THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of Jkuat)

Faculty of Engineering and Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION
TECHNOLOGY – DICT 10A
(YR 1 SEM 2)

ECT 2108: SYSTEMS ANALYSIS AND DESIGN

END OF SEMESTER EXAMINATIONS

SERIES: AUGUST/SEPTEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination
- *Answer booklet*

Answer question **ONE (COMPULSORY)** and any other **TWO** questions
This paper consists of **THREE** printed pages
Question 1 (Compulsory)

a) Define systems and its features (4 marks)

b) State the stages of SDLC (6 marks)

c) Define the levels of organizational information for management (6 marks)

d) Name the types of data flow diagrams (4 marks)

e) Briefly explain the following concepts used in information handling
   (i)   Input
   (ii)   Output
   (iii)   Processing
   (iv)   Files (8 marks)

f) State any **FOUR** fact finding techniques used during system analysis (2 marks)

Question 2

Explain the following techniques used in systems analysis stating one advantage and one disadvantage in each and their appropriate area of application (20 marks)

   (i)   Interviews
   (ii)   Questionnaires
   (iii)   Observation
   (iv)   Record inspection

Question 3

a) Explain any **THREE** roles of a system analyst (6 marks)

b) Describe the following stages in a systems development process (10 marks)
   (i)   Development and testing
   (ii)   Feasibility study
   (iii)   Project definition
   (iv)   System design
   (v)   Implementation

c) What motivates change of a system (4 marks)

Question 4

a) Define a database (2 marks)

b) Describe the following categories for database systems (6 marks)
   (i)   Hierarchical
   (ii)   Network
   (iii)   Relational
c) Define normalization (3 marks)

d) Describe the **THREE** normal forms of database normalization (9 marks)

Question 5

a) What is structured system analysis (2 marks)

b) Define iteration and sequence (4 marks)

c) What is entity life histories, stating its objectives and structure (8 marks)

d) Name the **SIX** systems analysis and design tools and techniques (6 marks)