

KHULNA UNIVERSITY

School: Life Science **Discipline:** Fisheries and Marine Resource Technology Discipline **Program:** BSc in Fisheries (Honours)

Year: 3rd **Term:** 1st **Examination year:** 2025 **Session:** 2024-2025

Course code: 0831 06 FMRT 3101 **Course Title:** Coastal Aquaculture and Mariculture

Total Marks: 60 **Time:** 3.0 hrs **Credit:** 03

*The parentheses at the end of the questions represent the level of Bloom's cognitive domain and course learning outcomes.
*The figures in the margin indicate full marks. The questions are of equal value.
*Use a separate answer script for each section.

SECTION-A

There are **FOUR** questions in this section. Answer any **THREE** questions

- Q.1** a) Compare coastal aquaculture with mariculture. [L2; CLO1,2] 03
b) Mention the four main objectives of coastal aquaculture and mariculture. [L5; CLO1,2] 02
c) As a fisheries student, suggest probable recommendations for improving coastal aquaculture and mariculture in Bangladesh. [L3; CLO1,2] 05
- Q.2** a) How will you design and construct facilities to establish coastal aquaculture and mariculture in the intertidal zone and the open sea? [L1,6; CLO1,2] 04
b) Explain the term GIS. Enumerate the applications of GIS in coastal aquaculture. [L2; CLO2] 04
c) What are the considerable issues in preparing a cost-benefit analysis in aquaculture? [L4; CLO3] 02
- Q.3** a) List two commercial marine fin fishes, crustaceans, and mollusks with their common and scientific name. [L1; CLO1,3] 03
b) Explain the semi-intensive shrimp culture system with special reference to farm preparation, stocking, feed and feeding, water quality, health management, and regular sampling. [L5; CLO3] 05
c) In pond preparation, bleaching powder is applied at a dose of 50 ppm. How much bleaching power is needed in a 0.5-hectare pond at a depth of 1.5 meters? [L1; CLO1,2] 02
- Q.4** a) Fish nursing is a prerequisite before stocking a culture pond. Justify the statement. [L1,4; CLO1,2] 03
b) What are the limitations of crab culture in the coastal region of Bangladesh? [L1; CLO3] 02
c) Discuss the culture technique of sea bass fish with special reference to farm preparation, stocking, feed and feeding, water quality, health management and cost benefit analysis. [L6; CLO1,4] 05

SECTION-B

There are **FOUR** questions in this section. Answer any **THREE** questions

- Q.5** a) Differentiate between clonal and non-clonal seaweed. [L4; CLO3] 03
b) Which type of structure is required for line culture, net culture, and suspended rope culture of *Caulerpa racemose*? [L3; CLO3] 04
c) Write down five points on the prospects of open water stocking and ranching in Bangladesh. [L4; CLO4] 03
- Q.6** a) Mention the available pearl producing mollusks in Bangladesh. [L1; CLO3] 03
b) Compare the different implementation methods of nuclei for pearl culture. [L4; CLO3] 04
c) Both genetic and environmental parameters impact pearl quality. Explain this statement. [L4; CLO3] 03
- Q.7** a) Is mangrove-shrimp aquaculture feasible in the southwestern region of Bangladesh? What benefits may farmers get from the silvofishery system? [L5; CLO4] 04
b) Compare among the integrated, associated, and separated IMS systems. [L4; CLO4] 06
- Q.8** a) Mention the ten major design parameters for RAS. Describe any two of those. [L3; CLO4] 04
b) What are the reasons and solutions for the increasing turbidity and TAN levels in RAS? [L4; CLO4] 03
c) Which parasites are common in RAS, and what are the sources of contamination? [L2; CLO4] 03