

PG-CN-1057

MZON-21

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

Zoology

Second Year

DEVELOPMENTAL BIOLOGY

Time : 3 hours

Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

1. Explain the types of fertilization.
2. Describe the structure of egg and sperm.
3. Explain holoblastic cleavage.
4. Discuss about the totipotency and pluripotency.
5. Give and account on regenerative ability in vertebrates.
6. Explain about the development of eye.

7. Write a note on advanced technic in stem cells.
8. Analyze the role of artificial insemination.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions

9. Discuss in detail about morphological and physiological cell differentiation.
 10. Write a detail account on gastrulation of amphibia.
 11. Describe the influence of hormones on metamorphosis of insects.
 12. Give an account on applications of stem cells.
 13. Describe the super ovulation and in-vitro fertilization.
-

PG–CN-1061

MZON-25

**P.G. DEGREE EXAMINATION —
DECEMBER, 2023.**

Zoology

Second Year

ENVIRONMENTAL 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. Define the term Habitat and Niche with suitable examples and explain their significance.
2. What is Population? Explain its characteristics feature.
3. What is Energy flow in a Ecosystem? Explain its significance.
4. Write about Community Succession? Explain the role of competition and predation in a community.
5. Write notes on Conventional and Non-Conventional Energy sources.

6. Give an account on Soil pollution.
7. Give an account on Pelagic and Benthic adaptations of animals.
8. Give an account on Age Structured Populations.

PART B — ($3 \times 15 = 45$ marks)

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

All questions carry equal marks.

9. List down the Biotic and Abiotic factors of an Ecosystem. Explain their interactions in a Pond Ecosystem.
10. Give an detailed account on Population Growth Curves.
11. Write in detail about various Pyramids seen in a Aquatic Ecosystem?
12. With neat diagram explain the cycling of Carbon, Nitrogen and Sulphur between biotic and abiotic environment.
13. Write an essay to explain about the disposal and management of Sewage waste in Urban cities?

PG–CN-1062

MZON-26

**P.G. DEGREE EXAMINATION —
DECEMBER, 2023.**

Zoology

Second Year

EVOLUTION

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. What is Gene Evolution? Explain.
2. List down the major trends seen in the Origin of higher animals.
3. Based upon Amino acid Sequences and DNA- DNA Hybridization explain how the Phylogenetic relationship is derived in studies?
4. Give an account on Origin and Evolution of Microbes.
5. Why do small Populations become extinct? Explain.

6. How do the monitoring of Natural Populations is done?
7. What are Restriction enzyme sites? Explain its importance in phylogenetic study.
8. How to construct Phylogenetic tree? Explain with example.

PART 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 essay to explain about Evolution of Gene families of Eukaryotes.
10. Give an detailed account on Micro and Macro evolution with suitable examples.
11. How do the Phylogenetic relationship is derived based on distance method, parsimony method and maximum likely hood methods?
12. Write an essay on Human Evolution.
13. What is diverse taxa? Explain about the types of conservation of genetic resources in a diverse taxa.

**P.G. DEGREE EXAMINATION —
DECEMBER, 2023.**

Zoology

Second Year

AQUACULTURE

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 notes on the importance of Aquaculture.
2. Give an account on Carp fish culture.
3. What do you mean by Ornamental fish? List down that common species for Ornamental fish culture.
4. Give an account on Viral diseases of Catla? its symptoms and control measures?

5. Explain about the norms of MPEDA for Export of fishes.
6. What is Monoculture and Polyculture? Explain their advantages.
7. Write notes on freshwater Prawn culture.
8. What is Feed? Explain the composition of Dry Feed.

PART 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 essay to explain about Farm design and Site selection for Grow-out and Nursery ponds.
10. What is integrated farming? Write an essay to explain about the:
 - (a) Poultry and fish farming
 - (b) Paddy and fish farming
 - (c) Piggery and fish farming

11. Write an essay to explain about Shrimp culture and the Socio economic and environmental problems faced in it?
 12. List down the Parameters to be looked into to maintain good water quality for Aquaculture and add notes on its maintenance.
 13. What do you mean by Fish Preservation? explain in detail about the steps involved in Canning and Freezing? explain its advantages.
-