

Chittagong Veterinary and Animal Sciences University
Department of Fishing and Post Harvest Technology
M S in Fishing and Post Harvest Technology
July - December Semester, 2018; Final Examination
Course Code & Name: AFP 502(T) & Advanced Fish Processing
Time: 2 hours; Full Marks: 40

Answer any 4 (FOUR) of the following questions:

1. Define Fish Processing. How will you process different value added frozen products from newly caught cultured *Penaeus monodon*? 10
2. Give a brief processing outline of exportable dried fishery products. 10
3. What is fish meal? How will you prepare fish meal from low-cost trash fish? 10
4. Explain the following terms: i) Standard; and (ii) Specification. Differentiate between product specification and process specification. Write down the importance of standard and specification. 10
5. Give a brief overview on technological, biochemical and bacteriological problems of frozen fish and fishery products subsequent cold storage. 10

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Course Code & Name: SWB 502(T) & Seaweed Biotechnology

Time: 2 hours; Full Marks: 40

Answer any 4 (FOUR) of the following questions:

1. Classify seaweed and write its culture potentialities in Bangladesh perspectives. Name 5 (five) common seaweed species found in the Bay of Bengal, Bangladesh territory. 10
2. Give a brief out line on commercial seaweed culture technique popular in seaweed culturing nations. 10
3. Do you think seaweed can be used as raw materials for pharmaceuticals and nutraceuticals industries? Write down importance of seaweeds on human health. 10
4. Define micro- and macro-alga. List down the products manufactured from macro-algae. Give a detail procedure of agar and carrageenan production from potential seaweed species. 10
5. What do you mean by functional products? Give a brief overview on functional products produced from macro-alga. 10
6. How do you know about bioremediation? Write down different bioremediation application to keep our aquatic habitat safe for concerned biota. How will you treat wastewater through bioremediation technology with seaweed? 10

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Course Code & Name: AQI 502(T) & Advanced Fish Quality Control & Inspection

Time: 2 hours; Full Marks: 40

Answer any 4 (FOUR) of the following questions:

1. Explain the terms 'quality control' and 'inspection'. What is NRCP? Write the objectives of NRCP. Give a brief overview on present status of NRCP implementation in fisheries sector of Bangladesh. 10
2. What do you mean by traceability? Write the name of traceability components. Give a detail overview on traceability framework. 10
3. Write the meaning of HACCP? Write principles of HACCP. How will you develop and implement HACCP in a frozen shrimp processing industry? 10
4. Give a brief overview on assembling a HACCP team for food safety issues. Write down importance of HACCP in frozen food export issues in Bangladesh. 10
5. Define 'risk' in food safety issue? Give a detail guideline on risk-based inspection of fish and fishery products. 10

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Course Code & Name: SFB 502(T) & Seafood Biochemistry

Time: 2 hours; Full Marks: 40

Answer any 4 (FOUR) of the following questions:

1. Classify seafood protein on the basis of solubility. Why fish protein is being considered as balanced protein for human body? List down essential amino acids present in a marine bony fish. 10
2. How do you explain post-mortem changes in newly caught marine fish? Which biochemical component plays significant role in post-mortem changes. Write down the role of pigmentation in quality aspects of fish. 10
3. Enlist the macro- and micro-nutrients present in a whole bony fish. Write the role of fish minerals on human health. 10
4. What are the physical properties of fish muscle protein. Give the procedure of extraction of fish muscle protein. 10
5. Differentiate taste and flavour. What are the flavor substances present in fish? Discuss the active compounds responsible for taste and flavor of seafood. 10
6. What do you mean by chemical contaminants? List down the name of organic and inorganic contaminants exist in marine environment. Write the effects of chemical contaminants on aquatic biota. 10

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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. Write down industrial applications of protease. What are the prospects and constraints to establish protease manufacturing industry in Bangladesh? 10
2. Classify fish muscle protein. Describe briefly preparation of fish protein hydrolyzates in a processing industry. 10
3. Write the composition of crustacean waste. How will you manage crustacean waste in an ISO certified fish processing plant? What is IQF? 10
4. How will you prepare chitin and chitosan from shrimp waste in a fish processing plant? Briefly describe the applications of crustacean wastes in biotechnology. 10
5. Write down principles of packaging. List down different packaging materials used in food processing industries. Explain different food packaging methods practiced in food processing industries. 10

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Course Code & Name: FBT 502(T) & Fishery By-products Technology

Time: 2 hours; Full Marks: 40

Answer any 4 (FOUR) of the following questions:

1. What do you mean by fishery by-products? What is the composition of fish meal? Give a detail procedure to prepare fish meal by wet rendering method. 10
2. Explain the term fish peptide'. Write down the sources of fish peptides. Discuss production protocol of fish peptides from fishery bi-products. 10
3. What is FPC? How will you process FPC from raw fish? Write down the nutritive value of FPC and significance of FPC on commercial aspect. 10
4. Write the significance of shark's fin in seafood industry. How you process shark essence from marine fish? 10
5. What do you mean by nutraceutical products? Give a detail protocol of agar preparation from seaweed. Write the industrial application of seaweeds in agar preparation. 10
6. How will you process carrageenan and mannitol from seaweeds? Write commercial importance of alginate and carrageenan. 10