MURANG'A UNIVERSITY COLLEGE

(A constituent College of Jomo Kenyatta University of Agriculture and Technology)

UNIVERSITY EXAMINATIONS 2015/2016

YEAR ONE SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

SCI 1107: SYSTEM ANALYSIS AND DESIGN

COURSE: DIT	**TIME: 2 HOURS**
DAY: THRUSDAY 2:00PM -4:00PM	**DATE: 29TH OCTOBER 2015**

INSTRUCTIONS: *Answer question one and any other two questions*

Question 1.

a. Define the following terms
  i. System
  ii. Sub system
  iii. Boundary
  iv. Environment   (4 Marks)

b. State and explain any three types of system maintenance as used in SAD   (6 Marks)

c. Explain any **THREE** constraints in analysis and design of systems   (6 Marks)

d. Describe FOUR roles of the system analyst in system development   (4 Marks)

e. Candidates are accepted for employment if qualifications and references are satisfactory and they pass the interviews. Where a candidate's references or the interview are both unsatisfactory, a job for probationary period is offered. In all other circumstances the candidates' application is rejected. Construct a decision table for this scenario (10 marks)

Question 2.

a. Define the term Data Flow Diagrams   (2 Marks)

b. With the aid of a diagram briefly explain the FOUR components of Data Flow Diagrams

(8 Marks)

c. Describe the two major components of Systems development (4 Marks)

d. Highlight the possible causes of project failures (6 Marks)

Question 3.

a) Distinguish between open and closed system (4 marks)

b) Explain the use of each of the following design tools (8 marks)

    i.   Structured charts

    ii.   Decision trees

    iii.   Decision tables

    iv.   Flow charts

c) An important decision to be taking with regard to the regard to the implementation of a system is the method of changeover to be adopted. Describe THREE methods of change over available, and highlight the advantages of each (6 Marks)

d) Explain the importance of system scheduling (2 Marks)

Question 4.

a. Distinguish between logical and physical design. (2 marks)

b. Highlight the two program testing techniques (2 Marks)

c. Explain the elements of a system (5 Marks)

d. Describe how the prototyping software development methodology works (3 marks)

e. Discuss the stages of a Traditional SDLC (8 Marks)