

Total No. of Questions : 10]

SEAT No. :

P4580

[Total No. of Pages : 2

[5669]-116
T.E. (Computer Engineering)
DATABASE MANAGEMENT SYSTEMS APPLICATIONS
(2012 Pattern)

Time : 2.½Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answers Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7, or Q.8, Q.9. or Q.10.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*

- Q1) a)** Explain EER-Specialization with suitable example. **[5]**
- b) Draw an ER diagram for Banking System. **[5]**

OR

- Q2) a)** Explain 3NF with Example. How transitive dependency is observed in database table? **[5]**
- b) What is Data Isolation property of database? How it is achieved in DBMS **[5]**

- Q3) a)** Consider following structure for MongoDB collections and write a query for following requirements in MongoDB (Any 3)
- Book(BookTitle, Author ISBN, Version, Year, Subject) **[5]**
- i) Write a MongoDB query to create above collections.
 - ii) Find the information about all books of Author “Korth”
 - iii) Find all Authors who wrote database subject books
 - iv) Display Total no of books in 2019
- b) How MongoDB handles the operation similar to group by operation in SQL? **[5]**

P.T.O.

OR

- Q4)** a) Differentiate Structured and Unstructured databases. [5]
b) What is Atomicity and Durability property of transaction? [5]

- Q5)** a) Explain Parallel Database Architectures in Detail. [8]
b) Explain Role of Transaction Manager and Transaction Coordinator in Distributed Transaction Management. [8]

OR

- Q6)** a) Explain different steps required for JAVA to MongoDB database connection using JDBC. [8]
b) There are different reasons of building distributed database systems, including sharing of data, autonomy and availability. Explain these advantages of distributed database systems in detail. [8]

- Q7)** a) Explain XQuery and FLWOR with Example. [7]
b) Explain JSON with example. [5]
c) Explain in brief different building blocks of HADOOP. [5]

OR

- Q8)** a) List & explain advantages of using XML Schema over XML DTD. [7]
b) Write a short note on: R programming. [5]
c) Write short note on Querying XML data. [5]

- Q9)** a) Explain Data Warehouse with its components? [5]
b) Explain Apriori Algorithm? Explain the term Support and Confidence. [7]
c) What is OLAP? Explain the OLAP operations in Details. [5]

OR

- Q10)** a) Write short note on Business Intelligence. [5]
b) How K means clustering works? How the Centroid of the cluster is evaluated? How Similarity between the data and Centroid is Evaluated? [7]
c) Differentiate Supervised and Unsupervised Learning with Example [5]

