THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT COMPUTER SCIENCE & INFORMATION TECHNOLOGY

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

SMA 2176: COMPUTER PROGRAMMING I

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: FEBRUARY/MARCH 2012
TIME: 2 HOURS

SECTION A (COMPULSORY)

QUESTION ONE (30 MARKS)

a) Briefly explain the following terms as used in Programming
       i)   Parameter passing
       ii)   Debugging   (4 marks)

b) Explain the following concepts as used in C programming
       i)   Structured programming
       ii)   Modular programming   (6 marks)

c) Write a short statement in C to distinguish the following concepts as used in C programming
       (i)   Preprocessor directives
       (ii)   Function definition
       (iii) Constant declaration   (6 marks)

d) Distinguish between the following types of statements as used in C programming

       (i)   Do…while and while statements
       (ii)   If..else and switch stamenent   (8 marks)

e) State any THREE features of C language (6 marks)

SECTION B (Answer any two questions)

QUESTION TWO

a) Design and write a C program that:
      (i) Has three integer variables (a,c)
      (ii)   Initializes them with values accepted as input
      (iii) Finds the largest value of the 2 values
      (iv) Displays the largest value with a message 'this is the largest value' (10 marks)

b) Briefly explain the meaning of the following in C programming
      (i) Float
      (ii) Stdio.h
      (iii)   Main
      (iv)Void
      (v) #clude (10 marks)

QUESTION THREE

a) Write the output of each of the following statements
    (i)   ((2==3)&&(2==2));
    (ii)   Printf("hellow world again/n/n");
    (iii)   Printf("%d%d%d",a,b,c);
    (iv)   Printf("%d,%d,%d",a,b,c);
    (v)   Printf("n/nxx/nxxxx/nxxxxx/nxxxxxx/n"); (10 marks)

b) Design and write a C program that inputs three different integers and does the following
      i)   Displays the 3 integers
      ii)   Displays the sum
      iii)   Displays the average
      iv)   Displays the product (10 marks)

QUESTION FOUR

a) Write the meaning of the following symbols in C Programming
    (i)   {
    (ii)   –
    (iii)   &&
    (iv)   !=
    (v)   # (10 marks)

b) Design and write C++ program that:

    (i)   Accepts a number between 1 and 7 as input
    (ii)   Displays the name of the Weekday corresponding to the number (10 marks)

QUESTION FIVE

Design and write a C Program that:

(i)   Accept radius and pi as input
(ii) Has a function called circle that takes in radius and returns the area of a circle
(iii) Displays the area of the circle   (20 marks)