

PG-A-1503

MZO-21X

M.Sc. DEGREE EXAMINATION –
JULY, 2022.

Zoology

(Upto AY 2019-2020 Batches)

Second Year

DEVELOPMENTAL BIOLOGY AND
IMMUNOLOGY

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 structure of the mammalian sperm.
2. Write a note on the pattern of cleavage.
3. How do hormones influence growth and metamorphosis in insects?
4. Describe the structure of Thymus.

5. Comment on systemic lupus erythematosus.
6. Briefly describe the formation of extra embryonic membranes.
7. Describe the development of eye.
8. Write an account on tumor immunology.

PART B — (3 × 15 = 45 marks)

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

All questions carry equal marks.

9. Explain the morphological physiological and chemical differentiation that occur during fertilization.
10. Write an account on amphibian gastrulation.
11. Discuss the regenerative ability of various Invertebrates and Vertebrates.
12. Describe in detail the cells of immune system.
13. Outline the structure and functions of IgG, IgM and IgE.

PG-A-1504

MZO-22X

M.Sc. DEGREE EXAMINATION – JULY, 2022.

Zoology

(CY 2020 & AY 2020 Batch onwards)

Second Year

BIOPHYSICS, BIostatISTICS AND COMPUTER
APPLICATIONS

Time : 3 hours

Maximum marks : 70

SECTION A — (5 × 5 = 25 marks)

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

All questions carry equal marks.

1. Describe the structure and properties of atoms.
2. Explain the principles and applications of HPLC.
3. Describe the methods of data collection.
4. Define mean, median and mode.

5. Comment on MS-Excel.
6. Describe the principle and working of Geiger-muller counter.
7. Write a note on probability sampling.
8. What is computer memory? What are its types?

SECTION B — ($3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. Write an account on Atomic absorption spectroscopy and plasma emission spectroscopy.
10. Explain the principle and applications of SDS-PAGE and Immunoelectrophoresis.
11. Discuss diagrammatic and graphic presentation of data.
12. Calculate the standard deviation and standard error of the following data.
Items 14 36 45 70 105
13. Discuss the applications of computer in biology.

PG-A-1505

MZO-23X

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

Zoology

(From CY – 2020 Onwards)

Second Year

BIOTECHNOLOGY AND MICROBIOLOGY

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. List the enzymes used in genetic engineering and their functions.**
- 2. Describe Western blotting technique.**
- 3. How does biotechnology help in pollution control?**
- 4. What are the phases of bacterial growth? Explain.**

5. Comment on AIDS.
6. Explain Sanger method of DNA sequencing.
7. Write an account on batch fermentation.
8. Describe the ultra structure of T4 bacteriophage.

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 account on steps in gene cloning.
10. Describe the principle, types and applications of PCR.
11. Discuss the applications of biotechnology in Medicine.
12. Outline the classification of bacteria according to Bergey's manual.
13. Write an account on causative agents, mode of transmission, control and prevention of Polio and Tuberculosis.

PG-A-1506

MZO-24X

P.G. DEGREE EXAMINATION — JULY, 2022.

Zoology

(From CY – 2020 Onwards)

Second Year

AQUACULTURE

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. Mention Scope of Aquaculture.**
- 2. Define different types of cultural systems.**
- 3. Give short notes on Oyster culture.**
- 4. Write note on types of feeds.**
- 5. Add note on Marketing of fishes.**

6. Define Polyculture method and its advantages.
7. Enlist the Fungal diseases in aquaculture
8. What are the Cultivable species of algae?

PART B — (3 × 15 = 45 marks)

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

All questions carry equal marks.

9. Detail account on construction and maintenance of fish pond.
10. Highlight the significance of Cultivable species of fishes.
11. Write an account on Ornamental Fish culture.
12. Enumerate the common Bacterial and fungal disease of fishes.
13. Comment on various Preservation and marketing methods of fishes.

PG-A-1507

MZO-25X

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

Zoology

(From CY – 2020 Onwards)

Second Year

ENVIRONMENTAL BIOLOGY AND EVOLUTION

Time : 3 hours

Maximum marks : 70

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions in 300 words.

All questions carry equal marks.

- 1. Write short notes on energy flow in an ecosystem.**
- 2. Give a brief account on carbon cycle.**
- 3. What are renewable and non-renewable energy resources?**
- 4. Discuss the role of mimicry in evolution.**
- 5. Comment on Founder Principle.**

6. Give a brief account on effects of noise pollution.
7. What are biological indicators? Write its role in environmental monitoring.
8. Write the evolutionary theory of Lamarck.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions in 1000 words.

All questions carry equal marks.

9. Give a detailed account on the physic-chemical features of marine environment.
 10. Write a detail account on structure of a community.
 11. Write an essay on air pollution.
 12. Write in detail about Darwin theory of evolution.
 13. What are isolating mechanism? Discuss the role of isolating mechanism in evolution.
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