

2016

AQUACULTURE MANAGEMENT

[**Honours**]

PAPER — II

Full Marks : 90

Time : 4 hours

*The figures in the right hand margin indicate marks
Candidates are required to give their answers in their
own words as far as practicable*

Illustrate the answers wherever necessary

[**NEW SYLLABUS**]

1. Answer any *ten* questions from the following : 2 × 10
- (a) Write a short note on biological control of aquatic weeds.
- (b) State the importance of supplementary feeding in aquaculture.

(Turn Over)

- (c) What do you mean by shore-based aquaculture systems ?
- (d) Name the scientific name of two important pearl producing oyster.
- (e) Name four ornamental aquatic plants.
- (f) What is the function of biological filters ?
- (g) Write a short note on linkage.
- (h) What do you mean by genome and proteome ?
- (i) Write a short note on gastrulation.
- (j) Point out the hormones secreted from neurohypophysis of pituitary gland.
- (k) State the suitable physico-chemical parameters of carp nursery pond.
- (l) Write the function of extenders used in cryopreservation.
- (m) What do you mean by multiple carp spawning ?

- (n) State the reason for declining river spawn collection.
- (o) Mention the name of hormones used for sex reversal in fish.

GROUP – A

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

- (a) (i) Write a note on preparation of carp nursery pond.
- (ii) Enlist important indigenous cold water species. Briefly write on status of sports fishery in India.
- (iii) Briefly explain the importance of cage culture in marine water. $2\frac{1}{2} + (2+3) + 2\frac{1}{2}$
- (b) (i) Briefly discuss the biology of sea bass.
- (ii) Write a note on transport of live ornamental fishes.
- (iii) Briefly write on semi-intensive aquaculture. $4 + 3 + 3$

(c) Write notes on :

$2\frac{1}{2} \times 4$

(i) aquaculture in running water

(ii) Control methods of algal blooms

(iii) Cultivable traits of candidate species

(iv) Aquascaping.

(d) (i) Briefly discuss on prospects of cage culture in India.

(ii) State the management practices to be adopted to enhance marine fisheries.

5 + 5

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

(a) (i) Briefly discuss on the integration of crop, live stock and fish farming.

(ii) Write a note on the prospect of ornamental fish culture in India.

(iii) Briefly write on waste water Aquaculture.

5 + 5 + 5

- (b) Write short notes on : 3 × 5
- (i) Biofertilizers
 - (ii) Paddy cum fish culture
 - (iii) Parental care
 - (iv) Biology of mud crabs
 - (v) Live feed culture.

GROUP – B

4. Answer any *two* questions from the following :
- (a) What is gene ? Explain the structure of a 10×2
chromosome with suitable diagram. 2 + 8
 - (b) Write short notes on : $2\frac{1}{2} \times 4$
 - (i) Selective breeding
 - (ii) Endocrine glands in fish
 - (iii) Types of eggs
 - (iv) Crossing-over.

- (c) (i) Write a note on hybridization of fish.
(ii) Briefly explain oogenesis in fish. 5 + 5
- (d) (i) Write a note on chromosomal aberration.
(ii) Discuss brood stock management of carps. 5 + 5

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

- (a) (i) Discuss the ecological and hormonal influence on maturation of gonads and spawning in fish.
(ii) Briefly write on the role of pheromones in fish reproduction.
(iii) How will you produce sterile fish ? State the importance of sterile fish in aquaculture. 5 + 5 + (3 + 2)
- (b) Write notes on the following : 3 × 5
(i) Mechanism of hatching
(ii) Polyploidy

(iii) Cryoprotectant

(iv) Hypothalamus-Hypophysial-Gonadal
Axis.

(v) Gene mutation.
