(b) Write a brief note on comparing the anatomy of the gut of rabbit, wolf and humans. 5

7. Diagrammatically represent the evolution of aortic arches across chordates. Explain the key changes from Pisces to Mammalia. 15

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May 2026

M.Sc. (Zoology) (Fourth Semester)

Structure and Function of Chordates

(ZOP-206-V)

Time : 3 Hours] [*Maximum Marks : 75*

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other. Supplement answers with relevant diagrams

Part A

1. (a) Diagrammatically differentiate between placoid, cycloid and rhomboid scales. 1.5

(b) Differentiate between somatic and visceral sensory organs. 1.5

(c) Define Schwann cells, node of ranvier and synapse. 1.5

(d) Differentiate between protostome and deuterostome. 1.5

(e) What is a coelom ? 1.5

(f) Define apnea, perfusion and ventilation. 1.5

(g) What is Thrombus ? 1.5

(h) What are Gills ? Identify their types. 1.5

(i) What are the three parts of cranium ? 1.5

(j) What does symmetry and segmentation represent ? 1.5

Part B

2. (a) Present a comparative account of the mucosa in the various parts of mammalian alimentary canal. 10

(b) Describe the various skin derivatives formed in chordates along with function. 5

3. (a) Present a general and brief account of the vertebral column. 5

(b) Describe the various flight adaptations present in birds. 10

4. With diagrams explain the development of jaw suspensorium from fishes to mammals. 15

5. (a) Write a short note on venous vessels. 5

(b) What is the requirement of sensory organs ? Describe the various organs used for olfaction and taste. 10

6. (a) Present a classification of vertebrates highlighting key characters of different phyla and orders. What are Protochordates ? 10