

CHATTOGRAM VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHATTOGRAM

MS in Fishing and Post-Harvest Technology

January-June Semester, Final Examination-2022

Course Code: **AFM-501(T)**, Course Title: **Advanced Fisheries Microbiology**

Total Marks: 40; Time: 2 hours

Answer any four (04) from the following questions.

1. a) Briefly discuss the microbial problem associated with harvesting and onboard handling on fishing vessel. 5.0
b) Describe briefly the microorganisms associated with spoilage and public health concern. 5.0
2. a) Briefly describe the effects of processing on microorganisms. 5.0
b) Discuss the quality changes caused by microorganisms in fish. 5.0
3. a) Differentiate between indigenous and non-indigenous bacterial pathogens of fish. Make a list of major micro flora available in different crustaceans. 5.0
b) What do you mean by indicator organisms? Enumerate different types of indicator organisms. 5.0
4. a) Make a list of suitable types of disinfectants used in fish working premises with their type, ingredient, application and limitations to use. 5.0
b) What do you mean by bioaccumulation? Briefly discuss TTX bioaccumulation procedure in human body. 5.0
5. a) Make a list of indigenous and non-indigenous bacterial pathogens. 5.0
b) Write short notes on any **two** of the following: 2.5×2=5.0
 - 1) Salmonellosis
 - 2) Listeriosis
 - 3) Seafood transmitted zoonosis

Department of Fishing & Post Harvest Technology, CVASU

M S in Fishing and Post Harvest Technology

January – June Semester, 2022; Final Examination

Course Code & Name: ATF 501(T) & Advanced Fishery Products Technology

Time: 2 hours; Full Marks: 40

Answer **any 4 (FOUR)** of the following questions:

1. What do you mean by cured fishery products? Enlist the cured products exists in our local market. How will you produce salted dehydrated fish products in a drying yard that will be exported to earn foreign currency? How will you preserve dried products till serve to the consumer table?
2. Have you ever tasted smoked fish products? Name the smoked products found in our local market. Give a detail procedure of smoked fish products preparation. What are the spoilages occurring in smoked products?
3. What do you know about fish canning? What are the prospects of canning in Bangladesh? Give a detail protocol of industrial fish canning.
4. Name three fermented fish products. How will you prepare fish sauce from Sardine? Write down the application of fish sauce in Bangladeshi culinary? Give the criteria to be followed during selection of raw materials for fermented products.
5. What is '*Nga-pi*'? Name the major raw material use to prepare '*Nga-pi*'. Give a detail preparation procedure of '*Nga-pi*' in Bangladesh. Have you ever visited the '*Nga-pi*' processing area? What are the problems associated with this trinational traditional fish culinary and how will you fix it? Write the importance of '*Nga-pi*' in Bangladesh.
6. Write down the feasibility of fish canning in Bangladesh. Give a brief description on technical problems associated in canned fishery products. What are the advantages of canning?
7. What do you know about '*Surimi*'? How will you prepare '*Surimi*'? Give a list of products made from '*Surimi*' and describe the detail processing protocol of any 3 (three) '*Surimi*' based products.

Chattogram Veterinary and Animal Sciences University

Department of Fishing & Post Harvest Technology

M S in Fishing and Post Harvest Technology

January – June Semester, 2022; Final Examination

Course Code & Name: ATF 501(T) & Analytical Techniques in Fish Processing

Time: 2 hours; Full Marks: 40

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Answer **any 4 (FOUR)** of the following questions:

