

University of Mumbai
Examinations Summer 2022
ADBMS

Time: 2 hour 30 minutes

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	A heterogeneous distributed database is which of the following?
Option A:	The same DBMS is used at each location and data are not distributed across all nodes.
Option B:	The same DBMS is used at each location and data are distributed across all nodes.
Option C:	The different DBMS is used at each location and data are not distributed across all nodes.
Option D:	The different DBMS is used at each location and data are distributed across all nodes.
2.	Which of the following is a disadvantage of replication.
Option A:	Reduced network Traffic
Option B:	If the database fails at one site, a copy can be located at another site.
Option C:	Each site must have the same storage capacity.
Option D:	Each transaction may proceed without coordination across the network.
3.	What is XML?
Option A:	Extensible Markup Language
Option B:	Extra Modern Link
Option C:	Example Markup Language
Option D:	X-Markup Language
4.	What does a MongoDB collection consist of?
Option A:	data
Option B:	documents
Option C:	fields
Option D:	rows

5.	Which MongoDB shell command should you use to back up a database?
Option A:	Restore
Option B:	backup.
Option C:	mongobackup.
Option D:	Mongodump.
6.	Which of the following represent column in NOSQL _____.
Option A:	Field
Option B:	Database
Option C:	Collection
Option D:	Document
7.	Which of the following is not a strong feature for NOSQL databases?
Option A:	Scalability
Option B:	Relational Data
Option C:	Faster data access than RDBMS
Option D:	Data easily held across multiple servers
8.	Which of the following is the limitation of JSON?
Option A:	Too many data types
Option B:	Complicated debugging
Option C:	Support for only C
Option D:	No Limits on Arrays and objects
9.	The data that have a time interval associated with them during which they are valid are called as _____.
Option A:	Timed data
Option B:	Temporal data
Option C:	Model data
Option D:	Clocked data
10.	A distributed database has which of the following advantages over a centralized database?
Option A:	Software Cost

Option B:	Software Complexity
Option C:	Slow Response
Option D:	Modular growth

Q2. (20 Marks)	<i>Please delete the instruction shown in front of every sub question</i>
A	Solve any Two 5 marks each
i.	<i>Explain Allocation techniques for Distributed Database Design.</i>
ii.	<i>Compare 2PC and 3PC protocol of distributed databases.</i>
iii.	<i>What is CAP theorem?</i>
B	Solve any One 10 marks each
i.	<i>What is XML Schema? Give student database example for XML Schema.</i>
ii.	<i>Explain in details phases of query processing in distributed databases. on multiple modules.</i>

Q3. (20 Marks)	<i>Please delete the instruction shown in front of every sub question</i>
A	Solve any Two 5 marks each
i.	<i>What is XPath and XQuery in XML Databases.</i>
ii.	<i>What is sharding in NoSQL..</i>
iii.	<i>What are the different failures in distributed database?</i>
B	Solve any One 10 marks each
i.	<i>Write a note on Spatial Database.</i>
ii.	<i>Explain Basic TO algorithm for Distributed Concurrency Control.</i>

Q4. (20 Marks)	<i>Please delete the instruction shown in front of every sub question</i>
A	Solve any Two 5 marks each
i.	<i>Explain Embedded Documents in MongoDB.</i>
ii.	<i>Explain Features of Graph Database.</i>
iii.	<i>Explain different operators in Spatial database.</i>
B	Solve any One 10 marks each
i.	<i>Explain MongoDB Distributed Environment.</i>
ii.	<i>Explain Key-value data store of NoSQL databases.</i>