

Roll No. ....

Total Pages : 3

**CMDQ/M-24**

**5611**

**FISH, FISHERIES AND AQUACULTURE-II**

Paper–M-Z-406

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 in brief: 8×2=16
  - (a) What is Androgenesis? State its significance.
  - (b) Differentiate between Mitotic and Meiotic Gynogenesis.
  - (c) What are Autotriploids and Allotriploids ?
  - (d) What are functions of cryoprotectants and extenders in cryopreservation ?
  - (e) Write a note on rigor mortis in fishes.
  - (f) Explain the functioning of gill net.
  - (g) What are the causative agents of gill rot and fin rot disease in fishes ? Enlist symptoms of each.
  - (h) What are Chinese carps and state their significance in fish culture ?

**UNIT-I**

2. (a) Explain the techniques of producing triploids and tetraploid fishes. What is the significance of polyploidy in aquaculture ? 8  
(b) Explain the method of monosex fish production by endocrine manipulation technique. Give examples and state why sex control is considered significant in these species ? 8
3. Explain the following: 4×4=16
  - (a) Objectives of hybridization in fishes.
  - (b) Interspecific and intergeneric hybridization in fishes.
  - (c) Method of confirmation of induction of ploidy.
  - (d) Factors promoting natural hybridization in fishes.

**UNIT-II**

4. Define transgenesis. Why transgenesis is done in fishes ? What are the steps to obtain a transgenic fish ? Explain microinjection method of gene transfer. 16
5. (a) Write a brief note on fish-bye products. 8  
(b) Explain the methods of fish preservation. 8

**UNIT-III**

6. (a) Explain Catfish culture stating important species and their culture methods. 8

- (b) Explain significance and method of Aquaculture-agriculture integration. 8
7. (a) Which species are used in Pearl Culture Industry ?  
Explain methods of pearl culture. 8
- (b) Write a brief account on Frog culture stating its significance. 8

#### UNIT-IV

8. (a) Explain method and significance of eye stalk ablation in prawn culture. 8
- (b) What is the impact of aquaculture on aquatic environment ? 8
9. (a) Enlist important bacterial diseases of fishes. State the causative agent and method of control of each. 8
- (b) Write a note on different crafts and gears used for fish capture. 8