

PG–CN–1037

MZON–11

**P.G. DEGREE EXAMINATION —
FEBRUARY 2023**

Zoology

First Year

STRUCTURE AND FUNCTION OF INVERTEBRATES

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in
300 words.

All questions carry equal marks.

1. With suitable diagram and examples explain about radial, biradial and bilateral symmetry.
2. What do you mean by Acoelomate. Pseudocoelomate and Coelomate groups. Explain with an example.
3. What is Hydrostatic movement how do this hydrostatic movement is effected in Echinodermata.

4. Give an account on patterns of feeding in lower metazoans.
5. What is respiration? Explain the structure of Gills and Trachea with suitable diagram.
6. Give an account on respiratory pigments that helps in the event of respiration.
7. Write notes to explain the structure and significance of Trochophore larva.
8. With suitable diagram give an account on the nervous system of Echinoderms.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. What do you mean by metamerism, write an essay to explain the various theories and their significance that has been put forth to explain the concept of evolution of metamerism.
10. Write an essay to explain about the filter feeding in Polycheates, Molluscs and Echinoderms.
11. Write an essay to explain the various mechanism of Excretion found in lower form of animals.

12. With neat diagram explain the structure and the significance of Crustacean and Molluscan Nervous system.
 13. With neat diagram write an essay to explain the structure and significance of the larval forms of Parasites.
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PG–CN–1038

MZON–12

**P.G. DEGREE EXAMINATION —
FEBRUARY 2023**

Zoology

First Year

**COMPARATIVE ANATOMY OF CHORDATA AND
VERTEBRATA**

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in
300 words.

All questions carry equal marks.

1. Explain the outline classification of Phylum Chordata.
2. Explain the importance of the study of Vertebrate morphology.
3. Give an account on different types of feathers and their functions.

4. What are Claws? Write about the different types of Claws present in birds.
5. Explain the general plan of Systemic circulation and Pulmonary circulation of Vertebrates.
6. What do you mean by internal and external respiration. Explain with suitable examples.
7. With neat diagram explain the structure of female Pelvic girdle of Humans.
8. Give an account on the Organs of smell and taste present in Vertebrates.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Write an essay on the theories put forward to explain the origin of Chordates.
10. Write an essay to explain the structure and functions of Skin and list down the Skin derivatives present in various groups of Vertebrates.
11. Write an essay to describe the evolution of Aortic arches and Portal systems.

12. Explain the various types of Jaw suspension present in Vertebrates with neat diagrams.
 13. Write an essay to explain the comparative anatomy of the brain in relation to its function in Vertebrates.
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MZON–13

**P.G. DEGREE EXAMINATION —
FEBRUARY 2023**

Zoology

First Year

GENETICS

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in
300 words.

All questions carry equal marks.

1. Write about the experimental evidences that prove DNA as genetic material.
2. Explain with suitable diagram about the semi-conservative mode of DNA replication and highlight its significance.
3. Write notes on Law of Segregation and Law of Independent Assortment.

4. What is Rh factor? Explain its significance and add notes on Erythroblastosis feotalis.
5. What do you mean by the term “Crossing over” with neat diagram explain the event and the significance of double crossing over.
6. Give an account on Turner’s and Klinefelter’s Syndrome and their characteristic features
7. With neat diagram explain the events involved in Bacterial Conjugation.
8. Give an account on Transposons and explain their significance.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in
1000 words

All questions carry equal marks.

9. What is Mutation? Write an essay to explain about the types of Spontaneous Mutation and Induced Mutations.
10. What are Multiple Alleles? Explain their impact on ABO blood grouping and Rh blood grouping in man.

11. Write an essay to discuss about the Chromosomal aberrations that arise due to change in number of chromosomes.
 12. With neat diagram explain how bacterial genetic setup gets changed to Transformation and Transduction.
 13. Explain in detail about inherited Metabolic disorders and diseases of humans.
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MZON–14

**P.G. DEGREE EXAMINATION —
FEBRUARY 2023**

Zoology

First Year

CELL & MOLECULAR BIOLOGY

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in
300 words.

All questions carry equal marks.

1. With neat diagram explain the structure of Eukaryotic cell and a Prokaryotic cell.
2. With suitable diagram explain the structure and about the T.S of Flagella.
3. Describe the structure and functions of Golgi apparatus.
4. Give an account on Oxidative Phosphorylation.

