INTRODUCTION TO DATABASE SYSTEM

Time : 3 Hours *Maximum Marks : 90*

Note : First Question in Compulsory. A candidate will be required to answer five questions in all, selecting one question from each unit in addition to compulsory question no. 1 All questions carry equal marks.

1. (Compulsory questions):

   i) What is the difference between file and record?

   ii) What is the primary role of database designer?

   iii) What is securityi in terms of database designer?

   iv) What is physical data model?

   v) Explain the concept of end - users.

   vi) Quote any three examples of RDBMS softrware.

   vii) Differentiate between simple and composite attributes.

   viii) What is domain of a relation?

   (ix) Define tuble.

Unit-I

2. i) What are the advantages of database system over traditional file processing system?

   ii) Explain at least eight major objectives of a data base system.

3. i) Explain the various roles of DBA

   ii) Explain the various components and functions of DBMS.

Unit-II

4. i) How client server and centralized architecture of database system differ from each other. Explain the concept with the help of an example.

   ii) Write the differences between the following :

   a) Object based and record based data model.

   b) Logical and physical data independence.

   c) External- Conceptual mapping and Conceptual Internal mapping.

5. Explain three schema architecture of database system with the help of a block diagram. Justify the various components of this architecture with the help of example. Also explain the sequence of events when a user accesses access a record by means of DBMS.

Unit-III

6. i) What is Hierarchical and Network data Model? How do they differ? Explain with the help of examples.

   ii) Draw an E-R model of railway reservation system. It should depict all concepts of E-R model.

7. (i) What is the purpose of E-R Model? Explain various types of entires, attributes and relationships used in this model with the help of suitable examples.

   ii) Explain various types of relational constraints used in E-R Model.

Unit-IV

8. Explain the following keys used in relational data model with examples :

   a) Primary key

   b) Secondary key

   c) Candidate key

   d) Alternate key

   e) Foreign key

   f) Super Key

9. a) What is relational data model? Explain the terminology used in relational data model along with various types of integrity constraints.

b) How do relational data model from hierarchical and network data model?

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