1. How will you assess fresh fish? Discuss a method that can be applied instantly while you are visiting a wet fish market.
2. Write down the names of essential amino acids available in fish protein. Why fish protein is better than plant protein? What do you mean by n-3 fatty acid?
3. What do you mean by quality? How will you determine TMA, TBA and Peroxide value from a given fish sample?
4. List down Scientific Name and English Name of 10 (ten) commercially important marine/estuarine fish available in the Bay of Bengal/ adjacent estuaries. How will you measure proximate composition of any fish sample? Give a detail procedure of protein, fat/lipid, glycogen, and minerals determination of **Anchovy** fish.
5. What is NPN? Give a brief description on Non-Protein Nitrogen determination (including General Discussion, Application, Principle, Precaution besides sample preparation, apparatus, reagents, operating protocol, calculation etc.) of a fish in laboratory.
6. Give a detail procedure of salt and bone content determination (including general discussion, application, principle, precaution besides sample preparation, apparatus, reagents, operating protocol, calculation etc.) of a salted dehydrated fish product.
7. Give a brief overview on Chromatographic techniques followed to isolate bioactive compounds.
8. Can you define pH? Write down the range of pH exists in marine fin fish muscle. How will you measure pH of fish?

CHATTOGRAM VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHATTOGRAM
MS in Fishing and Post-Harvest Technology
January-June Semester, Final Examination-2022
Course Code: FPT-501(T), Course Title: Fish Preservation Technology
Total Marks: 40; Time: 2 hours

Answer any four (04) of the following questions

1. a) What do you mean by onboard handling and onshore handling? How will you assess freshness of fish through physical method? 5.0
- b) What are the factors need to be consider for designing an ideal cold-storage? 5.0
2. a) Describe briefly the mechanism of rigor-mortis in fish. 5.0
- b) Write down the live transportation procedure of crab. 5.0
3. a) Name common methods employed in transportation of live fish. Write down factors affecting successful transport of live fish. 5.0
- b) Discuss the role of Glycolysis and TMAO in fish preservation. 5.0
4. a) Diagrammatically represent an ideal shrimp freezing plant. 5.0
- b) "Refrigeration and freezing effects the quality of fish"-Explain. 5.0
5. a) Discuss briefly the biochemical and bacteriological problems associated with chilling. 5.0
- b) What is CSW? How do you increase the shelf life of newly caught fish? 5.0

CHATTOGRAM VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHATTOGRAM
MS in Fishing and Post-Harvest Technology
January-June Semester, Final Examination-2022
Course Code: MFT-501(T), Course Title: Modern Fishing Technology
Total Marks: 40; Time: 2 hours

Answer any four (04) of the following questions

1. a) Differentiate between fishing gear and craft. Briefly describe the trend of introducing new fishing gears in the Bay of Bengal. 5
- b) What do you mean by catch composition? Discuss the problems associated with fish catch and marine environment. 5
2. a) Discuss the characteristics of commercial fishing grounds in the Bay of Bengal. 5
- b) Illustrate the working principle of GMDSS. 5
3. a) Differentiate between shoaling and schooling. Briefly describe the shoaling behavior of Sardine. 5
- b) Define industrial fishing. Describe briefly the different industrial fishing gears in the Bay of Bengal. 5
4. a) What do you know about propeller and lift-able propulsion system? 5
- b) Describe briefly the maintenance of engine of fishing vessels. 5
5. a) Describe briefly the handling of fish on board vessel. 5
- b) Briefly describe the main features of FAO code of practice for responsible fishing. 5

CHATTOGRAM VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHATTOGRAM
MS in Fishing and Post-Harvest Technology
January-June Semester, Final Examination-2022
Course Code: IFM-501(T), Course Title: Industrial Fishery Management
Total Marks: 40; Time: 2 hours

Answer any four (04) of the following questions

1. a) Industrial Fishery Management course is important for Fisheries graduates.-Justify. 5
- b) Write short-notes on value-added and analog fishery products of Bangladesh. 5
2. a) Discuss briefly the planning and design of surimi processing plant. 5
- b) Describe possibilities of domestic and international fish trading. 5
3. a) Discuss briefly the role of Quality Control and R & D wing for ensuring product safety and continuous development. 5
- b) Discuss the role of Export Promotion Bureau in Fisheries sector. 5
4. a) Define ETP. Why waste management in fishery industry is essential? 5
- b) Briefly describe the management protocols of canning industry. 5
5. a) Write down the composition of shrimp and crab shell. How will you utilize these wastes for the welfare of human being? 5
- b) Describe the role of cooperative fishing for the management of industrial fishery. 5