5. With suitable diagram give an account on the structure and functions of Chromatin.
6. Write notes to explain the structure and Function of Nucleus.
7. What is Mitosis? With suitable diagram explain the various stages involved in it.
8. With neat diagram explain the event of DNA Replication in Prokaryotes.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Write an essay to explain the Ultrastructure and functions of Plasma membrane.
10. With neat diagram explain the structure and functions of Mitochondria.
11. With neat diagram explain the structure and significance of Polytene and Lampbrush chromosomes.

12. With neat diagram explain about the stages involved and the significance of Meiosis cell division.
 13. What is Transcription? Write an essay to explain the various steps involved in the Eukaryotic transcription.
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MZON-15

**P.G. DEGREE EXAMINATION,
FEBRUARY 2023**

Zoology

First Year

ANIMAL PHYSIOLOGY

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight
questions in 300 words.

All questions carry equal marks.

1. What is Blood? Write about the cellular components present in blood and list down their functions.
2. Give an account on ABO blood groups and Rh factor.
3. What is Cardiac cycle? And explain the various stages of it.

4. What is EGG? Explain the structure of various stages of it.
5. With neat diagram explain the structure of Neuron.
6. Give an account on neural and chemical regulation of respiration.
7. With neat diagram explain the structure and functions of Human ear.
8. What are Male reproductive Hormones? Where are they produced? and highlight their functions.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions out of Five question in 1000 words.

All questions carry equal marks.

9. With neat diagram explain about the Digestive system of man and the process of Digestion and absorption of Lipids.
10. Write an essay to explain about the Comparative anatomy of Heart structure among various vertebrates.
11. Write an essay to discuss about the transport and exchange of gases in the blood of humans during Respiration.

12. With neat diagram describe the structure and functions of Kidney and highlight about the formation and excretion of Urine in humans.
 13. What are Female reproductive Hormones? Where are they produced? And highlight their significance.
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MZON-16

**P.G. DEGREE EXAMINATION,
FEBRUARY 2023**

Zoology

First Year

BIOCHEMISTRY

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight
questions in 300 words.

All questions carry equal marks.

1. What are Lipids? How are they classified? And highlight its biological importance.
2. What are carbohydrates? How are they classified and list down their biological importance.
3. With neat diagram explain the structure of t-RNA? And its functions
4. Write about “Lock & Key model and Induced fit model” proposed to explain the mechanism of enzyme action.

5. What are Hormones? Explain their salient features and biological functions.
6. Write down the biochemical properties and functions of Pituitary hormones.
7. What do you mean Gluconeogenesis? Explain its significance.
8. Give an account on Urea / Ornithine cycle.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. What are Proteins? List down their biological importance and the Significance of Primary, Secondary, Tertiary and Quaternary structure of proteins.
10. Write an essay to explain about the biosynthesis of Pyrimidines.
11. What are Vitamins? Write an essay to describe the structure, properties, functions and deficiency symptoms of Vitamin A and Vitamin C”.
12. Write an essay to explain about the role of Glycolysis and Krebs cycle in ATP synthesis.
13. Write an essay to explain about the Amino acid metabolic disorders Phenylketoneuria and Albinism.

PG–CN–1043 MZONE–11

**P.G. DEGREE EXAMINATION,
FEBRUARY 2023**

Zoology

First Year

ECONOMIC ZOOLOGY

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the beneficial aspects of insects with examples.
2. Describe the life cycle of lac insect with neat diagram.
3. Write about the pests of sugarcane.
4. Briefly explain the principles of polyculture system.
5. Explain the essentials for constructing of prawn hatchery.

6. Comment on the products of honey bee and add a note on composition of honey.
7. Describe about the harvesting and cocoon processing of sericulture.
8. Write about the selection of fowls used in the poultry farming.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions.

9. Explain the methods of aquaculture system with neat illustrations.
10. Write a detailed account the various disease of silkworm with control measures?
11. What is poultry farming and add a detailed account on types of fowl rearing methods?
12. Discuss in detail about the rearing of lac and add a note on economic importance of lac.
13. Explain in detail about the general biology and life cycle of honeybees.