UNIVERSITY OF RUHUNA

FACULTY OF FISHERIES AND MARINE SCIENCES & TECHNOLOGY

Academic Year 2022/23

Bachelor of Science Honours in Fisheries and Marine Sciences Degree

Level III Semester I Examinations – April/May 2024

FAQ 3112: Basic Economics for Aquaculture and Fisheries **Time: 1 ½ hours**

Answer question 1 and any other two questions

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1. (a) What are the factors influencing the supply of a commodity in the market? ***(05 Marks)***

(b) What are the factors influencing the demand for a commodity in a market? ***(05 Marks)***

(c) Prove that the Marginal Cost (MC) is equal to Marginal Revenue (MR) at the profit maximizing level of the production. ***(05 Marks)***

(d) Prove that the Marginal Cost (MC) is Equal to Average Cost (AC) when the average cost is the lowest. ***(05 Marks)***

(e) What are the conditions to be satisfied in a perfect competitive market for a commodity? ***(05 Marks)***

(f) What are the theories to be considered in addressing the question of what to produce using available limited resources? ***(05 Marks)***

(g) What are the reasons for developing a monopolistic market for a commodity? ***(05 Marks)***

(h) What are the factors influencing the rate of extraction of non-renewable natural resources from coastal and marine ecosystems? ***(05 Marks)***

2. (a) What are the factors influencing the demand for durables according to the Nerlovian Stock Adjustment Model? ***(10 Marks)***

(b) Develop the Nerlovian Stock Adjustment Model for the demand for durables and explain the impact of the coefficients of the model for the demand for food in the economy. ***(20 Marks)***

3. (a) Using appropriate diagrams, explain the different stages of production function. ***(15 Marks)***

(b) Explain how the optimal level of production is selected from the production functi ***(15 Marks)***

4. (a) Using appropriate illustrations, explain the concepts of (i) Natural Equilibrium, (ii) Maximum Biological Yield, (iii) Maximum Sustainable Yield, (iv) Maximum Economic Yield and (v) Resource Rent. ***(20 Marks)***

(b) Briefly discuss the reasons for difficulties to apply the theories of fisheries economics managing fisheries sector of Sri Lanka. ***(10 Marks)***

5. (a) What are the assumptions in Linear Programming? ***(10 Marks)***

(b) Animal feed has to be formulated to fulfill the daily requirements of protein, fats and CH at the minimum cost. There are four different ingredients X_1, X_2, X_3 and X_4. Composition and the prices of ingredients are given below. Develop equations (Objective function resource constraints and non-negativity restraints for Linear programming) for the abov ration. ***(20 Marks)***

	Composition per unit			Unit price
Food	P	F	CHO	Rs.
X_1	3	2	6	45
X_2	4	4	4	40
X_3	8	7	7	85
X_4	6	5	4	65
Minimum requirements	800	200	700	

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