SARDAR PATEL UNIVERSITY
DEPARTMENT OF STATISTICS
M.Sc. (Applied Statistics) SEMESTER I, EXTERNAL EXAMINATION, 2019
COURSE No.: PS01CAST24 (Data Base Management System)
March 19, 2019 Tuesday

TIME: 10:00 AM – 01:00 PM   Marks: 70

Q.1) Multiple Choice Questions.   **[08]**

1) 'AS' clause is used in SQL for:

    a. Selection operation.   c. Join operation.

    b. Rename operation.   d. Projection operation.

2) In the relational modes, cardinality is termed as:

    a. Number of tuples.   c. Number of tables.

    b. Number of attributes.   d. Number of constraints.

3) The DBMS acts as an interface between what two components of an enterprise-class database system?

    a. Database application and the database.   c. Data and the database.

    b. The user and the database application, SQL.   d. Database application and

4) ODBC stands for:

    a. Object Database Connectivity.   c.Oral Database Connectivity.

    b. Oracle Database Connectivity.   d. Open Database Connectivity.

5) In the architecture of a database system external level is the:

    a. Physical level.   c. Logical level.

    b. Conceptual level.   d. View level.

6) Which one of the following statements is false?

    a. The data dictionary is normally maintained by the database administrator.

    b. Data elements in the database can be modified by changing the data dictionary.

    c. The data dictionary contains the name and description of each data element.

    d. The data dictionary is a tool used exclusively by the database administrator.

7) Count function in SQL returns the number of:

    a. Values.   c. Distinct values.

    b. Groups.   d. Columns.

8) The database environment has all of the following components except:

    a. Users.   c. Database.

    b. Separate files.   d. Database administrator.

Q.2) Answer any seven.   **[14]**

1) What are the advantages of having an index structure?

2) Describe five main functions of a database administrator.

3) What is logical data independence and why it is important?

4) What are the problems if one were not to normalize? When do these problems surface?

5) Explain recovery process of undo and flashback features.

6) What are the disadvantages of file-processing system?

7) Describe count function, check clause and differentiate drop table X and Delete from X.

8) What is spfile? Difference between SPFILE and PFILE.

Q.3)a) Explain database management system with advantage and disadvantage of DBMS.   **[06]**

b) A university registrar's office maintains data about the following entities: **[06]**
- courses, including number, title, credits, syllabus, and prerequisites;
- course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom;
- students, including student-id, name, and program;
- instructors, including number, name, department, and title.

Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled. **Construct an E-R diagram for the registrars office.** Document all assumptions that you make about the mapping constraints.

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b) Consider the following relation Professor (Pfcode, dept, head, time) It is assumed that (i) A professor can work in more than one dept. (ii) The time he spends in each dept is given. (iii) Each dept has only one head. Identify the dependency and explain normalization process.   **[06]**

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Q.4)a) Explain conceptual, logical and physical data model with example. [06]

b) Explain user management describe oracle users and users creation method. [06]

== OR ==

b) Explain sql loader, control file and methods of sql loaders. [06]

Q.5)a) SQL components plays an important role in representing information about the real world in a database. Explain briefly. [06]

b) List two restrictions that are applied on the modification (updation, insert and delete) of database table with the help of examples, and explain why those restrictions are required. [06]

== OR ==

b) Define entity integrity and referential integrity. How does SQL allow specification of these? With example. [06]

Q.6)a) DBA is a most Important users of database management system justify the sentence. [06]

b) Explain data guard services with help of undo and flashback features. [06]

== OR ==

b) Explain table space management with syntax. [06]

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