) Problem-solving and high-level cognitive functions C) Relaxation D) Meditation	Understand	1
4.	Which type of brain imaging is most commonly used in emergency situations due to its speed? A) MRI B) CT Scan C) PET Scan D) EEG	Understand	2

5.	Which area of the brain is primarily responsible for language production? A) Wernicke's area B) Broca's area C) Motor cortex D) Arcuate fasciculus	Understand	1
6.	Which phase of the action potential is responsible for returning the cell membrane potential back to resting state? A) Depolarization B) Repolarization C) Hyperpolarization D) Saltatory conduction	Remember	2

Part B.

Answer All Questions, Two-Three sentences. 2 Marks Each.

(Cognitive Level: Remember/Understand/Apply)

10 Marks. Time: 20 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
7.	Match the following	Understand	2
	A		
	a. GABA		
	b. Glutamic Acid		
	c. Serotonin		
	B		
	1. Regulates mood, sleep, and appetite		
	2. Inhibitory neurotransmitter		
	3. Involved in local immune responses and neurotransmission		
	4. Major excitatory neurotransmitter		
8.	Where is Broca's area located?	Remember	1
9.	Explain the role of the pons in the brainstem.	Understand	1
10.	Explain the function of the hypothalamus in homeostasis.	Understand	1
11.	Compare the frequency ranges of different EEG waves.	Analyse	3

Part C.

Answer all 4 questions, choosing among options (a) and (b) within each question
Short Answer. 4 Marks Each. (Cognitive level: Remember/Understand/Apply/Analyse)

16 Marks. Time: 35 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
12.	(a) Describe the functions of the thalamus in the brain.	Understand	1
	OR (b) Explain the different types of glial cells		
13.	(a) What distinguishes conduction aphasia from other types of aphasia?	Understand	1
	OR (b) How does the Wernicke-Geschwind model explain language processing?		

14.	(a) How is the working principle of MRI different from CT. OR (b) Analyze the working principle of PET scan.	Analyse	3
15.	(a) Explain how saltatory conduction enhances the speed of nerve impulses compared to continuous conduction. OR (b) Apply your understanding of reflex actions to explain how a simple reflex arc operates, using the example of the knee-jerk reflex.	Apply	3

Part D.

Answer all 4 questions, choosing among options (a) and (b) within each question.

Long Answer. 6 Marks Each. (Cognitive Level: understand/Apply/Analyse/Evaluate/Create)

24 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
16.	(a) Describe the structure and functions of the cerebrum and cerebral cortex. OR (b) Explain the structure and types of Neuron	Understand	1
17.	(a) Explain the function of acetylcholine and serotonin OR (b) Discuss the process of synaptic transmission.	Understand	2
18.	(a) Discuss the process and applications of Transcranial Magnetic Stimulation. OR (b) Discuss the components and the applications of Deep Brain Stimulation	Apply	4
19.	(a) Analyze transcortical aphasia and how it differs from other types of aphasia OR (b) Describe the impact of handedness on neural organization and language processing.	Analyze	3