

Roll No.

Total Pages : 3

CMDE/D-23

5172

FISH, FISHERIES AND AQUACULTURE-I

Paper-M-Z-306

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Explain the following : 8×2=16

- (a) Difference between hatchling and fry.
- (b) Semi-intensive and intensive fish culture
- (c) Exotic fishes.
- (d) Salinity ranges for fresh, brackish and marine water in ppt.
- (e) Synthetic hormones with respect to fish breeding.
- (f) Accessory respiratory organs of Climbing perch.
- (g) Hypocercal caudal fin.
- (h) Stomachless fishes.

UNIT-I

- 2. (a) Explain the difference between Culture and Capture fishery giving examples of cultivable fishes and criteria of their selection for culture. 8
(b) Define Estuary? What are the characteristics of an Estuary? Enlist important estuaries in India. 8
- 3. Explain the following : 4×4=16
 - (a) Composite Fish Culture.
 - (b) Five major River systems of India.
 - (c) Mariculture and types.
 - (d) Wetlands and Ramsar sites.

UNIT-II

- 4. (a) Explain the layout of a Fish farm? 8
(b) What strategies are followed for controlling weeds during Fish culture operation? 8
- 5. (a) What are the important physico- chemical factors which are taken into consideration for evaluating the water quality suitable for fish culture? What are planktons? Enlist different groups of Zooplankton with one example of each group. 8

- (b) Discuss three main causes of Fresh water pollution, their impact on Fishery and Remedies. 8

UNIT–III

6. (a) Describe the mechanism of Gill respiration in fishes. 8
- (b) Describe the adaptive modifications in the digestive tract of fishes. 8
7. (a) Explain mechanism of Osmoregulation in migratory fishes. 8
- (b) Describe different types of Ear-air bladder connections in fishes. 8

UNIT–IV

8. Write short notes on the following :
- (a) Structure of a typical Neuromast organ. 8
- (b) Anadromous migration in fishes. 8
9. (a) Write a note on chemical communication in fish with special reference to olfactory sense. 8
- (b) Write a brief note on induced breeding in carps. 8