

Roll No.

3030

**B. Tech. 3rd Semester (CSE)
Examination – February, 2022**

DATABASE MANAGEMENT SYSTEMS

Paper : PCC-CSE-201-G

Time : Three Hours]

[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question Number 1 is *compulsory*. All questions carry equal marks.

1. (a) Define Relation. 2.5
- (b) SQL is case sensitive, discuss why this fact make it more difficult to define against SQL injection attack ? 2.5

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- (c) What is authorization and authentication in Oracle ? 2.5
- (d) Write advantages of B+ tree over B-tree. 2.5
- (e) Write hashing techniques in brief. 2.5
- (f) Define Multivalued Dependency. 2.5

UNIT – I

2. Differentiate between DBMS and File Processing System. 15
3. (a) How DDL is different from DML ? Give usage of each. Give different type of DML and their use.
- (b) Explain the difference between physical and logical data independence. 15

UNIT – II

4. (a) Define Normalization. Discuss in detail 1 NF, 2 NF, 3 NF and BCNF.
- (b) Write short note on Multivalued dependency. 15
5. What is Query Processing ? Write the various steps involved in query processing. 15

UNIT – III

6. (a) What is hashing and what are its different types ?
How hashing is better than indexing ? How collisions are handled in hashing ?

(b) Explain the log based recovery techniques. 15

7. Define a transaction. Then discuss the following with relevant example : 15

(i) A read only transaction

(ii) A read write transaction

(iii) An aborted transaction

UNIT – IV

8. How concurrency is performed. Explain two protocol that is used to maintain the concurrency concept. When is a transaction said to be deadlock ? Explain the deadlock prevention method with an example. 15

9. (a) Discuss the data warehouse architecture in detail with diagram.

(b) What are advantages of distributed database management system ? 15