

**Chittagong Veterinary and Animal Sciences University**

**Faculty of Fisheries**

**Department of Aquaculture**

MS in Aquaculture, (January-June), 2018

Course Code: AFA-501 (T); Course Title: Advanced Freshwater Aquaculture (Theory)

Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) Elaborate the different constraints of aquaculture practices in Bangladesh. 6  
b) Give your suggestions to improve the aquaculture sector in our country. 4
2. a) How technological changes have influenced carp culture in Bangladesh? 6  
b) Discuss the positive and negative impact of exotic species over indigenous species. 4
3. a) Enlist some vulnerable, endangered and critically endangered fish species according to IUCN, Bangladesh. 5  
b) What will be the possible way to conserve them? 5
4. a) Why culture of non-traditional aquatic species is increasing day by day in our country? 4  
b) Discuss the potentiality of Cuchia culture in Bangladesh. 6
5. a) Do you think implementation of aquaculture regulations is important in our country? 6  
b) Give an account of national aquaculture regulations. 4
6. Briefly describe some water based aquaculture systems. 10

**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Fisheries**  
**Department of Aquaculture**  
MS in Aquaculture, (January-June), 2018  
Course Code: APA-501 (T); Course Title: Aquatic Parasitology (Theory)  
Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) Write down the characteristics of trematodes. 4  
b) Discuss Ich disease in fish. 6
2. Briefly describe one parasitic disease of crab and one parasitic disease of lobster. 10
3. a) What do you mean by host- parasite interactions? 2  
b) Discuss parasite's reactions to hosts in fish. 8
4. a) Define the followings – Prevalence, Intensity, Incidence, Suprapopulation. 4  
b) How parasitism and ecosystem energetics are correlated? 6
5. a) What is zoonosis? 2  
b) Discuss Diphyllbothriasis and give suggestions to prevent it. 8
6. a) Illustrate wet mount preparation in laboratory. 3  
b) Briefly describe argulosis and dactylogyrosis in fish. 7

**Chittagong Veterinary and Animal Sciences University**

**Faculty of Fisheries**

**Department of Aquaculture**

MS in Aquaculture, (January-June), 2018

Course Code: AHM-501 (T); Course Title: Aquatic Animal Health Management (Theory)

Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) What do you mean by withdrawal period and residual effect? 2
- b) Give a list of some antibacterial and antiparasitic drug with their doses. 3
- c) Discuss the effects of drugs on human health and aquatic environment. 5
2. a) Distinguish between probiotics and prebiotics. 2
- b) Illustrate the mechanism of action of probiotics. 5
- c) Mention some sources of probiotics. 3
3. a) Write down the necessity of quarantine in aquaculture. 2
- b) Discuss two infectious diseases of fish and shrimp. 8
4. a) What is TAADs? 2
- b) Give a list of TAADs. 3
- c) Discuss the impact of TAADs. 5
5. a) What are the fundamental principles of biosecurity? 3
- b) Describe the role of biosecurity for satisfactory growth performance in fish farming. 7
6. a) Write down the characteristics of an ideal vaccine. 2
- b) What are the principles of vaccination in fish? 2
- c) Illustrate the steps of vaccine production. 6

**Chittagong Veterinary and Animal Sciences University**

**Faculty of Fisheries**

**Department of Aquaculture**

MS in Aquaculture, (January-June), 2018

Course Code: APE-501 (T); Course Title: Aquafarm Planning and Engineering (Theory)

Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) What is evapotranspiration? 3  
b) Discuss the groundwater problems arising in connection with aquaculture structures. 7
2. Give a comparison between fin fish hatchery and shrimp hatchery in the aspect of design and construction. 10
3. a) Successful operation of an aquafarm depends much on proper planning – explain the statement. 5  
b) Which factors are important during planning and designing of an aquafarm? 5
4. a) Diagrammatically show the fish marketing scenario in Bangladesh. 6  
b) Why quality degradation during transportation is a great problem in our country? 4
5. a) Write down the importance of waste and hygiene management in aquaculture. 3  
b) Briefly describe the waste management process in aquaculture. 7
6. a) What are the major aquaculture systems? 2  
b) Discuss the hydrological aspects of different aquaculture systems. 8

