

**PG-741**

**MZO-11**

**M.Sc. DEGREE EXAMINATION —  
DECEMBER, 2019.**

**First Year**

**Zoology**

**FUNCTIONAL MORPHOLOGY, PHYLOGENY AND  
PALAEOLOGY OF INVERTEBRATES AND  
CHORDATES**

**Time : 3 hours**

**Maximum marks : 75**

**SECTION A — (3 × 5 = 15 marks)**

**Answer any THREE questions out of Five questions.**

1. Write a short note on filter feeding mechanisms of Polychaetes.
2. Briefly explain the nerve net of Coelenterates.
3. Describe the phylogenetic importance of Nautiloids.
4. Write a short note on evolution of Heart.
5. What are adaptive radiations of reptiles?

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions out of Five questions.

6. Write an essay on symmetry in animal organization.
  7. Detail study on different types of excretory organs in Invertebrates.
  8. Elaborate notes on Arthropods larval forms and its phylogenic significance.
  9. Discuss the various parts of Alimentary canal and associated glands.
  10. Give detail study on Cranial Nervous System.
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**MZO-12**

**M.Sc. DEGREE EXAMINATION –  
DECEMBER 2019.**

**First Year**

**Zoology**

**GENETICS**

**Time : 3 hours**

**Maximum marks : 75**

**SECTION A — (3 × 5 = 15 marks)**

**Answer any THREE questions out of Five questions.**

1. Describe the Semi Conservative application of DNA.
2. Briefly explain the Genetic mapping.
3. Write a short note on Sickle Cell anaemia.
4. Give short notes on Mapping of Bacterial Chromosomes.
5. What are Transposons and its function?

SECTION B — (4 × 15 = 60 marks)

Answer any FOUR questions out of Five questions.

6. Write an account on DNA damage and repair mechanisms.
  7. What antigens are responsible for ABO blood groups and how these antigens determine the ABO blood group system?
  8. What is the chromosomal constitution of Klienfelter's syndromes?
  9. Define Transformation and describe the mechanism of transformation in bacteria.
  10. Give detail study on Oncogenes and Cancer.
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**MZO-13**

**M.Sc. DEGREE EXAMINATION —  
DECEMBER, 2019.**

**First Year**

**Zoology**

**CELL AND MOLECULAR BIOLOGY**

Time : 3 hours

Maximum marks : 75

**PART A — (5 × 5 = 25 marks)**

Answer ALL questions, choosing either (a) or (b).

1. (a) Describe briefly about the structure of flagella.

Or

- (b) Write about the inter cellular junctions and its role signal transductions.

2. (a) Briefly explain about centrosome.

Or

- (b) Explain the structure and functions of mitochondria.

3. (a) Briefly describe about nuclear pore.  
Or  
(b) Comment on unusual chromosomes.
4. (a) Write short notes on significance of mitosis.3  
Or  
(b) Tabulate differences between normal cell and cancer cell.
5. (a) Write short notes on genetic code.  
Or  
(b) Draw the structure of DNA.

PART B — (5 × 10 = 50 marks)

Answer ALL questions, choosing either (a) or (b).

6. (a) Explain in detail about the cytoskeleton of the cell and its functions.  
Or  
(b) Explain the ultra structure and functions of plasma membrane.
7. (a) Write a detailed account on various steps of TCA cycle.  
Or  
(b) Detail account of the structure and functions of E.R.

8. (a) Explain in detail about the giant chromosome.

Or

(b) Write in elaborate about organization of nucleosome.

9. (a) Write a detailed account on notable changes in the cancer cell compare with normal cell.

Or

(b) Explain the cell cycle and its important.

10. (a) Write a detailed account on various types of DNA, DNA replication and transcription.

Or

(b) Discuss – Protein synthesis.

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**MZO-14**

**M.Sc. DEGREE EXAMINATION –  
DECEMBER, 2019.**

**First Year**

**Zoology**

**ANIMAL PHYSIOLOGY AND BIOCHEMISTRY**

**Time : 3 hours**

**Maximum marks : 75**

**PART A — (3 × 5 = 15 marks)**

**Answer any THREE questions.**

1. Describe the osmoregulation of marine fishes.
2. Write notes on neuroendocrine system in crustacean.
3. Write short notes on bioluminescence.
4. Describe the structure of an amino acid and notes on essential and non-essential amino acids.
5. List the functions and pharmacological uses of prostaglandins.

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions.

6. Describe the structure and chemical composition of skeletal muscle.
  7. Write in detail about hormones of pituitary gland.
  8. Write an essay on migration of birds.
  9. Classify lipids. Write the properties and functions of lipids.
  10. Give a detail account on the mechanism of enzyme action.
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**MZO-15**

**M.Sc. DEGREE EXAMINATION –  
DECEMBER 2019.**

**First Year**

**Zoology**

**ECONOMIC ZOOLOGY**

**Time : 3 hours**

**Maximum marks : 75**

**PART A — (3 × 5 = 15 marks)**

**Answer any THREE questions out of FIVE questions.**

1. (a) Briefly explain about pest.

Or

(b) Write about general characteristics of Sugarcane and rice pest.

2. (a) Describe briefly about the scope of aquaculture in India.

Or

(b) Write about the exotic fishes with examples.

3. (a) Briefly describe about the properties and uses of honey.

Or

- (b) What are the types of honey bees practiced in India?

4. (a) Illustrate characteristic features of male and female adult *Bombyx mori*.

Or

- (b) Explain the methods of processing in Cocoon.

5. (a) Write short notes on rearing of fowl.

Or

- (b) What are types of poultry breeds available in India?

PART B — (4 × 15 = 60 marks)

Answer any FOUR questions out of FIVE questions.

6. (a) Explain in details about the pest of sugarcane.

Or

- (b) Detail account of the insect vectors.

7. (a) Write a detailed account on pearl culture practices and its managements.

Or

- (b) Explain the culture practices and disease management of Prawn Culture.

8. (a) Explain in details about the various products of honey bee and its uses.

Or

- (b) Explain the modern methods of apiary management in India.

9. (a) Write a detailed account on common protozoan and fungal diseases of worms of *Bombyx mori* and its control measures.

Or

- (b) Elaborate the life history and rearing of sericulture.

10. (a) Write a detailed account on disease management in poultry.

Or

- (b) Explain, the types of breeds, rearing and disease management of poultry farming.
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