

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SIXTH SEMESTER EXAMINATION, MAY 2025

THIRD YEAR [BATCH 2022-25]

ZOOLOGY [HONOURS]

Paper : DSE 3

Date : 10/05/2025

Time : 11 am – 1 pm

Full Marks : 50

1. Answer **any five** questions : [2×5]
- What is BOD and how does it indicate water pollution?
 - Name two key species commonly cultured in shellfish farming operations.
 - What is Environmental Impact Assessment (EIA)?
 - Briefly describe India – Marine Fisheries Regulation Act (MFRA, 1978)
 - What is Semi - intensive fish farming?
 - What is Dry Salting?
 - What is fish canning for preservation?
 - What is the importance of 'Quarantine Tank' in aquarium fish keeping?

Answer **any four** questions : [4×10]

- Briefly describe the various advantages of using Zebrafish as an experimental model organism.
 - State the role of Bathymetry as a general aid to fishing operations.
 - Give two suitable examples of transgenesis application in shell fish culture. [4+4+2]
- Mention the selection criteria of cultivable species for aquaculture.
 - Mention the significant constraints in fisheries development in India.
 - State the reasons why composite fish culture is superior over the monoculture system.
 - What is algal bloom? [3+3+3+1]
- What is Ecosystem-Based Fisheries Management (EBFM)?
 - Describe any four challenges in the Indian ornamental fish industry.
 - Describe four sustainable fish farming practices. [2+4+4]
- Write a short note on any one parasitic disease and one bacterial disease in fishes mentioning the name of the pathogen, symptoms, mode of transmission, and treatment options respectively.
 - Write two major causes of fisheries depletion in India?
 - What is the role of Integrated health management in aquaculture? [4+4+2]
- Write the sexual dimorphism of Mollyfish?
 - Mention four important criteria for selecting an ideal location of an aquarium.
 - Give two examples of filtration materials used in mechanical filtration.
 - Write down any four important steps involved in weekly maintenance of aquarium water quality. [3+2+2+3]
- Write down the scientific name and feeding behaviour of Gold fish.
 - Write about sexual dimorphism in gold fishes.
 - Mention some applications of remote sensing in case of fish stocking.
 - What is live bearer? [3+3+3+1]

8. a) State about the differences between pen and cage culture.
b) Write a short note on 'Selective breeding' as a tool for genetic improvement in aquaculture.
c) Name some crafts and gear used in marine fishery for fish collection.
d) What is EEZ? [3+3+2+2]
9. a) Write a note on thermal stratification of lake?
b) What is Profoundal Zone?
c) Write a short note on the 'Induced breeding techniques' followed in the Indian Major Carps (IMCs).
d) What is epilimnion? [4+2+3+1]

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