



MANICALAND STATE UNIVERSITY OF APPLIED SCIENCES

FACULTY OF ENGINEERING, APPLIED SCIENCES AND
TECHNOLOGY

DEPARTMENT: COMPUTER SCIENCE AND INFORMATION SYSTEMS

MODULE: VISUAL PROGRAMMING

CODE: INSY214

SESSIONAL EXAMINATIONS

APRIL-2024

DURATION: 3 HOURS

EXAMINER: MR T.S MUWANI

INSTRUCTIONS

- 1. Answer ALL questions in Section A*
- 2. Answer Any three (3) questions in Section B*
- 3. Start a new question on a fresh page*
- 4. Total marks 100*

Additional material(s): None

SECTION A

Question 1

- Explain any four access modifiers used in C# programming. [10 marks]
- Explain any three advantages of using Methods in writing programs. [3 marks]
- Explain the term Console in C# programming. [2 marks]
- Write a program using the **while loop** to find the sum of the numbers from **1** to **n**. The number **n** is read from the console. [5 marks]
- Using a code explain the practical application of the selection **switch-case** statement. [10 marks]
- Illustrate any five components that make up a C# program structure. [10 marks]

SECTION B

Question 2

- Using the program interface below, write a program that asks for the limit numbers to be captured and shows total occurrences of the number 1 as shown. [10 marks]

```
Enter the Limit :
5
Enter the Numbers :
11
23
4
6
9
Number of 1's in the Entered Number :
0
```

- Using a Windows application, write a program that obtains two numbers from the user and swaps the numbers using a temporary variable. Consider the following interface: [10 marks]

The screenshot shows a Windows application window with the title "Swapping Two Numbers Using Temporary...". The interface contains the following elements:

- Enter First Number:** A text box containing the value "34".
- Enter Second Number:** A text box containing the value "68".
- Swapped Numbers:** A container with two text boxes:
 - First Number:** A text box containing the value "68".
 - Second Number:** A text box containing the value "34".
- Swap:** A button located at the bottom center of the interface.

Question 3

- a) Implement the **if...else...if** statement to design a calculator menu-driven program as shown on the output and add functionality. [10 marks]

```
file:///c:/users/windows10/documents/
Calculator
-----
1.Add
2.Subtract
3.Multiply
4.Divide
Enter Choice(1-4):1
Enter A:23
Enter B:12
Sum = 35
_
```

- b) Write a program that obtains the Nth number from the user and calculates its sum until the Nth number. [10 marks]

Question 4

Study the interface below and write a program that determines the factors of a number entered by the user. [20 marks]

```
Enter the Number : 27
The Factors are :
1
3
9
27
```

Question 5

Using examples, explain loop constructs used in the C# language. [20 marks]

END OF EXAMINATION!