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**KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**UNIVERSITY EXAMINATIONS, 2019/2020 ACADEMIC YEAR**  
**END OF SEMESTER EXAMINATIONS**  
**FOR THE DIPLOMA IN INFORMATION COMMUNICATION**  
**TECHNOLOGY**

**DIT 1006: OBJECT ORIENTED PROGRAMMING**

Date: 10<sup>th</sup> JULY, 2020  
Time: 2 Hrs.

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**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION 1 COMPULSORY (30 MARKS)**

- a) Explain the following concepts (10 Marks)
- i. Inheritance
  - ii. Polymorphism
- b) Discuss any five benefits of Object-Oriented Programming language (10 Marks)
- c) Contrast Object Oriented Programming and Procedural Programming (5 Marks)
- d) Using appropriate examples, discuss any four types of operators used in C++ programming. (5 Marks)

**QUESTION TWO (20 MARKS)**

- a) State the duties of a computer programmer in a corporate environment (6 Marks)
- b) Differentiate the meaning of the following operators as used in C++ programming (6 Marks)
- i. `||` and `!=`
  - ii. `N++` and `++N`
  - iii. `=` and `==`
- c) Explain the use of the following features in C++ programming (8 Marks)

- i. Semicolon
- ii. `#include <iostream>`
- iii. `/* . */`
- iv. `cout<<`

### **QUESTION THREE (20 MARKS)**

- a) Explain access specifiers used in C++ (6 Marks)
- b) Write a C++ program to find the area of a circle. (4 Marks)
- c) Explain any three features of Object Oriented Programming (6 Marks)
- d) Explain the various steps in program development (4 Marks)

### **QUESTION FOUR (20 MARKS)**

- a) Explain three benefits of inheritance as applied in OOP. (6 Marks)
- b) Write a C++ program to find the greatest out of three numbers. (4 Marks)
- c) Explain how you will declare and define an array name mark with 5 integer values (4 Marks)
- d) Explain the various steps in program development (6 Marks)

### **QUESTION FIVE (20 MARKS)**

- a) Using an illustrative example, differentiate between Do While and While loop control structures as used in C++ programming (6 Marks)
- b) Difference between Algorithm and Flowchart (6 Marks)
- c) Write a C++ program to find the area of a triangle. (8 marks)