Exam. Code : 107203

Subject Code : 9062

BCA 3rd Semester (Old Sylb.—2016)

DATABASE MANAGEMENT SYSTEM & ORACLE

Paper—II

Time Allowed—3 Hours]   [Maximum Marks—75

Note :— Attempt any **five** questions. All questions carry equal marks.

1. (a) Define functional dependency. Discuss various types of functional dependency.   7

   (b) Define :

   (i) Primary key, and

   (ii) Foreign key, Suppose relation R(A, B, C, D, E) has functional dependencies :

   $$AB \rightarrow C$$
   $$D \rightarrow A$$
   $$AE \rightarrow B$$
   $$CD \rightarrow E$$
   $$BE \rightarrow D$$

   Find all the candidate keys of R.   8

2. (a) What is Normalization ? Explain successive normalization in designing a relational database by taking a suitable example of your choice.   7

   (b) Create a cursor to read records from the employee table and to display them one by one. Assume the attributes.   8

3. (a) What are Tree Walking, Views, Join methods and Sub queries in SQL* PLUS ? Explain with examples.   7

   (b) Define the terms Data, Information, Field, Record, File, and Database. Also explain the structure of the database system.   8

4. (a) What is DBMS ? What are the advantages and disadvantages of DBMS ? How it is different from traditional file system ?   7

   (b) What are data models ? Compare and contrast hierarchical, network and relational data models.   8

5. (a) What are various threats to data security ? Explain how you will protect them.   7

   (b) Define various built in functions in Oracle. How the security among the uses is maintained in Oracle ?   8

6. (a) What are the desirable properties of transactions in a database ? Explain them in detail.   7

   (b) Why sequences and indexing are used in Oracle ? What are the Object Oriented features of Oracle 10g ?   8

7. (a) Why E-R diagrams are important ? Define the following and how they are indicated in E-R diagram : Weak Entity, Derived Attribute, Composite Attribute, Composite Key.   7

(b) What are the three data anomalies that are likely to occur as a result of data redundancy ? Can data redundancy be completely eliminated in database approach ? Why or Why not ?   8

8. Write short notes on :

   • Oracle Architecture

   • DBTG

   • Database Triggers in ORACLE.   5+5+5=15