PG–CN–1050 MZON–11

P.G. DEGREE EXAMINATION — DECEMBER 2023

Zoology

First Year

STRUCTURE AND FUNCTION OF INVERTEBRATES

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

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

All questions carry equal marks.

1. Differentiate radial and biradial symmetry.

2. Describe filter feeding mechanism of Polychaetes.

3. How book lungs operate and list out the respiratory pigments?

4. Discuss the importance of insect nervous system.

5. Give an account on trochophore larva.

6. Explain the components of pseudometamerism and write its significance.

7. Explain the process of osmoregulation in Prawns.

8. Write the characteristic features and evolutionary significance of Phylum Gastrotricha.

PART B — ($3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Discuss the theories related to coelom formation and write the significance.

10. Discuss the pattern of feeding and digestion pattern in sponges and bivalves.

11. Give a comparative account on mechanism of excretion in lower invertebrates.

12. Write a detailed note about components and types of nervous system found in Echinoderms.

13. Describe the various larval forms of parasite Fasciola and write the evolutionary advantages.

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PG–CN–1051 MZON–12

P.G. DEGREE EXAMINATION — DECEMBER 2023

Zoology

First Year

COMPARATIVE ANATOMY OF CHORDATA AND VERTEBRATA

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

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

All questions carry equal marks.

1. Write the characteristic features of hemichordata.

2. Give an account on evolution of feathers and hairs in animals.

3. Differentiate internal and external respiration with suitable examples.

4. Compare the pelvic girdle of frog and rabbit.

5. Explain the components of autonomous nervous system.

6. Give an account on bones in the human skull.

7. List out the epidermal glands and their functions.

8. Write the composition of blood in vertebrate animals.

PART B — $(3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Explain the theories related to origin of chordates with examples.

10. Describe the development and structure of mammalian skin.

11. Discuss the evolution of aortic arches.

12. Describe the structure of upper jaw and lower jaw of rabbit.

13. How organs of olfaction and taste bud works? Explain.

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PG–CN–1052 MZON–13

P.G. DEGREE EXAMINATION — DECEMBER, 2023.

(CY 2020 onwards)

Zoology

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. Define mutation and explain the induced mutations.

2. Explain the three laws of Mendel.

3. Explain the need and importance of genetic counselling with real life examples.

4. Write the importance of chromosomal map and mention the map preparation methods for bacteria.

5. List out three common defects of amino acid and lipid metabolism.

6. Explain the Griffith's experiment on mice in detail.

7. Give an account on sickle cell anemia and thalassaemia.

8. Explain about types of cancer and list out carcinogens.

PART B — $(3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Explain the types of excision repair mechanisms operated during DNA repair.

10. List out the characteristics of multiple alleles and explain with ABO blood grouping.

11. Write the detail of chromosomal aberration with examples.

12. Describe the bacterial conjugation process with suitable diagram.

13. Discuss the karyotyping methods and its application in disease monitoring.

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PG–CN–1053 MZON–14

P.G. DEGREE EXAMINATION — DECEMBER, 2023.

Zoology

First Year

CELL AND MOLECULAR BIOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

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

All questions carry equal marks.

1. Give an account on cell adhesion molecules.

2. Write a note on structure and functions of ribosomes.

3. Outline the unusual chromosomes.

4. Describe the chromosome movements.

5. List the features of genetic code.

6. Differentiate between normal cell and cancer cell.

7. Illustrate the reactions of Krebs cycle.

8. Discuss the types of RNA.

PART B — $(3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Explain the membrane associated receptors.

10. Describe the respiratory chain.

11. Discuss the mechanism of chromosome formation and nucleolus.

12. Elaborate the synchronisation of cell division.

13. Illustrate the DNA replication.

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PG-CN– 1054 MZON-15

P.G. DEGREE EXAMINATION — DECEMBER 2023.

Zoology

First Year

ANIMAL PHYSIOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions

1. Discuss about blood volume and blood volume regulation.

2. Write short note on buccal digestion.

3. Comment on the structure of heart.

4. Give a brief account of netural and chemical regulation of respiration.

5. Explain the neural control of muscle and posture.

6. Describe briefly the peripheral nervous system.

7. Enumerate the formation of urine.

8. Write a note on role of electrolyte balance.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions.

9. Explain in detail about the absorption of digested food in man.

10. Narrate the mechanism of myogenic heart.

11. Write an essay on transport of gases.

12. Give an account on regulation of water balance and blood pressure.

13. Write a detailed account on thermoregulation and neural regulation.

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PG-CN–1055 MZON-16

P.G. DEGREE EXAMINATION — DECEMBER 2023.

Zoology

First Year

BIOCHEMISTRY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions out of EIGHT questions in 30 words.

All questions carry equal marks.

1. Write an account on structure and functional significance of fatty acids.

2. Write a note on types and properties of RNA.

3. Describe the structure, functions and deficiency symptoms of vitamin D.

4. Identify the high energy compounds.

5. Explain the enzyme deficiency and symptoms of phenyl ketonuria.

6. Write a detailed not on mechanism of enzymes action.

7. Illustrate the steps of kreb's cycle.

8. List the biological significance of prostaglandins.

PART B — ($3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Explain the structure and functional significance of polysaccharides.

10. Describe the biosynthesis of purines.

11. Discuss the biochemical properties and functions of pituitary hormones.

12. Elaborate the reactions pof gluconeogenesis.

13. Interpret the metabolism of amino acids.

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PG–CN-1056 MZONE–11

P.G. DEGREE EXAMINATION — DECEMBER, 2023.

Zoology

First Year

ECONOMIC ZOOLOGY

Time : 3 hours Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Define the common pests of sugarcane.

2. Write short note on damage caused and control of rice pests.

3. Describe about the prawn culture.

4. Write a brief account on methods of Bee keeping.

5. Explain the structure of silk gland with neat diagram.

6. Give an account on reeling and extraction of silk.

7. Briefly explain the ultimate resources of poultry nutritive.

8. Explain the domestic diversity of poultry birds.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions.

9. Write in detail on mosquito species, diseases spread by them and mosquito control.

10. Illustrate the basic principles of different aquaculture system.

11. Write an essay on nutritive and medicinal value of honey.

12. Analyze the methods of harvesting and processing of cocoon.

13. Elaborate the poultry diseases.

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