TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY
(DICT J13)

ECS 2108: PROGRAMMING METHODOLOGY

END OF SEMESTER EXAMINATION

SERIES: APRIL 2013
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question One (Compulsory)

a) Name and briefly explain the **TWO** character sets used in C programming language. **(4 marks)**

b) C is a general purpose programming language. Explain **(2 marks)**

c) Using an example, explain the functionality of Modulo division (%) operator **(2 marks)**

d) Name and briefly describe any **FOUR** memory accessing operators **(4 marks)**

e) Outline F**OUR** identifier naming convention used in C programming language. **(4 marks)**

f) State and explain any **TWO** types of comments used in C programming language **(4 marks)**

g) What is the meaning of the term literal? **(2 marks)**

h) Name and briefly explain any **THREE** integer constants **(6 marks)**

i) State and briefly explain any **TWO** escape sequences used in C programming language. **(2 marks)**

Question Two

a) State and briefly describe any **THREE** advantages of a high level programming language. **(6 marks)**

b) Write a C program which accepts two integer inputs and computes their sum, average product and remainder and print them on the screen. **(9 marks)**

c) What is the use of #include directives in C programming language **(3 marks)**

d) Which is the most important function in C programming language **(2 marks)**

Question Three

a) What is the outcome of the program below? Specify al the output on the screen **(4 marks)**

```
#include <stdlib.h>
#include<stdio.h>
void main()
{ int a, b;
  Printf (“Enter two number ln”);
  Scanf (%d, a);
  Scanf(%d,b);
  Int sum = a + b;
  Int product = a * b;
  Printf (“product is %d” product)
  Printf (“sum is %d”, sum);
  Return 0;
  }
```

b) Define the meaning of the following terms: **(4 marks)**
(i) Function
(ii) Expression
(iii) Constant
(iv) Data type

c) Which arithmetic operators have high procedure? **(3 marks)**
d) Describe **TWO** ways to do a declaration of **TWO** character variables **(2 marks)**
e) Using suitable example, define format specifier as used in C programming language **(2 marks)**
f) What is hexadecimal number 32 in decimal? **(2 marks)**
g) Give the general form of the conditional operators as used in C programming language. **(3 marks)**

Question Four

a) Convert the following numbers to their equivalent **(4 marks)**
(i) 11101110 to decimal
(ii) 152 to binary

b) Describe any **FOUR** components of a computer system giving **TWO** examples of each component. **(4 marks)**

c) State the general form of the for statement as used in C programming language. **(2 marks)**

d) Differentiate between exit () function and return statement **(4 marks)**

e) Define the following terms as used in C programming language **(6 marks)**
(i) Variable
(ii) Compiler
(iii) Interpreter

Question Five

a) Define the meaning of the term software **(1 mark)**
b) Differentiate between a system software and an application software **(4 marks)**
c) Describe the fetch-decode-execute cycle **(6 marks)**
d) Differentiate between a high level programming language and low level programming language giving example in each case **(4 marks)**
e) Describe **TWO** types of programming languages. **(4 marks)**
f) Name any **TWO** types of memory **(1 mark)**