TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

DEPARTMENT OF BUSINESS ADMINISTRATION

UNIVERSITY EXAMINATION FOR:

BBIT Y1S2

EIT 4102: FUNDAMENTALS OF PROGRAMMING

END OF SEMESTER EXAMINATION

SERIES:APRIL2016

TIME:2HOURS

DATE:Pick DateMay2016

<u>**Instructions to Candidates**</u>
You should have the following for this examination
-Answer Booklet, examination pass and student ID
This paper consists of Choose No questions. AttemptChoose instruction.
Do not write on the question paper.

Question ONE

a) Provide definitions for the following terms/phrase.

    i.   System program
   ii.   Application program
  iii.   Programming
  iv.   Algorithm   [4 marks]

b) Identify three programming constructs   [3 marks]

c) Write a C program to check if a number is odd or even and print the number   [5 marks]

d) Name and describe four data types in C   [6 marks]

e) Outline the computer problem solving steps   [6 marks]

f) Write a C Program that prompts a user for a radius and calculates area and circumference of circle
                                      [6 marks]

Question TWO

a) What is a storage class? Outline four storage classes used in C   [5 marks]

b) Write a C program to perform basic arithmetic operations which are addition, subtraction, multiplication and division of two numbers. Numbers are assumed to be integers and will be entered by the user.

[5 marks]

c) Write a C program to print a pyramid pattern as shown   [10 marks]

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Question THREE

a) List four types of operators in C   [4 marks]

b) Identify the key elements of a program development environment (PDE)   [4 marks]

c) Write a program that stores a sentence entered by a user into a data file   [6 marks]

d) Write a C program that prompts a user for marks and prints A if mark is >=70, B if marks is >=60 and <=69, C if mark is >=50 and <=59, D if mark is >=40 and <=49 and F if mark is <40

[6 marks]

Question FOUR

a) Write an algorithm that reads in, displays and exchanges integer values of two variables

[4 marks]

b) Draw a flow chart and write the pseudo code for the algorithm in part a   [8 marks]

c) Implement the algorithm using C programming language.   [12 marks]

Question FIVE

a) Describe three variable scopes in C   [6 marks]

b) Write a C program that illustrates the use of the variables in part a   [6 marks]

c) Write a C program that calculates the factorial of any positive number n.   [8 marks]