National Open University of Nigeria,   91 Cadastral Zone Nnamdi Azikiwe
Express Way, Jabi Abuja.

FACULTY OF SCIENCES

CIT 844 – Advanced Database Management System (2 Credits)

Instruction: Attempt Question 1 (25 marks) and any other three (15 marks each)

Time: $2^{1}/_{2}$ Hours.

1.(a) Define the term "SQL Statement" with examples (7 marks)
1. (b) Write brief notes on the following with examples:
   (i)   Integrity Constraints
   (ii)   Encryption
   (iii)   XML
   (iv)   Data Warehouse
   (v)   Data Mining
                            (3 marks each = 15 marks)

1.(c) Enumerate three XML syntax Rules (3 marks)

2(a) Identify three properties of a transaction.(3 marks)

2(b) Define any four of the following:
   (i)   Read authorization
   (ii) Insert authorization
   (iii)   Update authorization
   (iv)   Delete authorization
   (v) Index authorization
   (vi)   Resources authorization
   (vii)   Alteration authorization
  (viii)   Drop authorization
                            (2 mark each = 8 marks)

2(c) Explain the term "Transaction" with examples (4 marks)

3(a) Briely discuss in writing the following:

    (i)   Dead lock

    (ii)   Data recovery

    (iii)   SQL

                            (2 marks each)

3(b). Describe a Multimedia Database with its types (7 marks)

3(c) What are the three (3) causes of data loss from database. (6 marks)

4. (a) Describe with diagram the steps involved in database design (6 marks)
4.(b) Write short notes on the following:
    (i)   Data Integrity

    (ii)   Data Security

    (iii)   Data Validation

                     (2 marks each)

4. (c). Define the following Set operations in terms of relationUNION, INTERSECTION, and DIFFERENCE. (3 marks)

5(a) Define Distributed Database? (4 marks)

5(b) Describe the term "Open Source Software" and outline three merits (8 marks).

5(c) Enumerate three (3) advantages of Object Oriented Database Management System

                                     (3 marks)

6(a) The term "Relational Database" differs from traditional Database define it with examples

                                     (5 marks)

6(b) Create Six (6) students' tuples with the following attributes:

    (i)   Name

    (ii)   Address

    (iii)   Age

    (iv)   Sex

    (v)   Phone Number

                     (6 marks)

6 (c) Enumerate and explain three basic update operations on relational Database (4 marks)