UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE GENERAL DEGREE LEVEL III (SEMESTER II)
EXAMINATION – JANUARY 2022

SUBJECT : Zoology **Time: 01½ hours**

COURSE UNIT : *ZOO 3223 – Fisheries & Aquaculture*

Answer **the Question 1** and **two** other questions only.

Illegible handwriting would be penalized.

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1. **Answer all parts.**

Briefly describe the following.

(i). Advantages and disadvantages of using demand feeders in commercial fish farms.

(ii). Name the three factors that interact to cause a disease condition in fishes and explain their respective roles.

(iii) Mark and recapture methods in estimating the size of a fish. population

(iv). Factors that should be considered in diet formulation in commercial aquaculture.

(40 minutes) ***(40 marks)***

2. **Answer both parts**

a). Rice-fish culture is considered as an environmentally friendly aquaculture method. **Briefly discuss major points** on how farmer gains environmental sustainability and optimum economic benefits through the rice-fish culture method.

b). Briefly explain why water is considered as the key factor when selecting a site for fish culture.

(25 minutes) ***(30 marks)***

3). Giving suitable examples, briefly describe the environmental impacts of shrimp farming.

(25 minutes) ***(30 marks)***

4). Table 1. shows the catches and efforts of a Sri Lanka fishing fleet for a period of 05 consecutive years. The effort is a measure of the number of days the fleet is at sea and the size and efficiency of the vessels. Assume the same vessel was used for sampling in consecutive years. Describe how the **population size** could be estimated using the given data.

All the theoretical explanations and calculations are expected.

Graphs drawn into scale not needed.

Based on your calculations suggest possible explanations for the changes in the catch over the five- year period

Table 1

year	catch/ tonnes	fishing effort
1	53 940	17.4
2	127 050	38.5
3	164 840	63.4
4	226 520	80.9
5	136 800	91.2

(25 minutes) ***(30 marks)***

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