



University of Ruhuna- Faculty of Technology

Bachelor of Biosystems Technology

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

Academic year 2023/2024

Course Unit: BST1212 - Information Technology II (Written)

Duration: 1 hour and 30 minutes

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This question paper contains 03 pages, including this instruction page.

-Relevant Instructions

1. The medium of this examination is English.
2. This is a closed-book examination.
3. This Examination consists of three (03) questions that are given equal marks.
4. You must answer all three (03) questions in this examination.

Question 1

(100 marks)

a) Define a *Database Management System (DBMS)*. Give two distinct examples. (10 marks)

b) Define the following *database users*:

- I. Actors on the Scene (5 marks)
- II. Workers Behind the Scene (5 marks)

c) What are the *core functionalities* that a typical DBMS provides users and applications? List **four (04)** functionalities. (12 marks)

d) Explain the difference between *Data Definition Language (DDL)* and *Data Manipulation Language (DML)*. (10 marks)

e) Write *SQL statements* for the following:

- I. Create a table called "**Employee**" with columns: EmployeeID (integer, primary key), Name (varchar 50), Department (varchar 30), and Salary (decimal). (10 marks)
- II. Update the salary of employees in the 'IT' department by 10%. (10 marks)
- III. Delete all records where the salary is less than 10000. (10 marks)

f) Explain the following *SQL clauses* with their purposes:

- I. WHERE (4 marks)
- II. ORDER BY (4 marks)
- III. GROUP BY (4 marks)

g) Briefly describe **two (02)** key activities in the *database design process* and list **two (02)** *database objects* that can be created in MS Access. (16 marks)

Question 2

(100 marks)

a) Define *programming language* and explain its importance for computers. (10 marks)

b) Describe the following *generations of programming languages*:

- I. First Generation Languages (5 marks)
- II. Second Generation Languages (5 marks)
- III. Third Generation Languages (5 marks)

c) What is the difference between *traditional programming languages* and *object-oriented programming languages*? (10 marks)

d) What are the **three (03)** major types of tools used in website development? Give **two (02)** examples of each. (15 marks)

e) Write the *complete HTML code* to create a simple web page that includes the following elements:

- A title "My Portfolio"
- A heading "Welcome to My Page"
- Two paragraphs of text as "This is the first paragraph" and "This is the second paragraph".
- An unordered list with three items: "Web development", "Programming", and "Graphic Design". (30 marks)

f) Explain the purpose of the following *HTML elements*:

- I. <head> and </head> (5 marks)
- II. <body> and </body> (5 marks)
- III.
 and </br> (5 marks)
- IV. <p> and </p> (5 marks)

Question 3

(100 marks)

a) Define *Statistics* and explain its importance in research. (10 marks)

b) List **five (05) real-life applications where** statistics plays a vital role. (10 marks)

c) Explain the following *types of variables*:

- I. Categorical Variables (6 marks)
- II. Numerical Variables (6 marks)

d) Differentiate between:

- I. *Nominal* and *Ordinal* variables (10 marks)
- II. *Discrete* and *Continuous* variables (10 marks)

e) What is *IBM SPSS Statistics*? Explain its main purpose. (10 marks)

f) Briefly explain the following *measures of central tendency*:

- I. Mean (6 marks)
- II. Median (6 marks)
- III. Mode (6 marks)

g) List **two (02) key strengths and two (02) weaknesses of using SPSS** for statistical analysis.

(20 marks)

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