

Chattogram Veterinary and Animal Sciences University

Faculty of Fisheries

Department of Fisheries Resource Management

Master of Science in Fisheries Resource Management, July-December Semester Final Examination' 2022

Course No: **FBD502 (Compulsory)**, Course Title: **Fisheries Biodiversity**

Total Marks: 40, Time: 2 hours

Answer any **FOUR** questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) How different levels of biodiversity are inter-linked each other? 4.0
(b) Compare and contrast between ecosystem diversity between Kaptai lake and Foy's lake. 6.0
2. (a) "The introduction of exotic species was mainly due to arrogant nature of foreign experts."- Justify the statement. 4.0
(b) Prepare and develop a comparison of piscine and non-piscine aquatic fauna conservation strategies. 6.0
3. (a) Why biodiversity in protected areas are usually higher? Explain with your own understandings. 3.0
(b) Discuss the significance of protected areas in the Sundarban mangrove ecosystem with especial emphasize on natural breeding. 3.0
(b) How can partial fishing closures be used to maximize the benefits of Marine Protected Area (MPA) networks? 4.0
4. (a) "Inland fishes are wonder of a nation"- Justify. 4.0
(b) How exploitation of vast marine resources can reduce the exaggerated inland fishes in Bangladesh? 6.0
5. (a) Mention some disadvantages of formalin preservation of fishes for biodiversity study. What are the alternatives of such preservation? 3.0
(b) Do you think 'legislation' and 'conservation' are equivalent with each other? – Use your critical thinking. 3.0
(c) How 'live fish conservation' can be beneficial in conserving fish biota? 4.0
6. (a) Define biodiversity index. Mention its significance. 4.0
(b) Compare the mathematical models of Shannon's and Simpson's index of biodiversity assessment. 6.0

Chattogram Veterinary and Animal Sciences University
Faculty of Fisheries
Department of Fisheries Resource Management
Master of Science in Fisheries Resource Management, July-December Semester Final
Examination' 2022
Course No: **CBM-502 (Elective)**, Course Title: **Community Based Fisheries**
Management
Total Marks: 40, Time: 2 hours

Answer any **FOUR** questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) "Community Based Fisheries Management as the future fisheries management option for small-scale fisheries of Bangladesh"- Justify from your point of view. 4.0
(b) Briefly describe the impact of Community-Based Fisheries Management on sustainable use of inland fisheries in Bangladesh. 6.0
2. (a) "CBFM is based on co-management empowering fishing communities"-Explain the statement. 4.0
(b) Discuss the requirement of development of successful CBFM in Asian countries special emphasize in Bangladesh. 6.0
3. (a) Relate among GO-NGOS-Fisherman in CBFM modeling. 4.0
(b) Illustrate CBFM modeling in coastal fishers' communities in Bangladesh. 6.0
4. (a) How is flood control dam contributing to groundwater sustainability? 4.0
(b) Compare and contrast between impact on FCD and FCDI in fisheries. 6.0
5. (a) Point out the role of community-based organizations (CBOs) during flood management. 4.0
(b) How a community-based action plan for disaster management can be implemented actively in Bangladesh? 6.0
6. (a) Elaborate your comprehensibility regarding the benefits of stakeholder participation in CBFM. 5.0
(b) Write down the conflict of CBFM with local power groups. How will you mitigate those conflicts? 5.0

Chattogram Veterinary and Animal Sciences University

Faculty of Fisheries

Department of Fisheries Resource Management

Master of Science in Fisheries Resource Management, July-December Semester Final
Examination' 2022

Course No: **IFM-502 (Elective)**, Course Title: **Integrated Farm Management**

Total Marks: 40, Time: 2 hours

Answer any **FOUR** questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) Define integrated aqua-farming. 2.0
(b) Write down the constraints and opportunities of integrated farm management in current context of Bangladesh. 4.0
(c) How the governments can provide support for the management of integrated aqua-farming? 4.0
2. (a) Draw and describe a model of integrated fish-horticulture farming system. 6.0
(b) Give a comparison between environmental requirements of fish and rice for rice fish integration. 4.0
3. (a) Illustrate the SWOT analysis of integrated livestock aquafarming in Bangladesh. 6.0
(b) How the integration of fish culture into livestock systems affects asset accumulation and livelihoods? 4.0
4. (a) Differentiate between bio-security and bio-safety. 2.0
(b) Whose involvements are important to an integrated approach to farm bio-security? 4.0
(c) Sketch a bio-security programme for shrimp farming. 4.0
5. (a) Define ecosystem approach to aquaculture. Mention its aims. 4.0
(b) Briefly discuss the transition processes from a conventional aquaculture approach to an ecosystems approach to aquaculture. 6.0
6. (a) Write down the socio-economic consideration of integrated farm management. 5.0
(b) How will you mitigate risk from integrated farming systems? 5.0

