

2/17/17

Exam. Code : 107203

Subject Code : 9062

BCA 3rd Semester (Old Syll.—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