

Question Paper Code : 8375

B.Tech. (Semester-V) Examination, 2021

DATABASE MANAGEMENT CONCEPTS

[Paper : CS-502]

Time : Three Hours]

[Maximum Marks : 70

Note : Answer **any five** questions. All questions carry equal marks.

1. (a) Compare and Contrast the differences between file Processing System and DBMS. Also discuss the term generalization and Specialization with suitable example. [7]
- (b) What is data Model? Explain types of data model used. [7]
2. (a) Distinguish the term : Super Key, Candidate Key, Primary Key, and Foreign Key with suitable example. [7]
- (b) What are the Symbols used in E-R diagram? Construct an E-R diagram for Library Management System. [7]

3. (a) Explain the Concept of Natural Join. Also discuss the types of Outer Join with suitable example. [7]

(b) Discuss the Concept of trigger with suitable example. [7]

4. Consider the following Schema : [14]

Supplier (Sid, Sname, City)

Parts (Pid, Pname, Color)

Orders (Sid, Pid, quantity)

- (i) Find name of Suppliers who belongs to city ' Lucknow'.
- (ii) Find the name of suppliers who supply red color parts.
- (iii) Find the name of city from where more than five supplier belongs.
- (iv) Find name of supplier who supply all parts.

- (v) Find name of parts supplied in quantity more than 5000.
 - (vi) Find Sid of supplier who supply no parts.
 - (vii) Find name of supplier who supply red or green color parts.
5. (a) Explain the concept of MVD in context of RDBMS with suitable example. [7]
- (b) Explain entity integrity, referential integrity and domain constraints. [7]
6. What is the purpose of Normalization? Explain 2NF, 3NF, BCNF and 4NF in detail with suitable example. [14]
7. What do you mean by schedule? Explain the method to check conflict and view serializability with suitable example. [14]
8. What do you mean by Transaction? Explain transaction property in detail. Also Explain concept of log based recovery. [14]

9. What is deadlock ? Explain various deadlock handling methods in detail. [14]
10. Discuss the concept of two phase locking protocol. Also Explain various concurrency Control techniques in detail. [14]

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