

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' 2019

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) Develop a model of integrated farming system. 3.0
- (b) Briefly describe about the scope of integrated farm management in current context of Bangladesh. 3.0
- (c) How the governments can provide support for the management of integrated aqua-farming? 4.0
2. (a) Enlist the suitable fish species for rice fields with its common and scientific name. 3.0
- (b) Give a comparison between environmental requirements of fish and rice. 3.0
- (c) Briefly describe the salient features of rice fish integration. 4.0
3. (a) 'Livestock production is the vicinity of fish culture'- explain the statement. 2.0
- (b) List down the popular integrated livestock-aquafarming. 2.0
- (c) How will you manage pond in integrated livestock-fish system? 3.0
- (d) How the integration of fish culture into livestock systems improve the sustainability of farming systems? 3.0
4. (a) Differentiate between bio-security and bio-safety. 2.0
- (b) Illustrate a model of bio-security programme for shrimp farming. 4.0
- (c) Discuss the potential benefits associated with a cross-sectoral approach to bio-security 4.0
5. (a) Differentiate between conventional and organic aquafarming. 2.0
- (b) Briefly describe about the scopes of organic aquaculture in Bangladesh. 4.0
- (c) Mention some problems of organic aquaculture and provide possible recommendations to overcome such problem. 4.0
6. (a) Briefly describe the socio-economic consideration of integrated farm management. 5.0
- (b) How will you reduce public health risks from pathogens in livestock-fish systems? 5.0

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Master of Science in Fisheries Resource Management, July-December Semester Final Examination' 2019

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) What do you know about water quality management? 3.0
- (b) Which parameters are most important in determining water quality? 3.0
- (c) Briefly describe the importance of water quality management in fisheries sector. 4.0
2. (a) Differentiate between pollution and contamination. 2.0
- (b) List down the major water pollutants with examples and their sources. 4.0
- (c) Illustrate the changes of physico-chemical and biological parameters of water due to pollution. 4.0
3. (a) List down the water quality requirements for pond culture. 2.0
- (b) How integration of aquaculture system helps to enhance fish production? 4.0
- (c) Develop a model of re-circulatory aquaculture system. 4.0
4. (a) How water temperature, fish growth and reproduction are interlinked with each other? 3.0
- (b) Relate between DO and BOD. 3.0
- (c) Write down the determination procedure of total alkalinity. 4.0
5. (a) "High level of ammonia found in winter season than the summer season"-Explain. 2.0
- (b) Enlists the common types of liming materials. 2.0
- (c) Why nitrogen fertilizer is less important than phosphate fertilizer in aquaculture? 3.0
- (d) How will you apply fertilizer in your fish pond? 3.0
6. (a) Differentiate between sewage and sludge. 2.0
- (b) How sewage sludge enter waterways? 3.0
- (c) Write down the nature and toxic effect of effluents generating from industrial pollution. 5.0

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Master of Science in Fisheries Resource Management, July-December Semester Final Examination' 2019

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) Diagrammatically show the major river system. 3.0  
(b) How river can brings prosperity for human? 3.0  
(c) Describe the future potentials of riverine fisheries resources in current context of Bangladesh. 4.0
2. (a) "Illegal fishing practices is destructive for riverine fisheries"- justify. 2.0  
(b) Differentiate between food web and food chain. 2.0  
(c) Illustrate a typical food web of a lotic ecosystem. 6.0
3. (a) Differentiate between exotic and invasive species. 2.0  
(b) Why migration is needed for fish biology? 2.0  
(c) Mention basic requirements of fish pass. 2.0  
(d) Discuss the effects of flood control dams in water body with their mitigation measures. 4.0
4. (a) Why Halda river is called natural and pure gene bank? 2.0  
(b) Mention the present significant problem of reduction of IMCs seed collection from the halda river. 4.0  
(c) How will you restore natural breeding grounds of IMCs of Halda river? 4.0
5. (a) "Cage fish farming can affect the environments"- explain. 2.0  
(b) How motivation can play role in establishment of cage culture in rivers? 4.0  
(c) Discuss credit and insurance facilities to enhancement of the cage aquaculture in rivers. 4.0
6. (a) "Cooperative act as an autonomous organization"- Justify. 2.0  
(b) Write down the positive and negative effects of participatory management. 4.0  
(c) Discuss the social issues of participatory management 4.0

