

061006T4ICT
ICT TECHNICIAN LEVEL 6
IT/OS/ICT/CR/12/6
PERFORM SYSTEM ANALYSIS AND DESIGN
Mar. /Apr 2023
Time: 3 Hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL
WRITTEN ASSESSMENT

3 Hours

INSTRUCTIONS TO CANDIDATE

*You have **3 hours** to answer all the questions.*

*The paper consists of **two** sections: **A** and **B**.*

*Answer **ALL** questions in Section **A** and **any Three** Questions from section **B**.*

Marks for each question are indicated in the brackets.

A separate answer booklet will be provided.

***This paper consists of 3 printed pages**
Candidates should check the question paper to ascertain that all the pages are printed as
indicated and that no questions are missing*

©2023 Kenya National Examinations Council

SECTION A (40 marks)

Answer ALL the questions in this section

1. Define each of the following terms: (4 Marks)
 - i) System
 - ii) Information
2. State **four** components of an information system. (4 Marks)
3. Outline **four** items that should be included in the terms of reference document. (4 Marks)
4. Differentiate between *management information system* and *decision support system*. (4 Marks)
5. Explain **four** qualities of a good information system. (4 Marks)
6. An organization has acquired a new information system for use. Outline **four** factors that could have influenced this decision by the organization. (4 Marks)
7. List **three** file organization methods used in an information system. (3 Marks)
8. Differentiate between *hard* and *soft* properties of an information system. (2 Marks)
9. David used questionnaires to collect data for his research work. Outline **three** advantages of using this data collection tool. (3 Marks)
10. Outline any **four** disadvantages of prototyping. (4 Marks)
11. Distinguish between *closed* and *open* systems, citing an example in each case. (4 Marks)

SECTION B (60 Marks)

Answer *any THREE* questions in this section.

12. a) A good information system enables perform operations of a business. Currently most businesses are operating using systems and the transition is rapidly increasing over time. Discuss **five** important characteristics of a system. (10 Marks)
- b) Describe each of the following types of systems: (10 Marks)
- i) Mechanistic;
 - ii) Probabilistic;
 - iii) Cybernetic;
 - iv) Abstract;
 - v) Physical.
13. a) Using well labelled diagram in case, describe **five** tools used system analysis. (10 Marks)
- b) Maintenance is a very critical phase in the system development lifecycle. Discuss **five** types of maintenance that can be used. (10 Marks)
14. a) Maringa Company has been running its operations in an old system. Over time, they have realized the need to monitor their operations in a clearer way with new strategies to perform the system change over. Explain **four** system changeover strategies that could be used. (8 Marks)
- b) Sid Group of companies has been intending to come up with a new system. The management has been curious to understand the steps that would be taken in developing system. Discuss the system development life cycle (SDLC) waterfall model using a diagram. (12 Marks)
15. a) Explain **four** types of system design used in system development. (8 Marks)
- b) Using well labelled diagram, discuss **four** methodologies used in system analysis and design. (12 Marks)

THIS IS THE LAST PRINTED PAGE.