MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

SECOND YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 103/ SST 202/ SIT 203: OBJECT ORIENTED PROGRAMMING 1

DATE: 26/9/2019 **TIME: 2:00 – 4:00 PM**

INSTRUCTIONS:

Answer Question **ONE** and any other **TWO** Questions.

QUESTION ONE [COMPULSORY, 30 MARKS]

a) Explain what is meant by the following terms:
   i) Structural programming
   ii) Procedural programming
   iii) Abstract data types
   iv) Typed language
   v) Untyped languages (15 marks)

b) Name and explain the major features of object- based programming languages.

(15 marks)

QUESTION TWO [20 MARKS]

a) Outline the structure of C++ and provide a code fragment to support your answer
(10 marks)

b) Define the following terms as used in in C++ Language.
   i) Keyword

ii) Constant
iii) Identifier
iv) Variable
v) Token (10 marks)

QUESTION THREE [20 MARKS]

a) What is an array? (2 marks)
b) Name and explain two applications of C++ programming language (4 marks)
c) Write a code program to calculate student average mark in C++ language (10 marks)
d) Name and explain two data types in C++ and show how they are declared (4 marks)

QUESTION FOUR [20 MARKS]

a) Outline two rules that must be considered when declaring a member function outside the class. (4 marks)
b) Write a code fragment using "if statement" to show how control occurs in C++ language (6 marks)

c) Explain the meaning of single inheritance and give a code fragment to support your answer. (10 marks)

QUESTION FIVE [20MARKS]

a) Differentiate between multiple inheritance and hierarchical inheritance (10 marks)

b) Explain the meaning and the work of a constructor in C++ language (6 marks)

c) Write a program to demonstrate the execution of constructor and destructors. (4 marks)