KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
FIRST YEAR, SECOND SEMESTER EXAMINATION
FOR THE DIPLOMA IN BUSINESS INFORMATION TECHNOLOGY
DIT 1006 – OBJECT ORIENTED PROGRAMMING

Date: 17TH APRIL 2022
Time: 8:30AM – 10:30AM

INSTRUCTIONS TO CANDIDATES
ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)
a) Object-oriented programming is widely used. State the advantages of Object-oriented programming over procedural programming. (4 Marks)
b) describe the two ways to define functions that belongs to a class (4 Marks)
c) Highlight the general rules for naming variables are: (4 Marks)
d) C++ contains different types of operators and logical operator is on of them which is used to determine the logic between variables or values. Describe the operators that make up the logical operators (6 Marks)
e) Explain the advantages of polymorphism (2 Marks)
f) By use of examples, explain two ways of using comments in C++ (4 Marks)
g) Explain the three-access specifier used in C++ (6 Marks)

QUESTION TWO: (20 MARKS)
a) Write a simple C++ program that the user must input two numbers. Then prints the sum by calculating (adding) the two numbers: (10 Marks)
b) By omitting Namespace, write a simple C++ program that displays "Hello World!" (5 Marks)
c) Explain the following C++ program, step by step (5 Marks)

QUESTION THREE: (20 MARKS)
a) C++ program uses a variety of data types, identify, explain and declare each data type (10 Marks)
b) Explain the different **types** of variables (defined with different keywords) used in C++, give example in each (10 Marks)

QUESTION FOUR: (20 MARKS)
a) Describe the different arithmetic operators used to perform common mathematical operations by use of examples (5 Marks)
b) Highlight the characteristics of constructors (5 Marks)
c) In C++, access specifiers define how the members (attributes and methods) of a class can be accessed. Identify and describe three access specifiers: (6 Marks)
d) Inheritance concept is grouped into two categories. Explain (4 Marks)

QUESTION FIVE: (20 MARKS)
a) Identify and explain the types of constructors (6 Marks)
b) State the two main types of polymorphism (4 Marks)
c) A high school student is unable to calculate the area of a cylinder, write a program that allows the student to enter the values and calculates the area (10 Marks)