



**THE CO-OPERATIVE UNIVERSITY OF KENYA**

**END OF SEMESTER EXAMINATION AUGUST -2023**

**EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY  
(YR I SEM II)**

**UNIT CODE: DCIT 1209**

**UNIT TITLE: DATABASE MANAGEMENT SYSTEMS**

**DATE: THURSDAY 10<sup>TH</sup> AUGUST, 2023**

**TIME: 9:00 AM – 11:00 AM**

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**INSTRUCTIONS:**

- **Answer Question One (Compulsory) and choose any other TWO Questions**

**QUESTION ONE**

- a) Explain the following terms: (5 marks)
- Candidate key
  - Record
  - Tuple
  - Schema
  - Domain
- b) Explain what is meant by the term ACID transaction. (4 marks)
- c) Explain different types of data integrities in a database. (5 marks)
- d) List and briefly explain the three steps performed during the physical design stage. (3 marks)
- e) State any 3 examples of DBMS available in the market. (3marks)

**QUESTION TWO**

- a) Differentiate between DML and DDL tools as used in database models. (4 marks)
- b) With the aid of a diagram describe the three -level architecture of DBMS. (8marks)
- c) Explain the following types of database models: (8 marks)
- Relational database model
  - Network database model
  - Object based databased model
  - Hierarchical database model

**QUESTION THREE**

- a) Explain four elements of database management system. (8 marks)
- b) Explain the functions of a database administrator. (3 marks)
- c) Differentiate between physical and logical data independence. (4 marks)
- d) Discuss areas where database is applied. (5 marks)

**QUESTION FOUR**

- a) Define, File system. (2 marks)
- b) List and explain at least 5 disadvantages of file processing systems. (5 marks)
- c) With the aid of a diagram explain the following E-R model. (8marks)

“An employee can be assigned many projects and a project can have many employees.

- d) Explain four major uses of SQL for data manipulation. (8 marks)