**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Fisheries**  
**Department of Aquaculture**  
MS in Aquaculture. (January-June), 2018  
Course Code: APH-501 (T); Course Title: Aquatic Pharmacology (Theory)  
Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) What is pharmacology? 2
- b) Write down the branches of pharmacology. 2
- c) Discuss the importance pharmacology in aquaculture. 6
2. a) What are the criteria for selection of a drug? 3
- b) Explain the effects of abuse of aquadrugs on aquatic environment. 7
3. a) What do you mean by pharmacodynamics? 2
- b) Write in brief drug receptor interaction. 4
- c) What are the factors affecting dose and action of drugs? 4
4. a) Explain the mechanisms of drug action. 3
- b) Briefly discuss the pharmacokinetic process. 7
5. a) What do you mean by drug resistance? 2
- b) How bacteria become drug resistant? 8
6. Briefly describe the safety issues of fish medicines and drug laws. 10

**Chittagong Veterinary and Animal Sciences University**  
**Faculty of Fisheries**  
**Department of Aquaculture**  
MS in Aquaculture, (January-June), 2018  
Course Code: AQN-501 (T); Course Title: Aquaculture Nutrition (Theory)  
Full Marks 40; Time 2 hour

Answer any 4 from the followings. Figure in the right margin indicate full mark of the questions.

1. a) Nutrition plays a great role in modern aquaculture - explain. 4  
b) Discuss the dietary nutrient specification for Indian major carps. 6
2. a) Write down the nutritional requirements of common carp in different life stages. 5  
b) Discuss protein digestibility in fish. 5
3. a) Distinguish between apparent nutrient digestibility and true nutrient digestibility. 3  
b) Enumerate the role of different digestive enzymes in fish. 7
4. a) Briefly describe the energy balance equation and its use in aquaculture. 6  
b) Illustrate the energy utilization in fish. 4
5. Discuss the importance of broodstock and larval nutrition in aquaculture. 10
6. a) Elaborate the nutritional requirement in shrimp for better production. 7  
b) How will you minimize the nutritional diseases in fish and shrimp? 3

# Chittagong Veterinary and Animal Sciences University, Chittagong

## Faculty of Fisheries

### Department of Fisheries Resources Management

Master of Science in Fisheries Resource Management, January-June Semester Final Examination'  
2017

Course No: **RCD-501 (Compulsory)**, Course Title: Research Methods, Concept and Design

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 do you formulate objectives in a fisheries research? **2.0**  
b) Which one is more important in a research process between 'execution' and 'planning'? – **3.0**  
Explain.  
c) Write down the scopes of field research in Chittagong region of Bangladesh. **5.0**
2. a) How many samples are suitable for an authentic research? Explain with an example. **2.0**  
b) Why do you calculate 'standard error' while collecting samples for a research? **2.0**  
c) Give a detail outline on Student's t-test in the data analysis of a research. **6.0**
3. a) How do you graphically represent your obtained results? **3.0**  
b) Provide a detail on appropriate reference write-up in a thesis. **7.0**
4. a) Why reconnaissance survey is important in socio-economic assessment? **3.0**  
b) Why conducting 'census' is impractical in research process? **2.0**  
c) Obtain a large sample confidence interval that suits the parametric nature of a population. **5.0**
5. a) What are the fundamental parts of a research proposal? **3.0**  
b) Mention the significance of 'Budgeting' in conducting a sophisticated research. **4.0**  
c) How can you orient your readers by a catchy and attractive title? **3.0**
6. a) Compare the 'primary' and 'secondary' sources of data in a research process. **3.0**  
b) When do data analysis become successful? **3.0**  
c) How can you overcome the weakness in participation? **4.0**