Machakos University College

Examination for Diploma in ICT Module 1 Semester 2

SYSTEMS ANALYSIS AND DESIGN

Date: /11/2014   **Time**: 2 HOURS

Instructions

Attempt question one in section A which is compulsory and any other two questions in section B.

SECTION A

QUESTION ONE (30 marks`)

(a) In the context of information systems development, illustrate the significance of systems documentation.   (5 marks)

(b) Describe three fact finding techniques used during systems development cycle.   (9 marks)

(c) Describe three basic approaches to systems implementation.   (6 marks)

(d) Contrast between systems analysis and systems design.   (6 marks)

(e) Describe two types of systems maintenance.   (4 marks)

SECTION B

QUESTION TWO (20 marks)

(a) Define the term information system.   (2 marks)

(b) Given the code 4142 find the check digit using modulus II   (6 marks)

(c) (i) Explain cost-benefit analysis as used in systems analysis.   (3 marks)

   (ii) Illustrate the importance of cost-benefit analysis to the systems analyst in SDLC. (3 marks)

(d) Define the term prototyping in relation to systems design.   (2 marks)

(e) State two advantages and two disadvantages of prototyping.   (4 marks)

QUESTION THREE (20 marks)

(a) Analyze the reasons that may lead to the resistance of the introduction of a new information system.   (6 marks)

(b) Explain how an organizatinon can overcome staff resistance.   (6 marks)

(c) Change occurs in many ways and overcoming change is a management responsibility.

Describe four factors that bring about change in an organisation. (8 marks)

QUESTION FOUR (20 marks)

(a) Distinguish between open and closed systems. (4 marks)

(b) Outline four contents of terms of reference in a systems study (4 marks)

(c) (i) Define the term feasibility study as used in systems investigation. (2 marks)

(ii) State four objectives of a feasibilty study. (4 marks)

(iii) List six contents of a feasibilty study report. (6 marks)

QUESTION FIVE (20 marks)

(a) Explain how the tools below are used to assist the systems analyst in systems development.

(i) System flowchart (3 marks)

(ii) Data Flow Diagram (3 marks)

(iii) Decision table (3 marks)

(b) When invoicing customers, the clerk has to work out the discounts allowable on each order. Any order over Kshs. 2,000 attracts a discount of 7%. A customer within the trade is allowed 5%. There is also a special 3% discount for any customer who has been ordering regularly for over two years. Using this information, draw:-

(i) a program flowchart. (6 marks)

(ii) a decision tree to illustrate the policy. (5 marks)