

2017

M.Sc. 2nd Semester Examination

FISHERIES SCIENCE

PAPER—FSC-202

Full Marks : 40

Time : 2 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.

Unit—I

(Fish Breeding)

1. Write short note on any two of the following questions :

2×2

(a) Sexual dimorphism in Indian Major Corps ;

(b) Multiple breeding of corps ;

(Turn Over)

- (c) Criteria for selection of cryoprotectant ;
- (d) Oocyte envelope.

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

- (a) Write a note on annual reproductive stages of a tropical teleost ovary.
- (b) Mention different parts of fish pituitary gland and the distribution pattern of different cell types.
- (c) Write a note on the factors that affects gonadal maturation and spawning.
- (d) Briefly discuss on the synthetic hormones and analogue used for induced breeding.

3. Answer any *one* question from the following : 1×8

- (a) (i) Discuss the neuro-endocrine regulation of vitellogenesis in teleost fish.
- (ii) Write a note on offseason breeding of crops. 4+4
- (b) (i) Write a note on natural collection of fish seeds.
- (ii) Describe the cryopreservates of fish gametes on detail.

4+4

Unit--II**(Hatchery Design and Management)**

4. Answer any *two* of the following questions : 2×2
- (a) Enlist different types of fish hatchery.
 - (b) Mention the criteria of selection of quality fish seed.
 - (c) State the principles of biosecurity methods in hatchery system.
 - (d) Write the behavioural and physical signs shown by fish under stress.
5. Answer any *two* of the following questions : 2×4
- (a) Calculate the brood fish and brood rearing pond area requirement for the production of 1 crore spawn of *Labeo rohita* in a season.
 - (b) Briefly discuss on design and construction of hatchery of *Macrobrachium rosenbergii*.
 - (c) Briefly discuss the suitable measures to reduce the risk of pathogens spread in Fish hatchery.
 - (d) Write about the better management practices (BMPs) for hatchery management.

6. Answer any *one* of the following questions : 1×8

(a) (i) Write a note on fish seed certification and quarantine procedure.

(ii) What is Sanitary and phyto-sanitary measures ? Write a note on it. 4+4

(b) (i) What do you mean by eco-hatchery ?

(ii) Discuss briefly about different components of a carp hatchery complex with suitable diagrams.

2+6
