

Roll No. ....

**003502**

Jan. 2022

B.Tech. (CE/CSE/IT) - V SEMESTER  
Database Management Systems (PCC-CS-501)

[Max. Marks : 25]

Time : 90 Minutes]

*Instructions :*

1. *It is compulsory to answer all the questions (1 mark each) of Part-A in short.*
2. *Answer any three questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

### **PART-A**

1. (a) Why Logical Independence is difficult to achieve? (1)  
(b) How Id's are different from Firewall? (1)  
(c) Explain the term Serializability. (1)  
(d) What is insertion anomalies? (1)  
(e) What is Locking? (1)  
(f) What are the two ways through which Timestamp is calculated? (1)

(g) What is Shadow Paging? (1)  
(h) What is transitive Dependency? (1)  
(i) Explain the concept of Logical databases. (1)  
(j) Explain the term consistency. (1)  
(1)

## PART-B

2. (a) What are Object Oriented Databases? Give its advantages. (3)  
(b) Differentiate between DDL and DML. (2)

3. (a) What are SQL Injection? Explain with example. (2)  
(b) Explain the concept of Hashing. (3)

4. Consider the following relational schema :  
Doctor (DName, Reg\_no)  
Patient (Pname, Disease)  
Assigned To (Pname, Dname)  
Give in for each of the queries :  
(a) Get the names of patients who are assigned to more than one doctor. (3)  
(b) Get the names of doctors who are treating patients with 'Polio'. (5)

5. (a) What do you understand by Integrity Constraints? Why  
they are needed? (3)

(b) Explain the concept of Immediate Update Recovery  
system. (2)

6. (a) Write an algorithm to find minimal cover for a set of  
functional dependencies. (2)

(b) What is Normalization? What is its use? Compare  
between BCNF and 3rd Normal form. (3)

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Q. 1  
Date \_\_\_\_\_