

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' 2023

Course Code: **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) Define community based fisheries management. 2
(b) Discuss the requirement of development of successful CBFM in Asian countries. 4
(c) Write down the conflict of CBFM with local power groups. How will you mitigate those conflicts? 4
2. (a) "CBFM as the future fisheries management option for small-scale fisheries of Bangladesh"- Justify from your point of view. 4
(b) Briefly describe the impact of Community-Based Fisheries Management on sustainable use of inland fisheries in Bangladesh. 6
3. (a) Enlist 5 GOs and 5 NGOs working for CBFM in Bangladesh. 4
(b) How GOB and private initiatives support developing a CBFM model? 6
4. (a) Discuss negative effects of dams on the survival and migration pattern of aquatic organisms in a water body. 4
(b) Compare and contrast between impact on FCD and FCDI in fisheries. 6
5. (a) Enlist the factors affecting CBFM. 4
(b) Briefly describe the trans-boundary effects among different communities in the light of CBFM. 6
6. (a) Elaborate your comprehensibility regarding the benefits of stakeholder participation in CBFM. 5
(b) Illustrate CBFM modeling in coastal fishers' communities in Bangladesh. 5

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Course Code: **FBI-502 (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) "Biological diversity is an integral part of open water fisheries management"- Justify this statement in the context of Bangladesh. 4
(b) Compare and contrast between ecosystem diversity between Kaptai lake and Foy's lake. 6
2. (a) How bio-diversification of non-piscine resources can bring ecological balance? 4
(b) Prepare and develop a comparison of piscine and non-piscine aquatic fauna conservation strategies. 6
3. (a) "Exotic fish acts as a tool for biological control" Justify this statement. 2
(b) Write down the negative impacts of introducing alien fish species to native habitat. 3
(b) Develop an alternative economics of exotic fauna in Bangladesh. 5
4. (a) Differentiate between wetland restoration and wetland rehabilitation. 4
(b) Provide a detail on wetland management techniques. 6
5. (a) Elaborate your understandings regarding biodiversity degradation of freshwater habitat. 5
(b) How marine environment can be substituted over them in eliminating such problems? 5
6. (a) How 'live fish conservation' can be beneficial in conserving fish biota? 2
(b) Mention some disadvantages of formalin preservation of fishes for biodiversity study. What are the alternatives of such preservation? 3
(c) Discuss how biodiversity conservation can facilitate to obtain MSY (Maximum Sustainable Yield). 5

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Course Code: **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) Diagrammatically show the major river system. 3
(b) "Rivers are an important energy source"- Justify this statement. 3
(c) Describe the future potentials of riverine fisheries resources in current context of Bangladesh. 4
2. (a) "Illegal fishing practices is destructive for riverine fisheries"- Justify. 4
(b) Discuss management strategy to prevent illegal, unreported and unregulated harvesting in marine ecosystems. 6
3. (a) Why migration is needed for fish biology? 2
(b) Mention basic requirements of fish pass. 3
(c) Write down negative impact of different types of aquatic barriers and infrastructure on fish migration patterns and survival. 5
4. (a) Mention basic environmental requirements for major carp spawn fishery. 4
(b) Discuss the present status of major carp resource in terms of environmental changes and habitat modifications. 6
5. (a) Develop a model for establishment of cage culture in the rivers. 6
(b) How motivation can play role in establishment of cage culture in rivers? 4
6. (a) Define participatory management of aquatic resources. 2
(b) Relate between government management and local participation in participatory management. 4
(c) Write down the roles of government for development of riverine fisheries in Bangladesh. 4

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Course Code: **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) Mention some special characteristics of water to support fishes as a living media. 4
(b) Develop a comparison on the productive and unproductive ponds on the basis of water quality variables. 6
2. (a) Compare and contrast between point source and non-point source of water pollution. 4
(b) Write down the causes and effects of coastal pollution due to point and non-point sources of water pollution. 6
3. (a) "High level of ammonia found in winter season than the summer season"-Explain. 3
(b) Identify the H₂S gas problem in your fish pond. 3
(c) Describe the different methods of applying lime in your fish pond. 4
4. (a) Develop a model of re-circulatory aquaculture system. 6
(b) How integration of aquaculture system helps to enhance fish production? 4
5. (a) Differentiate between sewage and sludge. 3
(b) "Sewage pollution is a great barrier in water body"- explain the statement. 3
(c) Describe the major causes and remedial measures of sewage pollution. 4
6. (a) How to achieve good water quality management in aquaculture? 4
(b) Write down the impacts of flora and fauna in the aquatic systems due to water pollution. 6

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Course Code: **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 ecosystem are called nutrient trap"- Explain with examples. 4
(b) Discuss the roles of mangrove ecosystem as a natural habitat of aquatic fauna. 6
2. (a) Why acid sulphate soil (ASS) accumulation has become a major threat to mangroves? 4
(b) Use your own imagination to develop an environment friendly tourist infrastructure adjacent to Sundarbans mangrove forest. 6
3. (a) "The coastal aquaculture is being exaggeratedly blamed in mangrove destruction in Bangladesh"- Explain with your own justification. 4
(b) Briefly describe the impacts of shrimp farming on mangrove forest with special reference to "Chakaria Sundarban Mangrove Forest" in Bangladesh 6
4. (a) Write down the effects of tidal fluctuation in the nutrient dynamics of mangrove ecosystem. 4
(b) Plan and prepare an effective management approach for aquatic mangrove resources in Bangladesh. 6
5. (a) Differentiate between mangrove restoration and mangrove regeneration 4
(b) Write down the role of community participation in Sundarban mangrove forest management. 6
6. (a) How do mangroves contribute in the maintenance of planet's carbon cycle? 5
(b) Discuss the significance of mangrove ecosystem as a tool of biological research. 5

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Course Code: **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) Enlists the components of integrated farming systems. 2
(b) What factors should be considered in an integrated farming system? 2
(c) Draw and describe a model of integrated farming system. 6
2. (a) 'Livestock production is the vicinity of fish culture'- explain the statement. 3
(b) How integration of livestock and fish improve the sustainability of farming systems? 5
(c) What factors should be considered during use of poultry waste in aquaculture? 2
3. (a) Briefly describe about the requirements for a harmonized and integrated approach to bio-security. 4
(b) Write down the bio-security risk in aquaculture with their best management practices. 6
4. (a) Describe the mutual benefits of rice and fish in integrated systems with scientific evidences. 3
(b) Develop an energy flow model of integrated rice fish farming. 4
(c) Make a list of suitable fish species for rice fields with its common and scientific name. 3
5. (a) Differentiate between conventional and organic aquafarming. 2
(b) Briefly describe about the scopes of organic aquaculture in Bangladesh. 4
(c) Mention some problems of organic aquaculture and provide possible recommendations to overcome such problem. 4
6. (a) Describe the environmental threats of integrated farming system. 5
(b) How will you reduce public health risks from pathogens in livestock-fish systems? 5