

**December 2019**  
**B.Tech (CE/CSE/IT) - 5th Sem**  
**Database Management Systems (PCC-CS-501)**

**Duration: 3 Hours**

**Max. Marks: 75**

**Instructions:**

- It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.
- Answer any four questions from Part-B in detail.
- Different sub-parts of a question are to be attempted adjacent to each other.

**Part-A**

- Q1**
- |   |       |
|---|-------|
| (a) Explain briefly about Armstrong's axiom.                    | (1.5) |
| (b) What is hashing?  | (1.5) |
| (c) Explain briefly the usage of Intrusion Detection Mechanism. | (1.5) |
| (d) Briefly explain any one advantage of Distributed Databases. | (1.5) |
| (e) Write a short note on Candidate Keys.                       | (1.5) |
| (f) What do you mean by query optimization in DBMS?             | (1.5) |
| (g) Differentiate between strong and weak entity.               | (1.5) |
| (h) Write a short note on shadow paging.                        | (1.5) |
| (i) Briefly explain the usage of commercial DBMS.               | (1.5) |
| (j) What is the role of Data manipulation language (DML)?       | (1.5) |

**Part-B**

- Q2**
- |   |      |
|---|------|
| (a) What are the different levels of data independence? Explain.      | (10) |
| (b) Explain the difference between specialization and generalization. | (5)  |
- Q3**
- |   |      |
|---|------|
| (a) Explain Bell-La Padula model for database security.               | (5)  |
| (b) What is transaction? Explain the ACID properties for transaction. | (10) |

- Q4** Explain Multivalued dependency in database with suitable examples. (15)
- Q5** (a) What is Decomposition? State and explain characteristics of decomposition. (5)
- (b) Explain the difference between Objected Oriented and Object relational databases. (10)
- Q6** (a) What is tree in DBMS? Why do we need B-trees? Explain briefly with example. (10)
- (b) What is Query Optimization in DBMS, briefly explain Cost based Optimization technique. (5)
- Q7** Explain and give difference between the different methods of access management MAC, DAC and RBAC? (15)



**Click for more PYQs :)**

**Praxian**