

**Chattogram Veterinary and Animal Sciences University, Chattogram**  
**Department of Fishing and Post-Harvest Technology**  
**M.S. in Fishing and Post-Harvest Technology**  
**Final Examination, July-December Semester, 2021**  
**Course Code & Name: SFB 502 (T) & Seafood Biochemistry**  
**Time: 2 hours; Full Marks: 40**

**Answer any 4 (Four) of the following questions**

1. Define Seafood. Describe briefly the present status of seafood in Bangladesh. 10
2. Why seafood toxins are important? Discuss briefly the naturally and chemically occurring toxins in seafood with their causative agents and impacts on human health. 10
3. “Do you think the composition of vitamins and minerals can change with the size and habitat of fish”-Explain. Discuss briefly the effects of processing and storage on the vitamin and mineral content of fish. 10
4. What do you mean by fish quality and processability? Discuss briefly the role of protein, carbohydrates, and minerals on the quality and processability of fish. 10
5. What do you know about fish pigments and flavors? Discuss the role of pigmentation in fish and seafood. 10

**Chattogram Veterinary and Animal Sciences University, Chattogram**  
**Department of Fishing and Post-Harvest Technology**  
**M.S. in Fishing and Post-Harvest Technology**  
**Final Examination; July-December Semester, 2021**  
**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 are the technological, biochemical, and bacteriological problems associated with different fishery products in Bangladesh?-Explain. 10
2. What do you mean by fish quality? Maintenance of raw material quality is essential to ensure the shelf-life of finished products”-Justify. 10
3. What do you know about CODEX? Describe the principles of ISO 9000 in maintaining product quality. 10
4. List down the name of exportable fishery products of Bangladesh. Discuss briefly the standard methods for the preparation of 5 (five) exportable fishery products of Bangladesh. 10
5. Briefly discuss the factors affecting the raw materials quality of fish. Explain the role of the fish supply chain and value chain in reducing the quality loss of fish. 10

**Chattogram Veterinary and Animal Sciences University, Chattogram**  
**Department of Fishing and Post-Harvest Technology**  
**M.S. in Fishing and Post-Harvest Technology**  
**Final Examination; July-December Semester, 2021**  
**Course Code & Name: AQI 502 (T) & Advanced Fish Quality Control and Inspection**  
**Time: 2 hours; Full Marks: 40**

**Answer any 4 (Four) of the following questions**

1. What do you mean by the compliance of facilities and conditions of different establishments? Describe its importance for fish depots and ice factories. 10
2. Why FIQC wing of the DOF is called the Competent Authority (CA) for fish and fishery products? List down some legal relevant background legislation under which this authority is conferred for Fish and Fishery Products production. 10
3. What kind of people should be included in a HACCP team? Explain preliminary steps in developing the HACCP plan. Write down the principles of HACCP. 10
4. Define NRCP and SCP. Discuss the purpose and benefits of traceability in the Fisheries sector. How you will implement traceability from the farm to the consumer? 10
5. What do you mean by Risk-based inspection? Classify the fish processing establishments based on risk management. 10

**Department of Fishing and Post Harvest Technology, CVASU**  
**M S in Fishing and Post Harvest Technology**  
**Final Examination, July – December Semester 2021**  
**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 is fish silage? How will you process fish silage? Write the processing protocol of fish oil and write its significance in different aspects.
2. How will you explain functional products? Give a brief overview on processing of functional products where seaweed are considered as raw materials.
3. Write down processing techniques, application and national to global prospects on followings: (i) Gelatin, (ii) Cavair, (iii) Fish roe and milt, iv) Pearl Essance.
4. What is fish peptide? How will you process fish peptide commercially? Write the applications of fish peptide.
5. What do you know about FPC (fish protein concentrate)? Give a detail overview including processing to usage of FPC.
6. Do you think 'algae can be the potential source of nutraceuticals? Write down nutraceuticals and pharmaceuticals aspects (processing, application to international trade) of Agar and Carrageenan.

**Department of Fishing and Post Harvest Technology, CVASU**  
**M S in Fishing and Post Harvest Technology**  
**Final Examination, July – December Semester 2021**  
**Course Code & Name: SWB 502 & Seaweed Biotechnology**  
**Full Marks: 40; Time:2 hours**

---

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

1. List out 5 (five) widely cultured species in seaweed nations. Give the detail culture techniques of *Porphyra* spp. commercially practiced in the world.
2. How will you culture *Laminaria* sp. in open sea? Write its commercial significance.
3. List down different industrial products manufacture from seaweeds. How will you establish a seaweed based processing industry? Write down the significance of seaweed in cosmeceutical industry.
4. How will you consider seaweed as an alternative energy source? Give a detail extraction protocol of industrial biofuel from seaweed.
5. How do you know about bioremediation? Do you think seaweed can be a potential candidate for bioremediation in sea ranching? Give an effective bioremediation protocol in marine environment.
6. How do you explain seaweed and its biotechnological aspects? Write the current scenario of seaweed production in the world.

**Chattogram Veterinary and Animal Sciences University, Chattogram**  
**Department of Fishing and Post-Harvest Technology**  
**M.S. in Fishing and Post-Harvest Technology**  
**Final Examination, July-December Semester, 2021**  
**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. Classify fish proteases? Briefly describe the modern and traditional applications of proteases in seafood industries. 10
2. "Knowledge regarding seafood microbiology is important for Fisheries Graduates"- Justify. Discuss briefly the rapid methods and automation in seafood microbiology. 10
3. Define fish fermentation. Describe briefly the production method of fish sauce. Discuss the physical, chemical, and biological changes in the fish sauce during fermentation. 10
4. What do you know about the solubilization of fish meat by immobilized microbial cells? Describe briefly the biotechnological approaches to fish meat solubilization with its future prospects. 10
5. Define crustacean wastes? How you will manage these wastes through proper utilization? Discuss the future trends and challenges to utilize the crustacean wastes. 10