

2018

M.Sc.

4th Semester Examination

FISHERIES SCIENCE

PAPER—FSC-403

Subject Code—28

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

(Aquaculture Engineering and Env't. Mgt.)

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

(a) What are the role of manure in aquaculture pond ?

(b) Why liming is required in fish pond ?

(c) State the principles of race-way culture system.

(d) In which time and why pond aeration are needed ?

(Turn Over)

2. Answer any *two* questions from the following : 2×4
- (a) Briefly narrate the planning of drainage system in aquaculture pond.
 - (b) Write a brief note on Integrated Multi Trophic Aquaculture (IMTA).
 - (c) Briefly describe the fine-bubble aeration system.
 - (d) What are the roles / significance of soil in fish pond ?
3. Answer any *one* question from the following : 1×8
- (a) (i) Define organic aquaculture.
 - (ii) State the principles of organic farming.
 - (iii) Add a note on organic certification system with examples. 2+2+4
 - (b) (i) What is cage culture ?
 - (ii) Compare cage culture and pen culture.
 - (iii) What are the criteria to be considered before selection of site for Aqua-farm construction ? 1+3+4

Unit—II*(Fish Genetics and Biotechnology)*

4. Answer any *two* questions of the following : 2×2
- (a) Meiotic gynogen.
 - (b) Chromosomal polymorphism on fish.
 - (c) Histone proteins.
 - (d) Potential benefits of polyploidy.
5. Answer any *two* questions of the following : 2×4
- (a) Briefly write on the production of monosex population of tilapia through hybridization. 4
 - (b) Explain the process of sterile fish production. 4
 - (c) Write a note on the structure of Nucleosome. 4
 - (d) Describe induced androgenesis in fish with suitable diagram. 4

6. Answer any *one* question from the following : 1×8
- (a) (i) Write a note on selective breeding in fish. 4
- (ii) Briefly discuss evolution of fish karyotypes. 4
- (b) (i) What do you mean by sex reversal ?
- (ii) Describe the method followed in the production of all female population by a combination of hormonal and genomic means. 2+6
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