

CHATTOGRAM VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHATTOGRAM
MS in Fishing and Post-Harvest Technology
July-December Semester, Final Examination- 2022
Course Code: **AQI-502(T)**, Course Title: **Advanced Fish Quality Control and Inspection**
Total Marks: 40; Time: 2 hours

Answer any 04 (four) from the following questions:

1. a) Write in brief the substance groups that are monitored under NRCP program. 5.0
b) What should be the sampling strategy according to policy guidelines for NRCP? 5.0
2. a) Prepare a risk based hazard analysis worksheet for IQF Hilsha fish in different steps with possible potential hazards in each step. 5.0
b) What do you mean by HACCP? State its ground rules. 5.0
3. a) Suppose you are a member of specialized inspection team and have been asked to carry out a risk based inspection in a fish processing industry. Discuss how you will do that. 5.0
b) Write short notes on risk categorization of processing establishment. 5.0
4. a) Narrate the evaluation criteria of a processing plant which are checked during full verification. 5.0
b) Describe the requirements of a newly established processing plant for getting approval. 5.0
5. a) Enumerate some movement documents which are used by stakeholders in fish supply chain for maintaining traceability records. 5.0
b) Mention the control measures of pathogenic bacteria, chemicals, parasites and physical hazards in fishery products. 5.0

Department of Fishing and Post Harvest Technology, CVASU
M S in Fishing and Post Harvest Technology
Final Examination, July – December Semester 2022
Course Code & Name: FBT 502 Fishery By-products Technology
Full Marks: 40; Time: 2 hours

Answer any 4 (FOUR) of the following questions:

1. What do mean by chitin and chitosan? What are the raw materials of chitin? Give a detail processing protocol of chitin in a commercial industry.
2. Give a detail overview on fish meal which might cover raw materials, production techniques, field of application, storage, and national to global market trend.
3. What is fish scrap? How will you prepare fish scrap? Write down the significance of fish scrap.
4. How will you prepare fish oil? Write the raw material source for the production of fish oil. Write the significance of fish oil in fisheries and livestock industries.
5. What is fish peptide? How will you process fish peptide commercially? Write the applications of fish peptide. Give a detail overview including processing to usage of FPC (fish protein concentrate).
6. Write down nutraceuticals and pharmaceuticals aspects (processing, application to international trade) of 'Alginic acid' and 'Alginate'.
7. Write down nutraceuticals and pharmaceuticals aspects (processing, application to international trade) on followings: Agar & Carrageenan.

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MS in Fishing and Post-Harvest Technology

July-December Semester, Final Examination-2022

Course Code: **SFB-502 (T)**, Course Title: **Seafood Biochemistry**

Total Marks: 40; Time: 2 hours

Answer any four (04) of the following questions.

1. a) Seafood proteins are considered a component of the human diet. – 5.0
Explain the statement.
- b) Write down the present scenario of the seafood industry in Bangladesh. 5.0
2. a) What kind of fish generally contain a higher amount of sarcoplasmic proteins? Write in brief the role of protein in the quality and processing of fish. 5.0
- b) What is myofibrillar protein? How do myofibrillar proteins affect the quality of fish products? Explain 5.0
3. a) Write in brief the major minerals and vitamins important for human health available in fish. 5.0
- b) What are EPA and DHA? Explain the human health benefits of EPA and DHA of fish. 5.0
4. a) What is drip loss? How drip loss occurs in fish during handling and preservation? Explain 5.0
- b) Explain the biochemical changes of fish muscle during storage. 5.0
5. a) Briefly describe the composition of important vitamins and minerals in different organs of small fish, farmed, and marine fish. 5.0
- b) What is a chemical contaminant? Write down the potential impacts of chemical contaminants and toxins on aquatic environment. 5.0

Department of Fishing and Post Harvest Technology, CVASU
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Final Examination, July – December Semester 2022
Course Code & Name: SWB 502 & Seaweed Biotechnology
Full Marks: 40; Time: 2 hours

Answer any 4 (FOUR) of the following questions:

1. Give a detail overview on global seaweed production. Discuss prospects and constraints of seaweed culture in Bangladesh.
2. Classify seaweed. Write down scientific and common name of seaweed (10 from each category) commercially available in this industry.
3. Give nutrient facts on 3 (three) popular dietary seaweeds. Will you suggest seaweed meal to maintain a healthy life? Explain in favour of your answer.
4. Give in detail commercial culture technique of *Porphyra* spp
5. How will you consider seaweed as an alternative energy source? Give a detail extraction protocol of industrial biofuel from seaweed.
6. List down different industrial products manufacture from seaweeds. How will you establish a seaweed-based food processing industry?
7. What is bioremediation? Give an effective bioremediation protocol for marine environment.
8. How will you extract bioactive compounds from macro-algae?

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Department of Fishing and Post-Harvest Technology
M.S. in Fishing and Post-Harvest Technology
Final Examination; July-December Semester 2022
Course Code & Name: AFP 502 (T) & Advanced Fish Processing
Time: 2 hour; Full Marks: 40

Answer any 4 (Four) of the following questions

1. What do you mean by supply chain and value chain? Describe the quality aspects and shelf life of different processed fishery products. 10
2. Define fish quality. "Finished products quality is directly related with the quality of raw materials"-Justify your answer. List down the name of major exportable fishery products of Bangladesh. 10
3. Describe briefly the role of Standards and Specifications in food safety. Write down the importance of development of National and International Standards in food safety aspects. Discuss the functions and responsibilities of BSTI to ensure the quality. 10
4. Describe the technological, biochemical, and bacteriological problems associated with frozen and cured fishery products of Bangladesh. 10
5. What do you know about CODEX Alimentarius? Describe the FAO Code of Practice in Fisheries sector. 10

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Final Examination, July-December Semester 2022
Course Code & Name: BFP 502 (T) & Biotechnology in Fish Processing
Time: 2 hours; Full Marks: 40

Answer any 4 (Four) of the following questions:

1. What do you know about Bioinformatics and Biotechnology? Describe the scope, significance and prospects of Biotechnology. 10
2. Define FPH. Discuss the sources of FPH. Describe briefly the biotechnological approaches of fish-meat solubilization. 10
3. Describe briefly the importance of seafood microbiology for Fisheries Graduates. Discuss briefly the rapid methods and automation in seafood microbiology. 10
4. What do know about seafood wastes? Describe briefly the recover methods of protein, color and flavor from crustacean wastes. Discuss the application of membrane filtration technology in treatment of seafood wastes. 10
5. Write down the objectives and functions of seafood packaging. Describe different seafood packaging methods practiced in seafood sector. 10