

**OLD**

**2015**

**Part-I 3-Tier**

**AQUACULTURE MANAGEMENT**

**PAPER—II**

**(Honours)**

*Full Marks : 90*

*Time : 4 Hours*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

1. Answer any ten questions from the following : 2×10
  - (a) Write scientific name of four exotic trouts.
  - (b) What is super-intensive system of Aquaculture ?
  - (c) Write a short note on cage culture.
  - (d) State the advantages of cage culture.
  - (e) Write a short note on sexual dimorphism in fishes.
  - (f) Mention the scientific name of two submerged and two floating aquatic weed plants.

*(Turn Over)*

- (g) What do you understand by wastewater aquaculture ?
- (h) State the importance of hybridization.
- (i) Mention different types of carp hatchery.
- (j) Name four cultivable shell fishes.
- (k) What do you mean by inbreeding depression ?
- (l) Name the hormones secreted from neurohypophysis of teleost.
- (m) Write a brief note on inter-generic hybridization.
- (n) What is extender ?
- (o) What is pearl spot ?

### Group—A

2. Answer any *two* questions from the following :  $2 \times 10$
- (a) Define integrated fish farming. Discuss on history and scope of integrated fish-farming. Add a note on duck cum fish farming. 2+5+3
  - (b) Give an account of short biology of groupers, mud crabs and milk fish. 4+3+3
  - (c) Write notes on following :
    - (i) Composite fish culture ;
    - (ii) Pen culture ;
    - (iii) Mariculture
    - (iv) Semi-intensive aquaculture.  $2\frac{1}{2} \times 4$

(d) (i) Write a note on shore-based aquaculture system.

(ii) Briefly write on Paddy cum fish culture.

5+5

3. Answer any *one* question of the following : 1×15

(a) (i) Briefly write on preparation and management of carp nursery pond.

(ii) State the present scenario of aquafarming in India. Add a note on composite fish culture.

$7\frac{1}{2} + 7\frac{1}{2}$

(b) (i) Write down the cultivable traits of a shellfish.

(ii) Briefly discuss the biology of sea-bass.

(iii) Write a note on trout fisheries in India.

5+5+5

### Group—B

4. Answer any *two* questions from the following : 2×10

(a) Discuss different hybridization process in fish. Add a note on sex reversal in fish. 5+5

(b) Define Gynogenesis. Elaborate the process of production of mitotic gynogen and meiotic gynogen. 2+8

2+8

(c) Write notes on the following :

(i) Inducing ovulation ;

(ii) Point mutation ;

(iii) Monosex fish ;

(iv) Brood stock fish management.  $2\frac{1}{2} \times 4$

(d) Write a note on bundh breeding. Briefly write on the process of cryopreservation of fish milt.  $5+5$

5. Answer any *one* question from the following :  $1 \times 15$

(a) Describe the role of Hypothalamo-Pituitary-Gonadal axis in reproduction of teleost fish. Add a note on the hormones secreted from different part of the pituitary gland.  $10+5$

(b) Write short note on the following (any *three*) :

(i) Polyploidy in fish ;

(ii) Multiple carp spawning ;

(iii) Oogenesis ;

(iv) Fish Pheromones.  $3 \times 5$