



TECHNICAL UNIVERISTRY OF MOMBASA

# Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY  
(DICT 14M – Y1 S2)

**EIS 2101: SYSTEMS ANALYSIS & DESIGN**

END OF SEMESTER EXAMINATION

**SERIES: DECEMBER 2014**

**TIME: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE (Compulsory)** and any other **TWO** questions  
Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

### **Question One (Compulsory)**

- a) Define the term “Information System” **(3 marks)**
- b) Distinguish between formal and information systems. **(12 marks)**
- c) Explain the different decisions made within an organization. **(5 marks)**

### **Question Two**

- a) Explain the term “Systems Development Life Cycle” **(2 marks)**
- b) State the fundamental principles of systems development. **(6 marks)**
- c) Explain the stages of the systems development life cycle (SDLC) **(12 marks)**

### **Question Three**

- a) An insurance company invites applications from motorists regarding insurance cover Applicants submit the following details:
- Name and Address
  - Number of accidents in the last ten years
  - Licence type (Provisional or Full)

The acceptance rules are as follows:

- (i) Motorists who are over 31 years old with no accidents in the last ten years and hold full licence are accepted for full cover.
- (ii) Motorists who are over 31 years old with no accidents in the last ten years and hold a provisional licence are accepted for third party cover.
- (iii) All others are rejected.

Construct a full limited entry decision table. **(14 marks)**

- b) Reduce the decision table above using the dash rule. **(4 marks)**
- c) State any **TWO** advantages of using decision tables. **(2 marks)**

### **Question Four**

- a) Define “functional decomposition” **(2 marks)**
- b) Explain the characteristics of the best functionality decomposed modules. **(6 marks)**
- c) Explain the advantages of functional decomposition. **(6 marks)**
- d) State and explain any **THREE** methods of cost benefit analysis. **(6 marks)**

### **Question Five**

- a) Define the term “System Flowchart” **(2 marks)**

b) Draw and name any five process symbols used to draw flowcharts. **(10 marks)**

c) Draw and name any FOUR symbols used in constructing data flow diagrams. (DFD's) **(8 marks)**