



Index Number:

FACULTY OF FISHERIES AND MARINE SCIENCES & TECHNOLOGY

Bachelor of Science Honours in Marine and Freshwater Sciences Degree

2023/2024, Level II, Semester-I Examination, Oct/Nov/Dec- 2024

LIM 2123: Theoretical Ecology and Ecological Modelling

Time: 2 hours

Part A

Answer All Questions

Part B

Answer any **three (03)** questions.

1. Develop a discussion on "Predictable flood pulsing favors ecosystem functioning and adaptation of organisms".
(50 Marks)
2. Competition is one of the important ecological interactions among organisms in the natural environment.
 - a. Classify competition and provide examples for each of those categories from the aquatic ecosystems.
(10 Marks)
 - b. List different forms of strategies available in nature to minimize the competition
(10 Marks)
 - c. Describe **any two** of the strategies mentioned previously (under section b) with suitable examples.
(30 Marks)
3. Niche concept is considered important in ecological studies.
 - a. Differentiate the "fundamental niche" and "realized niche".
(20 Marks)
 - b. Hypothesize how pH value in water decides the niche of a fish species.
(30 Marks)
4. Write short notes on the following.
 - a. Adaptations of macroinvertebrates to live in headwater streams
 - b. Nutrient spiraling
 - c. Zonation of lentic ecosystems
 - d. Compartments in food webs
 - e. Bottom-up trophic cascade

(10 x 5 = 50 Marks)

@@@@@@@@@@@@