

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name : Database Management System

Subject Code : 4TE03DMS1

Branch: B.Tech (CE)

Semester : 3

Date : 03/04/2017

Time : 10:30 To 01:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions: (14)**
- a) A top-to-bottom relationship among the items in a database is established by a (1)
(A) Network schema (B) Hierarchical schema
(C) Relational Schema (D) None of above
 - b) The collection of information stored in a database at a particular moment is called as (1)
(A) data domain (B) independence
(C) schema (D) instance of the database
 - c) What are the different events in Triggers? (1)
(A) Define, Create (B) Drop, Comment
(C) Insert, Update, Delete (D) Select, Commit
 - d) command can be used to modify a column in a table (1)
(A) update (B) set
(C) create (D) alter
 - e) Key to represent relationship between tables is called (1)
(A) primary key (B) secondary key
(C) foreign key (D) None of these
 - f) In 2NF (1)
(A) No functional dependencies exist
(B) No partial functional dependencies exist
(C) No multivalued dependencies exist
(D) No partial multivalued dependencies exist.
 - g) Which table store information about database or about the system? (1)
(A) System (B) Nested
(C) SQL (D) None of these.
 - h) clause is an additional filter that is applied to the result. (1)
(A) Group By (B) Having
(C) Select (D) Order By
 - i) The relational model is based on the concept that data is organized and stored in two-dimensional tables called (1)
(A) Fields (B) Records
(C) Keys (D) Relations



- j) Dependency preservation is not guaranteed in (1)
(A) 2NF (B) 1 NF
(C) BCNF (D) None of these.
- k) Drop Table cannot be used to drop a table referenced by a constraint. (1)
(A) Primary Key (B) Local Key
(C) Foreign Key (D) Composite Key
- l) For using a specific database command is used. (1)
(A) database name use (B) use database
(C) Both A and B (D) Neither A nor B
- m) Processed data is called (1)
(A) Information (B) Raw data
(C) Source (D) Useful data
- n) Anything that affects the database schema is a part of (1)
(A) DML (B) DDL
(C) DCL (D) All of these

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
 - (a) What is E-R Diagram? Explain specialization and generalization in E-R Diagram with an example. (7)
 - (b) Define Primary key, Foreign Key and Null Key. Explain three level architecture of Database Management System. (7)
- Q-3 Attempt all questions (14)**
 - (a) List and explain various type of database users. Explain roles and responsibilities of DBA. (7)
 - (b) List various aggregate functions. Explain any three aggregate functions with example(s). (7)
- Q-4 Attempt all questions (14)**
 - (a) List ACID properties. Explain each property with example(s). (7)
 - (b) What is Normalization? List various Normalization forms and explain any three with example(s). (7)
- Q-5 Attempt all questions (14)**
 - (a) Explain query processing steps with suitable diagram. (7)
 - (b) What is Serializability? State and explain differences between conflict serializability and view serializability. (7)
- Q-6 Attempt all questions (14)**
 - (a) What is trigger? What are benefits of triggers? Write down a block that depicts the way trigger can be created. (7)
 - (b) What is functional dependency? Explain importance of it. Explain Trivial and Non-trivial FD with example. (7)
- Q-7 Attempt all questions (14)**
 - (a) List and explain various database manipulation language commands. (7)
 - (b) Explain importance of concurrency control. Write a note on two phase locking (7)



protocol.

Q-8

Attempt all questions

(14)

- (a) Explain applications of DBMS. **(3)**
- (b) Explain GRANT and REVOKE Commands with example. **(4)**
- (c) Write SQL statements for following tables. **(7)**
student(roll_no, student_name, age, city, branch_code)
branch(branch_code, branch_name)

- (1) Create table “student” with suitable constraint(s).
- (2) Create table “branch” with suitable constraint(s).
- (3) Add new branch in table “branch”.
- (4) Display roll_no, student_name, and age of students whose city is Ahmedabad.
- (5) Display roll_no, student_name who is from “Mechanical Engineering” branch.
- (6) Delete student information whose age is less than 19.
- (7) Find an average age of all students.

