

M.Sc.

2016

4th Semester Examination

FISHERIES SCIENCE

PAPER—FSC-401

Full Marks : 40

Time : 2 Hours

The figures in the right-hand 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 processing Technology
Food Safety and Quality Assurance)**

1. Answer any *two* questions from the following : 2×2
 - (a) Why quick freezing is advantageous than slow freezing ?

(Turn Over)

- (b) Define shelf life of fish in ice.
- (c) What is super cooling?
- (d) Differentiate homogeneous and heterogeneous nucleation.

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

- (a) Briefly explain the postmortem biochemical changes in fish tissues.
- (b) How much ice is to be required for preservation of 80kg. prawn from 30°C to 0°C ? (Specific heat of shell fish is 4 J/g and latent heat of ice is 334.7 KJ).
- (c) How would you maintain the quality assurance of processed product ?
- (d) What are the problems created by *Salmonella* Sp. and *Shigella* Sp. in freezing fish ?

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

- (a) What is rigor mortis ? Describe the characteristics of pre-rigor and post-rigor fish. Add a note on spoilage Indices ? 2+3+3

- (b) What is cryogenic freezing? Briefly explain the advantages and dis-advantages of air-blast freezing.

Add a note on freezing curve.

1+3+3 $\frac{1}{2}$

Unit—II

**(Fisheries Extension, Fisheries
Economics & Marketing)**

4. Answer any *two* questions from the following : 2×2
- (a) State the fish marketing channel in India.
 - (b) What do you mean by 'Law of diminishing return'?
 - (c) Mention the name of four NGO's engaged in the fisheries activity in West Bengal.
 - (d) What do you mean by Entrepreneurship development?
5. Answer any *two* questions from the following : 2×4
- (a) Enumerate the role of fishery Co-operative Society with respect to West Bengal.
 - (b) Discuss the present status of fisheries education in India.

- (c) State the different fisheries developmental plan taken by Govt. of India in 12th five year plan.
- (d) Discuss about the role of FFDA in fisheries development in India.

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

- (a) (i) Mention the different Criteria need for a good fish market.
 - (ii) State the concept of Law of Demand and Supply.
 - (iii) Discuss about the role of MPEDA for export of fish & fishing products. 2+3+3
- (b) (i) State the basic objectives of fisheries extension.
 - (ii) Discuss about extension teaching method with Special reference to "Trickle down system".
 - (iii) Add a note on the different constraints to transfer aquaculture technologies from lab to land.
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