

PG-AN-149

MZON-11

**P.G. DEGREE EXAMINATION —
JULY 2022.**

Zoology

(From CY – 2020 onwards)

First Year

**STRUCTURE AND FUNCTIONS 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. What do you mean by Symmetry? With suitable diagram and examples explain the biradial and bilateral Symmetry.**
- 2. Give an account on flagellar and ciliary movement in Protozoa.**
- 3. Explain about Book lungs of Arthropod (Scorpion). With neat diagram.**

4. Explain the structure and significance of Trochophore larva. With neat diagram.
5. Give an account of miracidium larva of Liver fluke.
6. What is coelom? Classify.
7. Explain the mechanism of respiration in cockroach.
8. Give an account on nervous system of Annelids (Earth worm). With neat diagram.

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, Pseudometamerism and Cyclometamerism. Write an essay to explain the various theories proposed to explain the Concept of Evolution of Metamerism?
10. Write an essay to explain the filter feeding mechanism of Polychaetes, Molluscs and Echinoderms.

11. What do you mean by Excretion, add note on the organs of excretion like Coelom, Coelom ducts, Nephridia and Malphigian tubules. With suitable diagrams.
 12. With neat diagram write an essay to explain the significance of nervous system of
 - (a) Coelenterata
 - (b) Mollusca
 13. With neat diagram explain the significance of the following free living larvae
 - (a) Trochophore larva
 - (b) Bipinnaria larva
-

PG-AN-150

MZON-12

P.G. DEGREE EXAMINATION - JULY 2022

Zoology

(From CY – 2020 onwards)

First Semester

**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. Write notes on the classification of Phylum Chordata?
2. Describe the general characteristic features of Amphioxus with neat diagram.
3. Explain the structure and functions of Skin with neat diagram.
4. What is Hair? Explain the structure and its modifications with suitable examples.
5. Explain the general plan of Systemic circulation and Pulmonary circulation of Vertebrates.

6. Explain about the Human respiratory system with neat diagram.
7. Give an account on various types of olfactory receptors present in Vertebrates.
8. What is Spinal cord? Explain the structure of its cross section.

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 advocated to explain the Origin of Chordates.
10. Write an essay to explain about the Epidermal derivatives in Vertebrates.
11. Write an essay to explain the comparative account on the structure and evolution of Heart in vertebrates.
12. Write an essay to explain the different types of Jaw suspension observed in Vertebrates with neat diagram.
13. Write an essay to explain the Comparative anatomy of Brain among various groups of Vertebrates.

PG-AN-151

MZON-13

P.G. DEGREE EXAMINATION - JULY 2022

Zoology

(From CY - 2020 onwards)

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. Describe the experimental evidences that prove DNA as genetic material.**
- 2. Write in detail about Semi conservative mode of DNA replication and its significance?**
- 3. Give an account on “Law of segregation” and “Law of independent assortment’ with suitable examples.**

4. What do you mean by “Crossing over”? With suitable diagram explain the mechanism of “Single point and Double point” Crossing over.
5. What are Syndromes? Give an account on Turner’s and Klinefelter’s syndrome.
6. Give an account on the following genetic disorders
 - (a) Sickle cell anemia
 - (b) Thalassaemia
7. With neat diagram explain the event of Bacterial Conjugation.
8. Give an account on “one Gene - one Enzyme” and “one Gene - one Polypeptide” theories.

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 about various DNA damages and its repair mechanism?
10. Write an essay to explain the impact of Multiple Genes in ABO blood grouping and Rh blood grouping?

11. Explain in detail about the Chromosomal Aberrations that arise due to changes in the structure and number of Chromosomes.
 12. Explain in detail with suitable diagram that how Transformation and Transduction do brings about changes in the Genetic nature of bacteria.
 13. Write an essay to explain about the structure and the significance of Transposons and IS elements?
-

PG-AN-152

MZON-14

**P.G. DEGREE EXAMINATION –
JULY 2022.**

Zoology

(From CY – 2020 Onwards)

First Year

CELL AND 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 Explain the Ultrastructure of a E.Coli diagram.**
- 2. With suitable Explain the Ultrastructure and the T.S of Flagella diagram.**
- 3. Explain about the types. Ultrastructure and functions of Endoplasmic reticulum.**

4. Explain the types and functions of Golgi apparatus.
5. Explain the structure and functions of Nucleus.
6. What is Nucleosome? Explain about its structural organization.
7. Write down the similarities and dissimilarities between normal and cancerous cells?
8. With neat diagram explain the double helical structure of DNA as proposed by Watson and Crick.

