



University of Ruhuna- Faculty of Technology

Bachelor of Biosystems Technology

Level 1 (Semester II) Examination, November/December 2025

Academic year 2023/2024

Course unit: BST 1253 Biology II (Theory)

Duration : 2 hours

Directions to Candidates

- Answer **ONLY FOUR (04)** questions.
- Use the given booklet for answering the questions.
- Begin each answer on a new page.
- Last question will be removed without marking if more than four questions are answered

Question 01

- i. The following question is about the structure and function of permanent plant tissues. Complete the table below. (40 marks)

Characteristic	Parenchyma	Collenchyma	Sclerenchyma
Nature of cell at maturity
Cell wall composition and thickness
Cell shape
Main function
Location

- (ii) (a) Why food transport is bidirectional while water transport is unidirectional? (40 marks)

- (b) Give one real-life agricultural example where this difference is important. (20 marks)

Question 02

- i. Fill the given table regarding fungi, protista and bacteria (Write short answers only (40 marks)

	Bacteria	Fungi	Protista
Cell structure
Role in eco system
Reproduction
Habitant
Role in ecosystem

- ii. Discuss the importance of microbial fermentation in food industry (60 marks).

Question 03

- i. Fill in the following table using your knowledge of microbial groups responsible food spoilage. (40 marks)

	Bacteria	Molds	Yeast
Harmful water activity level
Suitable pH range for food spoilage
Two signs of spoilage
Example

- ii. Discuss the uses of microbiology in agriculture sector. (60 marks)

Question 04

Discuss the importance of knowledge of animal physiology for a biosystem technologist. (40 marks)

Question 05

- i. List the key components involved in maintaining healthy blood glucose levels (40 marks).
- ii. Explain the role of each component and describe how this balance can be altered (60 marks).