

## 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**

### **Ouestion 1**

- a) Explain any four access modifiers used in C# programming.
- [10 marks] b) Explain any three advantages of using Methods in writing programs.
- c) Explain the term Console in C# programming.
- 2 marks d) 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]
- e) Using a code explain the practical application of the selection switch-case statement. [10 marks]
- f) Illustrate any five components that make up a C# program structure.

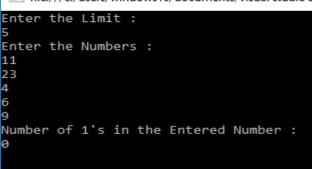
[10 marks]

[3 marks]

#### **SECTION B**

### **Question 2**

a) 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 [10 marks] shown.

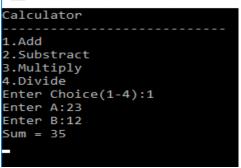


b) Using a Windows application, write a program that obtains two numbers from the user and swaps the numbers using a temporary variable. Consider the following interface: [10 marks]

🚪 Swapping Two Numbers Using Temp	oorary —		$\times$
Enter First Number:	34	٦	
Enter Second Number:	68		
Swapped Numbers			
First Number:	<i>68</i>		
Second Number:	34		
Swap			
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## **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]



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!**