

Roll No. \_\_\_\_\_

**3030**

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

**DATABASE MANAGEMENT SYSTEMS**

Paper : PCC-CSB-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. 15
- (b) Write short note on Multivalued dependency. 15
- 5. What is Query Processing? Write the various steps involved in query processing. 15

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

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(3)