Chattogram Veterinary and Animal Sciences University
Faculty of Fisheries
Department of Fisheries Resource Management
Master of Science in Fisheries Resource Management, July-December Semester Final
Examination' 2022
Course No: **MCR-502 (Compulsory)**, Course Title: **Mangroves Conservation and
Restoration**
Total Marks: 40, Time: 2 hours

Answer any **FOUR** questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) "Mangroves are called renewable resources"- Explain with examples. 4.0
(b) Write down the role of fisheries resources as a keystone component of mangrove ecosystem. 6.0
2. (a) Differentiate between mangrove restoration and mangrove regeneration 4.0
(b) Briefly discuss the indicators to measure the success rate of mangrove restoration. 6.0
3. (a) Discuss the potential impacts of climate change on the ecology of mangrove forest. 4.0
(b) Elaborate your comprehensibility regarding the role of community participation in Sundarban mangrove forest management. 6.0
4. (a) "Aquaculture development is serving as the most important causes of mangrove destruction"-Justify. 4.0
(b) Briefly describe the impacts of shrimp farming on mangrove forest with special reference to "Chakaria Sundarban Mangrove Forest" in Bangladesh 6.0
5. (a) How do mangroves contribute in the maintenance of planet's carbon cycle? 4.0
(b) Write down the values of mangrove resources other than fisheries boosting the economy of Bangladesh. 6.0
6. (a) Mention the ongoing threats of mangrove areas of Bangladesh. Discuss their possible recommendations. 5.0
(b) Use your own idea to develop an environment friendly tourist infrastructure adjacent to "Sundarbans Mangrove Forest" 5.0

Chattogram Veterinary and Animal Sciences University

Faculty of Fisheries

Department of Fisheries Resource Management

Master of Science in Fisheries Resource Management, July-December Semester Final
Examination' 2022

Course No: **RFM-502 (Compulsory)**, Course Title: **Riverine Fisheries
Management**

Total Marks: 40, Time: 2 hours

Answer any **FOUR** questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) How river can brings prosperity for human? 4.0
(b) Discuss the significance of riverine resources to boosting the economy of Bangladesh. 6.0
2. (a) Define fish pass. Mention basic requirements of it. 4.0
(b) Discuss negative effects of dams on the ecology and quality of water in a river with their mitigation measures. 6.0
3. (a) "Illegal fishing practices is destructive for riverine fisheries" –justify this statement. 4.0
(b) How can fishing gear and techniques be improved to minimize habitat damage? 6.0
4. (a) Halda river is called natural and pure gene bank- Explain the statement. 3.0
(b) What does IMCs stands for? Mention the present significant problem of reduction of IMCs seed collection from the Halda river. 3.0
(c) How will you restore natural breeding grounds of IMCs of Halda river? 4.0
5. (a) How does artificial light at night affect migration of fishes, especially in coastal areas? 4.0
(b) Design and discuss fish passage systems that facilitate passage by desirable species while blocking passage by undesirable species. 6.0
6. (a) Develop a model for establishment of cage culture in the rivers. 4.0
(b) Write down the roles of government for development of riverine fisheries in Bangladesh. 6.0

Chattogram Veterinary and Animal Sciences University

Faculty of Fisheries

Department of Fisheries Resource Management

Master of Science in Fisheries Resource Management, July-December Semester Final Examination' 2022

Course No: WQA-502 (Compulsory), Course Title: Water Quality and Pollution Analysis

Total Marks: 40, Time: 2 hours

Answer any FOUR questions. Illustrate your answer wherever necessary. Figure in the right margin indicates full marks.

1. (a) How to achieve good water quality management in aquaculture? 4.0
(b) Briefly describe the importance of water quality management in fisheries sector. 6.0
2. (a) Illustrate the specific ways through which water pollutants enter the environment. 4.0
(b) Compare and contrast between the major sources of land based and sea based pollutants in the Bay of Bengal. 6.0
3. (a) Differentiate between pollution and contamination. 2.0
(b) Write down the causes and effects of coastal pollution due to point and non-point sources of water pollution. 4.0
(c) Discuss the control measures of water pollution. 4.0
4. (a) Design and discuss a model of re-circulatory aquaculture system. 6.0
(b) How integration of aquaculture system helps to enhance fish production? 4.0
5. (a) "High level of ammonia found in winter season than the summer season"-Explain. 3.0
(b) Why nitrogen fertilizer is less important than phosphate fertilizer in aquaculture? 3.0
(c) Describe the different methods of applying fertilizer in your fish pond. 4.0
6. (a) Specify physical and chemical characteristics of sewage. 3.0
(b) Illustrate the mechanism of entering sewage sludge in water body. 3.0
(c) Write down the nature and toxic effect of effluents generating from industrial pollution. 4.0