NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCE
October/November 2016 Examination

Course Code: CIT 843   **Course Unit: 2**

Course Title: DATABASE MANAGEMENT SYSTEMS

Instruction: Answer Any Four Questions

Time Allowed: 2 Hours

1a.   Explain what is meant by a Database Management System (DBMS).   4 marks

 b.   List three different types of information stored in a database.   3 marks

 c.   Enumerate the three components of a Database System (DBS).   3 marks

 d.   Outline any five advantages of a DBMS.   7 ½ marks

2.   Explain the following SQL transaction terms:

                        Lost update problem   5 marks
                        Dirty read   5 marks
                        Non-repeatable read   3 marks
                        Phantom read   4 ½ marks

3.   Consider the following "Orders" table:

OrderId	OrderDate	Price	Customer name		
11	2008/11/12	1000	Henry Bank		
21	2008/10/23	1600	NiyiAlade		
31	2008/09/02	700	Henry Bank	R 13021401	
41	2008/09/03	300	Henry Bank		
51	2008/08/30	2000	James Adeola		
61	2008/10/04	100	NiyiAlade		

Write the SQL statement that:
    i)   Find the average value of the Price column.
    ii)   Find the customers that have order Price value higher than the average Price value.
    iii)   Count the number of orders from "Customer NiyiAlade"
    iv)   Count the number of unique customers in the "Orders" table.
                                4 ½ marks each except (i) with 4 marks

4a.   Outline the database development process.   10 marks

 b.   Briefly explain the three main categories of models.   7 ½ marks

5a.   Explain what security in a database involves.   2 ½ marks
 b.   Outline three needs for database security.   6 marks
 c.   State three goals of database security.   4 ½ marks
 d.   Enumerate three threats of database security.   4 ½ marks

6a.   Outline the four main parts of a Database Management System (DBMS).
                                                                         10 marks
 b.   Explain what is meant by data model.   3½ marks.
 c.   List any four characteristics of a good data model.   4 marks