THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION TECHNOLOGY – DIT 10M

ECS 2209: SYSTEM ANALYSIS & DESIGN III

END OF SEMESTER EXAMINATIONS

SERIES: DECEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
  - *Answer Booklet*
This paper consist of **FIVE** questions in **TWO** sections **A** & **B**
Answer question **ONE (COMPULSORY)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **THREE** printed pages

Question one 20 marks

a) Explain the purpose of a structured walkthrough   [4 marks]

b) Briefly describe the following design qualities in relation to system development.   [8 marks]
     i) Maintainability
     ii) Efficiency
     iii) Availability
     iv) Scalability

c) Differentiate between hard system thinking and soft system thinking   [4 marks]

d) With the aid of diagrams, state any **four** system flowchart symbols   [4 marks]

SECTION B (ANSWER ANY TWO QUESTIONS)

Question two 20 marks

a) With the aid of diagrams, describe the following conventional approaches to system development under the following subheadings.   [14 marks]

     i.   Framework type
     ii.   Basic principle of operation
     iii. Appropriate area of application
     iv.   Waterfall
     v.   Incremental

b) Explain why the following are considered to be good characteristics of a user interface.
     i) It should be responsive   [6 marks]
     ii) It should be consistent
     iii) It should be forgiving

Question three 20 marks

a) The below description is for a medical scheme.
No charges are reimbursed to the patient until the deductible has been met. Hospital visits are reimbursed at 80% and lab visits are reimbursed at 70%. Doctor's office visits are reimbursed at 90% for "participating physicians" or 50% for others. The question whether the doctor is a participating physician is only applicable for hospital visits or lab work. Construct a decision table to reflect the above information.   [15 marks]

b) "It is desirable that system modules are loosely coupled but highly cohesive". Shed more light in this statement and state why they are desirable features of a system   [5 marks]

Question four 20 marks

a) Identify any **three** people who should be available in a structured walkthrough and explain their roles.   [6 marks]

b) Explain the following categories of design methodologies   [6 marks]
    i) Data modeling
    ii) Process modeling
    iii) Photocopying

c) At what stage of system development do decision trees become handy tools? Explain your answer.   [3 marks]

d) Explain the relevance of decision tables as far as program development is concerned   (5 marks)

Question five 20 marks

a) State reasons why a system developer could consider using a: [5 marks]
    i) Application-based file design
    ii) Database file design

b) Explain the importance of system design   [3 marks]

c) Explain any **four** user interface design qualities that should be considered when developing a system.   [8 marks]

d) At the end of the design phase, a document is prepared to be given to the owners for consideration.
    i) What is the name of this document   [1 mark]
    ii) State any six contents of the document   [3 marks]