

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 (1.5 marks each)

- 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)



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