M.Sc. DEGREE EXAMINATION, MARCH, 2023.

First Year Zoology

Paper I – SYSTEMATICS AND ANATOMY OF INVERTEBRATES

## MAXIMUM: 30 MARKS ANSWER ALL QUESTIONS

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- 1. (a) Give a detailed account on the development in sponges.
  - (b) Write short notes on:
    - (i) General organization of protozoa.
    - (ii) Classification of Porifera.
- 2. (a) Give a detailed account on the general organization and classification of coelenterate.
  - (b) Write short notes on:
    - (i) Parasitic adaptations in Platyhelminthes.
    - (ii) Polymorphism in coelenterates.
- 3. (a) Give a detailed account on the general organization and classification of phylum annelida.
  - (b) Write short notes on:
    - (i) Evolutionary significance of trochophere larvae.
    - (ii) General organization of arthropoda.

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First Year Zoology

Paper I – SYSTEMATICS AND ANATOMY OF INVERTEBRATES

- 1. (a) Give a detailed account on the general organization and classification of phylum Echinodermata.
  - (b) Write short notes on:
    - (i) General organization of phylim mollusca
    - (ii) Larval forms of echinoderms.
- 2. (a) Give a detailed account on the general organization of Rotifer.
  - (b) Write short notes on:
    - (i) Ectoprocta.
    - (ii) Chaetognatha.

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First Year Zoology

Paper II – SYSTEMATICS AND ANATOMY OF CHORDATES AND GAMETEBIOLOGY

- 1. (a) Give an account on the general characters of the phylum chordates.
  - (b) Write short notes on:
    - (i) Specialized characters of hemichordate
    - (ii) Specialized characters of urochordata
- 2. (a) Give an account on the migration of fishes.
  - (b) Write short notes on:
    - (i) Classification of fishes.
    - (ii) Poisonous snakes.
- 3. (a) Give an account on the general characters and classification of Aves.
  - (b) Write short notes on:
    - (i) Common birds of India.
    - (ii) Archaeopteryx and its significance.

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First Year Zoology

Paper II - SYSTEMATICS AND ANATOMY OF CHORDATES AND GAMETEBIOLOGY

- 1. (a) Give an account on the General characters of mammals.
  - (b) Write short notes on:
    - (i) South Indian mammals
    - (ii) Adaptive radiation in mammals
- 2. (a) What is Oogenesis? Describe in detail.
  - (b) Write short notes on:
    - (i) Spermatogenesis
    - (ii) Fertilization

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First Year Zoology

Paper III - CELL BIOLOGY, GENETICS AND EVOLUTION

- 1. (a) Give a detailed account on the endoplasmic reticulum.
  - (b) Write short notes on:
    - (i) Plasma membrane.
    - (ii) Cell membrane
- 2. (a) Describe in detail DNA as genetic material
  - (b) Write short notes on:
    - (i) Protein synthesis
    - (ii) t RNA.
- 3. (a) Write an essay on giant chromosomes.
  - (b) Write short notes on:
    - (i) Mitosis
    - (ii) Structure of chromosome.

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First Year Zoology

Paper III – CELL BIOLOGY, GENETICS AND EVOLUTION

# MAXIMUM: 30 MARKS ANSWER ALL QUESTIONS

- 1. (a) Write an essay on interaction of genes.
  - (b) Write short notes on:
    - (i) Sex determination
    - (ii) Multiple alleles.
- 2. (a) What is evolution? Describe various theories of evolution
  - (b) Write short notes on:
    - (i) Species concept
    - (ii) Hardyweinberg law.

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M.Sc. DEGREE EXAMINATION, ,MARCH 2023. First Year Zoology

Paper IV - ANIMAL ECOLOGY AND WILD LIFE

- 1. (a) Give a detailed account on light penetration and the factors affecting right availability in natural waters.
  - (b) Write short notes on:
    - (i) Feed-back loop.
    - (ii) Thermal stratification.
- 2. (a) Give a detailed account on the biogeochemical cycle of nitrogen.
  - (b) Write short notes on:
    - (i) Food webs.
    - (ii) Shelford's law of tolerance.
- 3. (a) Give a detailed account on parasitism and allelopathy.
  - (b) Write short notes on:
    - (i) Commensalisms
    - (ii) Ecological nich.

M.Sc. DEGREE EXAMINATION, ,MARCH 2023.

First Year Zoology

Paper IV – ANIMAL ECOLOGY AND WILD LIFE

- 1. (a) Write an essay on density-independent and density-dependent action in population control.
  - (b) Write short notes on:
    - (i) K-selection.
    - (ii) Basic concepts of rates.
- 2. (a) Give a detailed account on IUCN classification of rare animals.
  - (b) Write short notes on:
    - (i) Hot spots.
    - (ii) WWF.