



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

- Attempt any **THREE** Questions.
- ALL Questions **CARRY EQUAL MARKS.**

SECTION A

Question ONE

- (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 database management systems. **(5 Marks)**

Section B

Question TWO

- (a). Explain the following Database IV commands:
- (i). CREATE
 - (ii). USE
 - (iii). LIST
 - (iv). DELETE
- (8 Marks)**
- (b). Explain any **FIVE** data security measures (a). applied in databases. **(9 Marks)**
- (c). Explain the functions of the following database 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 of program flowchart to read **THREE** integer values them 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 Database IV programming. **(4 Marks)**
- (b). Explain the following Database IV relational operators.
- (i). <
- (ii). >
- (iii). = >
- (iv). < >
- (8 Marks)**
- (c). Explain the following Database 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 need 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^2 . **(10 Marks)**
- (c). State the **SIX** stages of program development cycle. **(6 Marks)**