



PIONEER INTERNATIONAL UNIVERSITY

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UNIVERSITY EXAMINATIONS

ACADEMIC YEAR: 2021/2022

SEMESTER: JAN-APRIL 2022

CODE: BSIT 2131

UNIT: Object Oriented Programming (C++)

DATE: APRIL 2022

TIME: 2 HOURS

IMPORTANT NOTICE !!!

The following are the possible consequences if found guilty of an Examination Offence:

- a) Expulsion from the University.**
- b) Academic Leave.**

INSTRUCTIONS: Answer question one (compulsory) and any other two questions.

QUESTION ONE (30 MARKS)

- a. Using appropriate examples discuss the following OOP concepts.
 - i. Class (3 marks)
 - ii. Inheritance (3 marks)
 - iii. Abstraction (3 marks)
 - iv. Encapsulation. (3 marks)
 - v. Polymorphism. (3 marks)
- b. Write programs using any type of loops (i.e. for loop, while loop, do while loop) to find the sum of first n natural numbers (5 marks)
- c. Write a program using a class called **MyClass** that consist of a main method and asks the user to input an integer and the method returns whether it's even or odd (5 marks)
- d. Write a class having two private variables and one member function which will return the area of the rectangle. (5 marks)

QUESTION TWO (20 MARKS)

- a. Using appropriate examples discuss types of comments support by C++ language. (5 marks)
- b. Using relevant examples write two ways of declaring variable in C++ language. (5 marks)
- c. Using appropriate examples, discuss the scope of global and local variable in C++ language. (5 marks)
- d. Write a C program to find the sum of first 10 natural numbers (5 marks)

QUESTION THREE (20 MARKS)

- a. List down five control flow structures supported by C++ language. (5 marks)
- b. Using relevant examples, write the syntax for each of the control flow structure above in A. (5 marks)
- c. Write a program to demonstrate the two ways we define functions that belongs to a class in object oriented programming i.e. inside class definition and outside class definition (10 marks)

QUESTION FOUR (20 MARKS)

- a. Write a C++ program that will convert a text to a file. (10 marks)
- b. Write a C++ program that will accept input from a user to capture FirstName, and LastName then display output in the console. (10 marks)

QUESTION FIVE (20 MARKS)

Write down C++ code to implement the following

- a. A C++ function that output an arithmetic modulus. (5 marks)
- b. A C++ program that open a file display the content in console. (5 marks)
- c. A C++ program that implements inheritance. (10 marks)