THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

HIGHER DIPLOMA IN BUILDING & CIVIL ENGINEERING

EIT 3110: COMPUTER PROGRAMMING

END OF SEMESTER EXAMIANTION

SERIES: APRIL 2012
TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions in **TWO** sections **A & B**
Answer question **ONE (COMPULSORY)** plus any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

SECTION A (COMPULSORY)

Question One (30 Marks)

a) Describe computer programming (3 marks)

b) Briefly describe the following computer languages stating the advantages and disadvantages of each.
   (i) Machine language
   (ii) Assembly language (12 marks)
   (iii) High level language

c) What are comments in computer programming? What purpose do they serve? (3 marks)
d) Describe any **THREE** factors considered during program specification (6 marks)
e) There are two basic kinds of programming: system and application. Briefly explain these **TWO** kinds giving suitable examples (6 marks)

SECTION B (Attempt any TWO sections)

Question Two (15 marks)

a) Briefly explain the following terms as used in computing (10 marks)
   (i) Operating system
   (ii) Compliers
   (iii) Assemblers
   (iv) Application programs
   (v) Device drivers

b) State **FIVE** factors to be considered when choosing high level languages (5 marks)

Question Three (15 marks)

a) Explain the functions of the following programs: (6 marks)
   (i) Assemblers
   (ii) Interpreters
   (iii) Compliers

b) State the difference in functionality between interpreters and compilers (4 marks)

c) Define algorithms and state any **THREE** properties of algorithms (5 marks)

Question Four (15 marks)

a) Using diagrams, identify any **FOUR** flow chart symbols (4 marks)

b) Briefly explain the following program development stages (8 marks)
   (i) Define the problem
   (ii) Design the program
   (iii) Code the program
   (iv) Code the program

c) Outline any **THREE** features of program specifications (3 marks)

Question Five (15 marks)

a) State any **TWO** merits and **TWO** demerits of high level languages (4 marks)

b) Explain the use of algorithms in computer programming (3 marks)

c) Draw a flowchart to find the sum of given N numbers (8 marks)