PVP 14

Code: CS5T1

III B.Tech - I Semester – Regular/Supplementary Examinations
October 2019

DATABASE MANAGEMENT SYSTEMS
(COMPUTER SCIENCE AND ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11x 2 = 22 M

1. a) List any four advantages of DBMS.

   b) Discuss the importance of data independence in database design.

   c) Outline the need of Triggers in DBMS.

   d) Discuss the significance of Views in DBMS.

   e) Illustrate weak entity with an example.

   f) Discuss the need of multiple and multivalued attributes.

   g) Elaborate the need of super key in DBMS.

   h) Define a multivalued dependency.

   i) Define serializability.

   j) List various desirable properties of Transaction.

   k) Write the differences between DBMS and RDBMS.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Demonstrate Centralized and Client-Server Architecture for DBMSs. 8 M

   b) Outline the pros and cons of various Data Models. 8 M

3. a) Consider the SAILOR DATABASE

   Sailors (sid:string, sname:string, rating:integer, age:real)
   Boats (bid:integer, bname:string, color:string)
   Reserves (sid:integer, bid:integer, day:date)
   Based on the above schemas answer the following queries.
   Based on the above schema, write the corresponding SQL queries for the following?

   i) Find the colors of boats reserved by 'Lubber'.
   ii) Find the names of sailors who have reserved at least one boat.
   iii) Find the names of sailors who have reserved a red or green boat.
   iv) Find the names of the sailors who have reserved both a Red boat and a Green boat.
   v) Find names of sailors who have reserved all boats.

   10 M

   b) List various Binary Relational Operations. Explain the same with examples. 6 M

4. a) Explain the data base design with E/R Model for Super Market Management System. 10 M

b) Discuss different types of attributes are represented in E/R diagram. Explain the same with an example. 6 M

5. a) Demonstrate the importance of dependency preservation and lossless decomposition in detail. 8 M

b) Explain fifth and BCNF normal forms with examples. 8 M

6. a) Outline how Serializability is guaranteed by Two-Phase Locking. 10 M

b) Discuss how schedules are Characterized based on Recoverability & Serializability 6 M