



TECHNICAL UNIVERISTRY OF MOMBASA

# Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY (DICT 14S/S-FT)

**EIS 2106: SYSTEMS ANALYSIS & DESIGN**

END OF SEMESTER EXAMINATION

**SERIES: APRIL 2015**

**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 informal 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
  - License 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 license 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 functionally 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)**