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 about the Ultrastructure and functions of Plasma membrane?
10. With neat diagram explain the structure of Mitochondria and show how 38 molecules of ATP is produced by the metabolism of 1 molecule of Glucose.

11. With clear diagram explain the Ultrastructure, functions and significance of Polytene and Lamp brush Chromosomes.
 12. Explain with suitable diagram about the events that takes place during Meiosis cell division and explain its significance.
 13. Explain the stepwise events involved in protein synthesis.
-

PG-AN-153

MZON-15

**P.G. DEGREE EXAMINATION —
JULY, 2022.**

Zoology

(From CY–2020 onwards)

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. Define the term “Blood and Blood plasma” and list down their ingredients and explain how blood volume is regulated.**
- 2. Give an account on ABO blood groups and Rh factor.**
- 3. With neat diagram explain the internal organization of human Heart.**

4. What is ECG with neat diagram explain the significance of various waves of ECG?
5. What is Heart beat? How it is originated and conducted? Explain with suitable diagram.
6. Explain the T.S of Human eye and brief out how vision takes place in humans.
7. Explain the T.S of Human ear and explain how hearing takes place in humans.
8. Write about the Endocrine glands that produces Male reproductive Hormones along with their function.

PART B — (3 × 15 = 45 marks)

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

All questions carry equal marks.

9. Explain about the Digestive system and the process of digestion and absorption of Carbohydrates in man.
10. Write an essay to explain the Comparative anatomy of Heart structure in different Vertebrates.

11. Write an essay to explain about the transport and exchange of Oxygen and Carbon dioxide during respiration in man.
 12. Explain the structure of Kidney and describe how Urine is formed and excreted in Man.
 13. What are Endocrine glands? Name the Endocrine glands that produce Female reproductive Hormones and list down the functions of Female reproductive Hormones.
-

PG-AN-154

MZON-16

**P.G. DEGREE EXAMINATION —
JULY, 2022.**

Zoology

(From CY – 2020 onwards)

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 Carbohydrates? How are they classified? List down the physical properties of Monosaccharide.**
- 2. What are Lipids? How are they classified? Add notes on the biological importance of Lipids.**
- 3. Give an account on the classification of DNA and RNA with suitable diagrams.**

4. Write notes on “Lock and Key model and Induced fit model” proposed to explain the mechanism of enzyme action.
5. What is Vitamin? Explain the structure, properties and deficiency symptoms of “Vitamin A.”
6. What are Animal Hormones? Explain the salient features and biological functions of Hormones.
7. What are “Free radicals and Antioxidants”? How are they produced and explain their biological significance?
8. What is Urea cycle? Explain its significance and the steps involved in it.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions Out of Five Questions in 1000 words.

All questions carry equal marks.

9. What are Proteins? Write an essay to explain their biological importance and the structural significance of Primary, Secondary, Tertiary and Quaternary structure of proteins?

10. Write an essay with suitable examples to explain about the Competitive, Non-Competitive and Allosteric inhibition of Enzymes?
 11. Write an essay to explain the structure, function and deficiency symptoms of Vitamins belonging to the group “Vitamin B complex”?
 12. Write an essay to explain the steps involved in Glycolysis, Kreb’s cycle and Electron transport system that leads to the synthesis of ATP?
 13. Write an essay to explain about the Disorders of Amino acid Metabolism and their symptoms.
-

PG-AN-155 MZONE-11

**P.G. DEGREE EXAMINATION —
JULY 2022.**

Zoology

(From CY – 2020 onwards)

First Year

ECONOMIC ZOOLOGY

Time : 3 hours

Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions each in 300 words.

- 1. Enlist any five beneficial insects.**
- 2. Explain the biology of Lacca.**
- 3. Comment on the pests of rice.**
- 4. Explain the formation of pearl in the pearl oyster.**
- 5. Describe the life cycle of silkworm.**

6. Write down the economic importance of mulberry silkworm.
7. Add a note on benefits of poultry farming.
8. Comment on the various products of honey bees.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions each in 1000 words.

9. Explain in detail about the Lac cultivation. And add a brief note on problems faced by silkworm industries in India.
10. What are exotic fishes? And discuss on the merits and demerits of exotic fishes.
11. Describe in detail about the general biology and life history of prawn.
12. Write a essay on apiculture and comment on the varieties of honey bees.
13. Explain in detail about any two types of integrated farming systems.