

(101ZO24)

ASSIGNMENT-1
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
STRUCTURE AND FUNCTION OF INVERTEBRATES AND VERTEBRATES
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1 (a) write an essay on origin and functions of acoelomates and pseudocoelomates.

(b) answer the following

- (i) Filter feeding in Echinodermata.
- (ii) Structure of Respiratory Organs in Annelida

2. (a) Give a detail account on organization and general characters of phoronida and chetognatha.

(b) write in detail about the larval forms of parasites.

3. (a) Discuss in detail the life cycle and biology of Trypanosoma gambiense.

(b) answer the following

- i) Life cycle of Wuchereria bancrofti
- ii) Life cycle of Trypanosoma gambiense.

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ASSIGNMENT-2

M.SC DEGREE EXAMINATION, APRIL/MAY-2025

Zoology - First Semester

STRUCTURE AND FUNCTION OF INVERTEBRATES AND VERTEBRATES

MAXIMUM MARKS :30

ANSWER ALL QUESTIONS

1. (a) Discuss in detail the evaluation of portal systems among vertebrates.

(b) Answer the following
 - i) Respiratory system in reptiles
 - ii) Discuss on aortic arches.

2. (a) Discuss on comparative anatomy and functions of brain and cranial nerves in vertebrates

(b) Describe the evolution of urinogenital systems among vertebrates

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ASSIGNMENT-1
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
BIODIVERSITY AND SYSTEMATICS
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1 (a) Describe the Biodiversity at the Global, National, and Local levels?

(b) answer the following

- (i) Define Species Area Relationship?
- (ii) Write a note on Hotspots of India?

2. (a) Briefly describe about Causes of Biodiversity losses and Extinction?

(b) What are the Hierarchical components of Biodiversity, and describe the types of diversities?

3. (a) What is Taxonomy and its components?

(b) answer the following

- i) Define about Species Concept?
- ii) Describe Nomenclature and its types?

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ASSIGNMENT-2
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
BIODIVERSITY AND SYSTEMATICS
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1. (a) Describe briefly about Wildlife Protection Act? And write about the organization involved in it?

(b) Answer the following

- i) Write about Biodiversity Threats?
- ii) Write a note on Cryopreservation?

2. (a) Define Genetically Modified Organisms?

(b) Describe the definition and its application of DNA Fingerprinting?

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ASSIGNMENT-1
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
DEVELOPMENTAL BIOLOGY
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1. a) Give an account on various types of eggs and function of egg.

b) Write short notes on:
 - i. Leydig cells
 - ii. Vitellogenesis

2. a) What is Gastrulation and formation of germ layers

b) Write short notes on:
 - i. Determination and differentiation
 - ii. Molecular events during fertilization.

3. a) Describe the mechanism of Hormonal regulation in insects.

b) Describe the mechanism of Differentiation of Neurons.

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ASSIGNMENT-2
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
DEVELOPMENTAL BIOLOGY
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1. a) What is apoptosis? Explain apoptosis in limb development.
b) Describe the Process of oogenesis in mammals.
2. a) Describe the Regulation Anti-aging action.
b) Describe the mechanism of Metamorphosis in insects and amphibians.

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ASSIGNMENT-1
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
MOLECULAR CELL BIOLOGY
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1. (a) Discuss about structure and functions of Ribonucleic acid (RNA)

 (b) Describe the levels of protein structure (primary, secondary, tertiary, quaternary).
2. (a) Answer the following:
 - (i) Osmosis and Diffusion
 - (ii) Electrical properties of Membrane
 (b) Answer the following
 - (i) Gibbs free energy
 - (ii) Ion channels and Ion pumps
3. (a) Explain the role of RNA polymerase I, II, and III in eukaryotic cells.

 (b) Describe various post-translational modifications (PTMs) of proteins and their biological significance.

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ASSIGNMENT-2
M.SC DEGREE EXAMINATION, APRIL/MAY-2025
Zoology - First Semester
MOLECULAR CELL BIOLOGY
MAXIMUM MARKS :30
ANSWER ALL QUESTIONS

1. (a) Discuss the mechanisms of translational regulation in eukaryotes
- (b) Explain the regulation of gene expression in bacteriophages focusing on the lytic and lysogenic cycles of phage lambda.
2. (a) Write the following
 - (i) Heterochromatin vs Euchromatin
 - (ii) Operon Concept
- (b) Answer the following
 - (i) Control of Cell cycle
 - (ii) Meiosis