## 2023

## M.Sc.

# **Fourth Semester**

## DISCIPLINE SPECIFIC ELECTIVE - 03

### **ZOOLOGY**

Course Code: MZOD 4.11(B) (Fish Biology - II)

Total Mark: 70 Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

## **UNIT-I**

- 1. Explain the various types of capture fishery resources of India. 14
- 2. Discuss the importance of estuarine fisheries in India.

### UNIT-II

- 3. Give an account of the principle of preservation, handling and packing of fish for marketing.
- 4. Write a note on the following:

 $7 \times 2 = 14$ 

- (a) Importance of fish preservation
- (b) Fish protein and liver oils

# **UNIT-III**

- 5. Explain the extensive, semi extensive, and intensive culture of fish. 14
- 6. Describe the integrated fish farming. Briefly discuss the importance of sewage fed fisheries for the developing countries like India. 9+5=14

### UNIT\_IV

7. Discuss the general principle and various steps involved in feed formulation. Add a note on the classification of feed ingredients. 9+5=14

8. Write a note on the following:

 $7 \times 2 = 14$ 

- (a) Different types of feed available for hatchlings
- (b) Nutrient requirement of fish

# **UNIT-V**

9. Explain the following:

 $7 \times 2 = 14$ 

- (a) Biological indicators and indices of water quality
- (b) Algal bloom and environmental microflora
- 10. Describe the techniques involved in isolation and culture of various types of bacteria. Add a note on sanitation in aquaculture systems. 10+4=14