Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET UNIVERSITY)

M.Sc. (Third Semester – Regular) Examinations, December – 2025

24MLSPC23002 – BIOLOGY OF VERTEBRATES

(Life Science – Animal Science)

Time: 3 hrs Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Mention any two similarities between Urochordata and Cephalochordata.	CO1	K2
b. Give any two unique characters of Dipnoi.	CO2	K2
c. What is anapsid and diapsid skulls?	CO3	K1
d. What is jaw suspension? Mention one type.	CO4	K1
e. What is the function of the spinal cord?	CO5	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Outline the classification of Phylum Chordata up to subphylum level.	5	CO1	K3
b. Describe parental care in fishes with suitable examples.	5	CO2	K3
(OR)			
c. Explain the skull-based classification of reptiles.	5	CO3	K4
d. Explain adaptive radiation in placental mammals.	5	CO4	K4
3.a. Write a brief note on the comparative anatomy of vertebrate brain.	5	CO5	K4
b. Write short notes on Pelycosaurs and Therapsids.	5	CO3	K3
(OR)			
c. Describe parental care in Amphibia.	5	CO2	K4
d. Write a note on the origin and evolution of Amphibia.	5	CO2	K2
4.a. Explain the biological and ecological significance of Sphenodon as a "living fossil."	5	CO3	K3
b. Explain the role of the Geological Time Scale (GTS) in understanding chordate evolution.	5	CO1	K2
(OR)			
c. Describe the major orders of reptiles with one example each.	5	CO3	K2
d. Explain the functional significance of different types of jaw suspensions in vertebrates.	5	CO4	K3
5.a. Describe any five economically important mammals and their uses.	5	CO4	K2

b.	Explain the modifications of skin glands in amphibians, reptiles, and mammals.	5	CO5	K3
	(OR)			
c.	Explain the functional significance of different types of jaw suspensions in vertebrates.	5	CO4	K5
d.	Explain why Ammocoete larva is considered a "living ancestral form" of vertebrates.	5	CO1	K3
6.a.	Write a note on perching adaptations in birds.	5	CO3	K3
b.	Describe the major differences between cranial and spinal nerves.	5	CO5	K2
	(OR)			
c.	Discuss the functional relationship between brain development and behavioural complexity in vertebrates.	5	CO5	K6
d.	Explain the habit, habitat, and evolutionary importance of Balanoglossus.	5	CO1	K3

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