

University of Ruhuna- Faculty of Technology
Bachelor of Biosystems Technology Honours Degree
Level 1 (Semester II) Examination, November / December - 2025
Academic year 2023/2024

Course Unit: BST 1262 - Introduction to Fisheries Biology (Theory)

Duration: 1 hour and 30 minutes

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Answer three (03) questions only

Question 01 (100 marks)

- I. Define the term *fishery* and distinguish *capture* and *culture* fisheries. **(20 marks)**
- II. List **four (04)** major morphological characteristics that clearly distinguish cartilaginous and bony fish. **(20 marks)**
- III. Discuss the importance of taxonomic and morphological identification of fish species in sustainable fisheries management, highlighting both advantages and limitations of relying on morphology-based approaches. **(60 marks)**

Question 02 (100 marks)

- I. Outline the major developmental stages of life cycle of fish. **(20 marks)**
- II. Mention **one (01)** characteristic feature of each developmental stage mentioned above. **(20 marks)**
- III. "Success of modern aquaculture largely depends on understanding fish embryology and larval development". Discuss how knowledge of fish development can be applied to aquaculture. **(60 marks)**

Question 03 (100 marks)

- I. Differentiate between *shoaling* and *schooling* behaviors in fish. **(20 marks)**
- II. Briefly describe the main types of fish migration and give one example for each. **(20 marks)**
- III. "Fish migrations are complex and energetically demanding processes that require precise physiological, morphological, and behavioral adaptations." Critically evaluate the adaptations that enable fish to undertake long-distance migrations across different aquatic environments. **(60 marks)**

Question 04 (100 marks)

- I. Differentiate the terms of *stock* and *unit stock*. **(20 marks)**
- II. Briefly describe **four (04)** biological techniques used to identify different fish stocks within a species. **(20 marks)**
- III. Critically evaluate how the comprehensive knowledge of fish population dynamics and stock assessment contributes to the design of effective fisheries management strategies and compare the advantages of *state*, *community-based*, and *co-management* approaches. **(60 marks)**

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