



IV Semester B.Sc. Examination, September 2020
(CBCS) (Repeaters) (Prior to 2019-20/2015-16 and Onwards)
ZOOLOGY – IV
Comparative Anatomy, Cell Biology, Immunology, Histology

Time : 3 Hours

Max. Marks : 70

Instructions : 1) Draw labelled diagrams wherever necessary.
2) Answers should be completely either in **Kannada** or **English**.

PART – A

I. Answer **any five** of the following.

(5×3=15)

- 1) Mention the types of feathers in birds.
- 2) Differentiate between pronephros and mesonephros.
- 3) What is venous heart ? Explain with example.
- 4) List out three functions of plasma membrane.
- 5) Sketch and label the structure of mitochondrion.
- 6) Name the papillae on the tongue of humans.
- 7) Briefly explain pancreatic acinus.

PART – B

II. Answer **any five** of the following.

(5×5=25)

- 1) Explain the aortic arches in reptiles with diagram.
- 2) Give an account of the swim bladder in fishes.
- 3) Write a note on the endoplasmic reticulum.
- 4) Explain the first line of defence.
- 5) Write a note on natural parthenogenesis with examples.
- 6) Sketch and label graffian follicle.
- 7) Explain the histology of thyroid gland.



PART - C

III. Answer **any three** of the following.

(3×10=30)

- 1) "The mammalian brain is very well developed compared to amphibian brain". Comment.
- 2) Compare and comment on the heart of fishes and birds.
- 3) What is active transport ? Explain with reference to H⁺ pump.
- 4) Give an account of carcinogens.
- 5) Explain cell mediated immunity.
- 6) With a neat labelled diagram, explain the histology of stomach.

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