

Ref. No. : Ex/PG/FTBE/T/112C/2025(S)

**M.TECH. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING FIRST
YEAR FIRST SEMESTER SUPPLEMENTARY EXAM- 2025**

Subject : ADVANCED FISH PROCESSING TECHNOLOGY

Time: 3hr

Full Marks: 100

Part I

Answer any **five** of the following:

10x5=50

1. What is the importance of onboard handling of fish? What is the significance of size of ice crystal for preservation of fish? How the presence of parasites in fish fillets are detected?

4+3+3=10

2. Mention the advantages and disadvantages of using oxygen and carbon dioxide gasses for preservation of fish?

5+5=10

3. With diagram explain the working principle of any two types of air blast freezer.

5+5=10

4. What is the advantage of liquid nitrogen spray system over immersion freezing? What is the working principle of plate freezer? What are the types of plate freezer?

5+3+2=10

5. How fish quality is assessed by physical methods? How number and types of bacteria affect fish quality?

5+5=10

6. What do you mean by cold chain? Mention any one method of long distance transportation of fish?

4+6=10

7. Write short notes on any **two** of the following:

5+5=10

i. Surimi

ii. Fish protein concentrate

iii. Fish sauce

[Turn over

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Part II (50 marks)

Answer Question no. 5 and any three from the rest.

1. What are the three different methods by which fish can be dried? What are Kench and Gaspe curing methods? What are the factors which impart a preservative effect on fish during smoking? 6+4+5

2. What are the three different atmosphere- controlled packaging methods of fish? Name and define them. What are the factors affecting the bacteriostatic effect of CO₂? What are the adverse effects of using high CO₂ concentration in fish packaging? 6+4+5

3. State the three essential maxims of cannery safety. How are fish canned based on their pH grouping? 5+10

4. What are the different deteriorative changes that take place in fish during frozen storage?

15

5. Write short notes on: (Any one)

5

(a) Brining and pickling of fish

(b) Continuous smoke production system

(c) Pros and cons of using oxygen as a gas in controlled and modified atmosphere packaging

(d) Deteriorative changes in fish just after its death.