



# THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

*Faculty of Engineering & Technology*

DEPARTMENT OF COMPUTER SCIENCE

## ADVANCE CERTIFICATE IN INFORMATION TECHNOLOGY (ACIT)

END OF SEMESTER EXAMINATIONS

APRIL/MAY 2010 SERIES

### DATABASE MANAGEMENT & DATABASE III PROGRAMMING

TIME: 2 hours

#### INSTRUCTIONS TO CANDIDATES

This paper consists of **FIVE** questions.

Attempt Question **ONE** and any other **TWO** Questions.

ALL Questions CARRY EQUAL MARKS.

## SECTION A

### Question ONE (Compulsory)

- (a). Explain the term database management system. **(2 Marks)**
- (b). Explain the following as used in computerized databases.
- (i). Record
  - (ii). Field
  - (iii). Database structure
  - (iv). Data Item **(8 Marks)**
- (c). Explain the following database III commands:
- (i). MODIFY STRUCTURE
  - (ii). BROWSE
  - (iii). APPEND
  - (iv). EDIT **(8 Marks)**
- (d). State any **FIVE** advantages of Dbase management systems. **(5 Marks)**

## SECTION B

### Question TWO

- (a). Explain the following Dbase IV commands:
- (i). CREATE
  - (ii). USE
  - (iii). LIST
  - (iv). DELETE **(8 Marks)**
- (b). Explain any **FIVE** data security measures as applied in databases. **(9 Marks)**
- (c). Explain the functions of the following Dbase IV control center panels:
- (i). Create
  - (ii). Query
  - (iii). Forms **(6 Marks)**

### Question THREE

- (a). (i). Explain the term “Computer Program”. **(2 Marks)**

- (ii). Explain the features of fourth generation programming languages. **(8 Marks)**
- (b). Explain any **TWO** program design tools. **(4 Marks)**
- (c). Draw a program flowchart to read **THREE** integer values then compare them and display the largest. **(7 Marks)**
- (d). State any **TWO** disadvantages of machine programming language. **(2 Marks)**

**Question FOUR**

- (a). (i). Explain the term variable. **(2 Marks)**
- (ii). State the **FOUR** rules of creating variables in Dbase IV programming. **(4 Marks)**
- (b). Explain the following dbase IV relational operators.
  - (i). <
  - (ii). >
  - (iii). = >
  - (iv). < >**(8 Marks)**
- (c). Explain the following Dbase IV Programming Commands:
  - (i). SET DEBUG ON
  - (ii). INPUT
  - (iii). ACCEPT
  - (iv). WAIT**(8 Marks)**
- (d). State any other database management package. **(1Mark)**

**Question FIVE**

- (a). Write a Database IV program to calculate the area of a circle  
given:  $\text{Area} = \pi r^2$ . **(7 Marks)**
- (b). Write a Database IV program to read the length and width of a plot. Then read length and width of a house. The program should calculate time needed to cut grass at a rate of 2m/s<sup>2</sup>. **(10 Marks)**
- (c). State the **SIX** stages of program development cycle. **(6 Marks)**