TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY (DICT 15J/S-EV)

ECS 2108: PROGRAMMING METHODOLOGY

END OF SEMESTER EXAMINATION
SERIES: APRIL 2015
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 (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

a) State any FOUR advantages of object oriented programming   **(4 marks)**

b) Explain any FOUR characteristics of a good programming language   **(8 marks)**

c) (i) Define the term "Programming Paradigm"   **(3 marks)**
    (ii) State any FIVE programming paradigms   **(5 marks)**

Question Two

a) Differentiate between "flow chart" and a "pseudo code"   **(4 marks)**

b) Describe any THREE types of programming errors   **(9 marks)**

c) Explain the importance of program testing   **(3 marks)**

d) State any FOUR basic elements of programming that are present in essentially all programming language   **(4 marks)**

Question Three

a) Briefly explain the following programming concepts: **(10 marks)**
    (i) Program
    (ii) Programming
    (iii)   Programmer
    (iv)Modules
    (v) Sub routines

b) (i) Define an algorithm   **(2 marks)**

    (ii) Explain any FOUR characteristics of a algorithm   **(8 marks)**

Question Four

a) Explain any TWO types of program documentation   **(6 marks)**

b) State the THREE approaches to debugging a software application   **(3 marks)**

c) Using suitable sketches, explain any THREE control structures   **(9 marks)**

d) State any TWO basic data types in C programming   **(2 marks)**

Question Five

a) Explain any TWO types of documentation   **(6 marks)**

b) Explain the differences between structural and object oriented programming   **(6 marks)**

c) Explain any FOUR flowchart symbols   **(8 marks)**