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### Department of Fisheries Resource Management

Master of Science in Fisheries Resource Management, July-December Semester Final Examination'  
2019

Course No: **CBM-502 (Elective)**, Course Title: **Community Based Fisheries Management**

Total Marks: 40, Time: 2 hours

*Answer any 4 (four) of the following questions. Figure in the right margin indicate full marks. Draw essential diagrams in answering.*

1. a) What is bio-regional management? Write its importance. **3.0**  
b) Discuss the relevance of community based fisheries management (CBFM) among the low income earning communities in Bangladesh. **7.0**
2. a) Illustrate CBFM modelling in coastal fishers' communities of Bangladesh. **3.0**  
b) Discuss the different extents of CBFM implications along with their feasibilities and shortcomings. **7.0**
3. a) What is culture based fishery? – Explain. **3.0**  
b) Discuss the linkage between social and economic impacts of CBFM. **7.0**
4. a) Enlist the factors affecting CBFM. **3.0**  
b) Write in details about the distribution and allocation of jobs among different members portraying the significance of effective functioning of CBFM. **7.0**
5. a) Briefly describe the trans-boundary effects among different communities in the light of CBFM. **3.0**  
b) How can you mitigate conflicts among stakeholders while running CBFM? - Explain with relevant examples. **7.0**

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

2019

Course No: **FBI-502 (Compulsory)**, Course Title: **Fisheries Biodiversity**

Total Marks: 40, Time: 2 hours

*Answer any 4 (four) of the following questions. Figure in the right margin indicate full marks. Draw essential diagrams in answering.*

1. a) What is anthropogenic bio-diversification? 3.0  
b) Compare and contrast 'natural' and 'artificial' bio-diversification with respective merits and demerits. 7.0
  
2. a) Differentiate 'Maximum Sustainable Yield' (MSY) and 'Maximum Economic Yield' (MEY) with illustrations. 3.0  
b) Criticize and recommend the management of Saint Martin's Island in the light of eco-tourism. 7.0
  
3. a) What is mother fishery? - Give examples. 3.0  
b) "The judgment in favor of Bangladesh over the dispute for the delimitation of maritime boundaries among neighboring countries creates a new passage of exploring blue economy." – Justify the statement. 7.0
  
4. a) Elicit the principal reasons for the less exploitation of marine resources in Bangladesh. 3.0  
b) Illustrate the location of only MPA of Bangladesh in a map. Why such declaration has been made? – Explain from the view point of biodiversity conservation. 7.0
  
5. a) When would you stop sampling for biodiversity status assessment? Explain with a graph. 3.0  
b) Develop a mathematical model of Simpson's Index for biodiversity assessment in field situations. 7.0
  
6. a) Enlist the international agreements for globe's biological diversity conservation. 3.0  
b) How conservation of aquatic resources can meet the second goal of Sustainable Development Goals (SDGs)? – Discuss and explain from the perspective of Bangladesh. 7.0

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2019

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) How mangrove forests act as a 'bio-shield' to protect climatic disorders in surrounding areas? – Explain with examples. **3.0**  
b) Discuss the potential impacts of climate change on the ecology of *Sundarbans* mangrove forest. **7.0**
2. a) What are the effects of tidal fluctuation in the nutrient dynamics of mangrove ecosystem? **3.0**  
b) Plan and prepare an effective management approach for aquatic mangrove resources in Bangladesh. **7.0**
3. a) Enlist the major constraints of aquaculture in mangrove area. **3.0**  
b) "Banning on the development of aquaculture farms in mangrove areas can only be considered as a stopgap to face the challenges of mangrove conservation."- To what extent you agree or disagree with this statement in the context of Bangladesh. **7.0**
4. a) What are keystone components? - Provide examples. **3.0**  
b) Criticize the on-going threats of eco-tourism adjacent to *Sundarbans* mangrove forest and recommend by judging their merits. **7.0**
5. a) Why mangrove ecosystem is called a 'nutrient trap'? **3.0**  
b) Discuss the role of mangrove ecosystem as a natural habitat of aquatic fauna. **7.0**
6. a) How do mangroves contribute in the maintenance of planet's carbon cycle? **3.0**  
b) Discuss the significance of mangrove ecosystem as a tool of biological research. **7.0**