



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-ABUJA
FACULTY OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE
2025_2 EXAMINATIONS

COURSE CODE: CIT 843

COURSE TITLE: DATABASE MANAGEMENT SYSTEM

COURSE CREDIT: 2 UNITS

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER TWO (2) QUESTIONS

Question 1:

- a. What is database? (3 marks)
- b. Why did Relational database systems replace the File based systems (5 marks)
- c. Outline 3 advantages and 2 disadvantages of Traditional Mainframe Architecture. (5 marks)
- d. With one example each, explain the following SQL commands (4 marks)
 - i) **CREATE,**
 - ii) **ALTER,**
 - iii) **DROP,**
 - iv) **SELECT**
- e. Critically explain why the concept of data Modelling is Important. (5 marks)
- f. What is the relationship between Forms and Sub-form? When is sub form required? (5 marks)
- g. Distinguish between one-to-one and one-to-many connectivity for database relations (3 marks)

Question 2:

- a. Outline 5 characteristics of a good Data Model (10 marks)
- b. Briefly describe the database development process. (5 marks)
- c. Identify five advantages of using a database management system (5 marks)

Question 3:

- a. Outline the three (5) advantages DBMS has over file system. (5 marks)
- b. State five (5) advantages of DBMS? (5 marks)
- c. Explain the following terms in relation to data objects (10 marks)
 - (i) Primary Key
 - (ii) Candidate Key
 - (iii) Composite Key
 - (iv) Artificial Key
 - (v) Foreign Key

Question 4:

- a. Describe briefly the 'Data Model' (5 marks)
- b. State the process for transforming a 1NF table to 2NF. (5 marks)
- c. What is Generalization Hierarchy and when does it occur? (5 marks)
- d. State 5 goals of the requirements analysis in data modelling. (5 marks)

Question 5:

- a. What is Redundant relationship? (2 marks)
- b. List and explain 5 delete rules in a relational database. (10 marks)
- c. What are the procedures from start to finish when converting a model to schema? (8 marks)