(101ZO24)

M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Zoology

STRUCTURE AND FUNCTION OF INVERTEBRATES AND VERTEBRATES

Time : Three hours Maximum : 70 marks

Answer ALL questions. (5 × 14 = 70)

1. (a) Give an account on the patterns of feeding and digestion in Cnidarins.

Or

(b) Answer the following :
(i) General characters of invertebrates.
(ii) Respiratory organs in Mollusca.

2. (a) Give an account on the larval forms of free living invertebrates.

Or

(b) Describe the organization and general characters of rotifer.

3. (a) Give an account on the life cycle and biology of Leishmania donovani.

Or

(b) Write an essay on the diseases caused by insects.

4. (a) Give an account on the respiratory organs in vertebrates.

Or

(b) Answer the following.
(i) Salient features of vertebrates.
(ii) Evolution of heart.

5. (a) Give an account on the autonomous nervous system invertebrates.

Or

(b) Write an essay on the evolution of urinogenital system among vertebrates.

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025

First Semester

Zoology

BIODIVERSITY AND SYSTEMATICS

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

1. (a) Give an account on the biogeographic zones of India and its faunal diversity.

Or

(b) Answer the following :
(i) Species area relationship
(ii) Significance of biodiversity

2. (a) Describe the causes of biodiversity losses and extinction.

Or

(b) Answer the following :
(i) Species diversity
(ii) Values of biodiversity

3. (a) Give an account on the various species concepts.

Or

(b) Write an essay on the identification keys in systematics.

4. (a) Give an account on the IUCN classification of wildlife.

Or

(b) Answer the following :

(i) Gene banks

(ii) Threats to biodiversity

5. (a) Give an account on the DNA fingerprinting.

Or

(b) Write an essay on the genetically modified organisms and bioremediation.

M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Zoology

DEVELOPMENTAL BIOLOGY

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

1. (a) Give an account on the origin and migration of primordial germ cells to the genital ridges.

Or

(b) Answer the following :
(i) Leydig cells
(ii) Formation of yolk

2. (a) Give an account on the molecular events during fertilization and post fertilization.

Or

(b) Answer the following :
(i) Cleavage
(ii) Fate maps

3. (a) Write an essay on the metamorphosis in insects.

Or

(b) Give an account on the axes and pattern formation in Drosophila.

4. (a) Write an essay on age related diseases.

Or

(b) Answer the following :

(i) Apoptosis

(ii) Anti-aging action

5. (a) Give an account on the hormonal regulation of meta morphosis in insects.

Or

(b) Answer the following :

(i) Induction

(ii) Potency

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Zoology

MOLECULAR CELL BIOLOGY

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

1. (a) Give an account on the composition structure and functions of proteins.

Or

(b) Give an account on the composition, structure and functions of lipids.

2. (a) Answer the following

(i) Ion pumps

(ii) Active transport.

Or

(b) Answer the following

(i) Diffusion

(ii) Glycolysis.

3. (a) Give an account on the post-translational modification of proteins.

Or

(b) Write an essay on the RNA polymerases.

4. (a) Give an account on the control of gene expression at transcription and translation level.

Or

(b) Write an essay on the role of chromatin in gene expression.

5. (a) Answer the following

(i) Operon concept

(ii) Mitosis.

Or

(b) Answer the following

(i) Transposons

(ii) Control of cell cycle.