Roll No .....

IT-403

B.E. IV Semester

Examination, June 2016

Database Management System

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Write any three functions of DBA.
   b) Differentiate between single valued and multivalued.
   c) Write any five advantages of D.B.M.S.
   d) What is data independence and why it is important?

   OR

   Draw an E-R diagram of university by determining entities of interest and the relationships that exist between these entities.

2. a) Explain super key with suitable example.
   b) Write any two advantage of network data model.
   c) How Foreign key is useful to maintain referential integrity?
   d) What are different types of data models? Explain relational data model with the help of some suitable example and compare with network data model.

   OR

   Explain following term
   i) Domains ii) Tuples iii) Schemas

3. a) Discuss where Natural Join operation is used in relational algebra.
   b) Explain following command with an example
   i) Insert ii) Group by
   c) What is NULL? Give an example to illustrate testing for NULL in SQL.
   d) How the modification of database can be done in QUEL? Explain.

   OR

   Consider the following relations with keys underlined
   Street (name, location, city)
   House (number, street_name)
   Lives (name, house _ number)
   For the above relations answer the following queries in SQL.
   i) Get the house numbers street wise.
   ii) Get the numbers of houses which are not occupied.

4. a) Write the purpose of Normalization in DBMS.
   b) Explain Trivial and non-Trivial dependencies.
   c) What is partial dependency? With which normal form is it associated?
   d) Describe NULL value and dangling tuple problems.

   OR

   What are the inference rules for functional dependencies?

5. a) Write any two main objective of distributed system.
   b) Write the basic properties of a transaction.
   c) Explain integrity concept with example.
   d) What is distributed system? How is it differ from the centralized database system? Give the uses of distributed system.

   OR

   Write short notes:
   i) Recovery ii) Concurrent operation

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