

**PAN AFRICA CHRISTIAN UNIVERSITY
EXAMINATIONS PAPER**



**PAN AFRICA CHRISTIAN UNIVERSITY
DIPLOMA INFORMATION COMMUNICATION TECHNOLOGY
END OF TERM EXAMINATION**

DEPARTMENT: COMPUTING AND INFORMATION TECHNOLOGY
COURSE CODE: DICT0123
CAMPUS: ROYSAMBU
COURSE TITLE: SYSTEM ANALYSIS AND DESIGN
EXAM DATE:
TIME: START HOUR

INSTRUCTIONS

- This exam carry a total of SIX Questions of [10 Marks Each]
- Section One (I) is compulsory.
- Answer any 3(Three) Questions from Section Two (II)
- Read all questions carefully before attempting.

SECTION A

(Answer ALL questions in this section)

Question 1

- a) Explain the stage in System Development Lifecycle (SDLC) where each of below is deliverable.
 - i) Terms of reference;
 - ii) Project Initiation; (2 marks)
- b) Discuss two (2) importance of conducting a feasibility study on system before starting design process. (2 marks)
- c) Explain two principles of good user interface design. (2 marks)
- d) Differentiate between Project Evaluation and Review Techniques(PERT) and Critical Path Method (CPM). (2 marks)
- e) Outline two (2) characteristics of a user-friendly software. (2 marks)

SECTION B

((Answer any THREE (3) questions in this section))

Question 2

- a) Critically evaluate two strengths and two weaknesses of the traditional and agile systems analysis methodologies, including the transition problems faced by organizations that move from the traditional to the agile approach. (4 marks)
- b) System analysis involves gathering data on existing system, analyzing the facts to identify the problems, their causes and effects and the opportunities available for improvement. Explain four issues a system analyst must determine during the analysis. (6 marks)

Question 3

- a) During development of PAC University Library System, there were many rules documented, that is a procedure for becoming a member of library, rule for issuing books etc. The membership rule stated “Anyone whose age is 18 or more than that can become a member of library. There are two types of

memberships depending upon the duration of membership. First is for 6 months and other is for 1 year 6 months membership fee is ksh 1000 and 1 year membership fee is Ksh 1500”.

- i. Draw a decision tree for the membership rule (5 marks)
- ii. Draw a decision table for the membership rule (5 marks)

Question 4

- a) The implementation phase of the SDLC is where the information system is actually constructed. Explain three (3) main activities carried out during the system implementation phase of the SDLC. (6 marks)
- b) Highlight and describe two roles of system analyst in system development. (4 marks)

Question 5

- a) Differentiate between the following;
 - i. Physical DFD and logical DFD. (2 marks)
 - ii. System analysis and system design. (2 marks)
- b) Design a flowchart based on the following scenario. The program prompts the user to enter his/her name and age and determine whether the user is an adult or not. If he/she is below 21 years old, the user would be a teenager else he/she would be an adult. The user would be prompted after each person, if he/she wishes to enter any more name, the program continues to run until the user enters “NO or “N” (6 marks)

Question 6

- a) Chris used structured System Analysis and Design Methodology (SSADM) to develop an information system. Explain three (3) characteristics of this methodology. (6 marks)
- b) Explain each of the following terms as used in system development.
 - i) Perfective maintenance. (2 marks)
 - ii) Structured walkthrough. (2 marks)

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