

Question Paper

Exam Date & Time: 29-Jun-2022 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal

Second Semester Master of Engineering - ME (Big Data Analytics / Big Data and Data Analytics) Degree Examination - June 2022

Modern Databases for Big Data [BDA 5202]

Marks: 100

Duration: 180 mins.

Wednesday, June 29, 2022

Answer all the questions.

- 1) Describe a) MongoDB CRUD Operations b) DBMS and File processing system (TLO 1.1) (10)
- 2) Convert the following queries into SQL Statements (TLO 1.2) (10 Marks) (10)

1. Create branch table and Declare branch_name as the primary key for branch, and branch_city should not take NULL values
2. Add a new tuple to account relation with values 'A-9732', 'Perryridge', 1200
3. Use The alter table command to add new attribute PhoneNumber to an existing relation customer
4. Use The drop table command to remove the new attribute column PhoneNumber from relation customer
5. Find the names of all branches in the loan relation and remove duplicates

branch-name	Loan - number	amount	branch-name	account-number	balance
Downtown	L-17	1000	Downtown	A-101	500
Redwood	L-23	2000	Mianus	A-215	700
Perryridge	L-15	1500	Perryridge	A-102	400
Downtown	L-14	1500	Round Hill	A-305	350
Mianus	L-98	500	Brighton	A-201	900
Round Hill	L-11	900	Redwood	A-222	700
Perryridge	L-17	1300	Brighton	A-217	750

Loan relation Account relation

- 3) State in detail the Value of Relational Databases In terms of (TLO 1.3) (10)
1. Impedance Mismatch
 2. Concurrency
- 4) State what are version stamps and give a writeup on various ways you can construct version stamps? (TLO 2.1) (10)
- 5) State what is Read consistency? Explain in detail Read Consistency and CAP Theorem? (TLO 2.2) (10)
- 6) Demonstrate what is Map-reduce and Discuss the Basic Map-reduce in detail? (TLO 2.3) (10)
- 7) Analyze Document data bases and discuss in detail its Availability feature?(TLO 3.1) (10)
- 8) Apply Use case "Routing, Dispatch, and Location-Based Services" for Graph Databases and discuss? (TLO 3.1) (10)
- 9) Analyze "File Systems" and "Memory Image" solutions that don't easily fit into the NoSQL bucket and discuss? (TLO 3.2) (10)
- 10) Analyze "Programmer Productivity" in Choosing Your Database and discuss in detail (TLO 3.3) (10)

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