P2461

[5253] - 184
T.E. (Computer Engg.)
DATABASE MANAGEMENT SYSTEMS APPLICATIONS
(2012 Course) (End Semester)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates :
1) *AnswerQ.l 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 View and Index Objects in SQL.   **[5]**

      b)   Draw an ER diagram for Banking Enterprise.   **[5]**

<div align="center">OR</div>

Q2) a)   Explain Normalization. Explain 3 NF with Example.   **[5]**

      b)   Explain advantages of DBMS over file systems.   **[5]**

Q3) a)   Consider following structure for MongoDB collections and write a query for following requirements in MongoDB (Any 3)   **[5]**

           Teachers(Tname, dno, experience, salary, date_of joining)

           Students(Sname, roll_no, class)

         i)   Write a MongoDB query to create above collections & for insertion of some sample documents.

         ii)   Find the information about all teachers of dno = 2 and having salary greater than or equal to 10,000/-

         iii)   Find the student information having roll_no = 2 or Sname = Anil

         iv)   Display Total no of Students of TE Class

      b)   Explain key-value data store model of NOSQL databases.   **[5]**

<div align="center">OR</div>

Q4) a)   What are NOSQL Database Types? Explain Document database type in detail.   **[5]**

      b)   What are ACID Properties of Transaction? Explain Isolation in detail.**[5]**

<div align="right">***P.T.O.***</div>

Q5) a) Explain different Parallel System Architectures with their advantages and disadvantages. **[8]**

b) Explain 3-tier and 2-tier web architecture with diagram considering suitable example. **[8]**

OR

Q6) a) Explain different steps required for JAVA to MongoDB database connection using JDBC. **[8]**

b) Explain distributed database system architecture. **[8]**

Q7) a) What is XML? Explain XQuery and FLWOR with Example. **[7]**

b) Explain Hadoop Architecture in Detail. Also explain how map reduce works. **[10]**

OR

Q8) a) Write XML Document for Book Data (Category, Title, Author, and Price). Write XQuery to retrieve all book information with price>30. **[7]**

b) Write a Short note on R Programming **[5]**

c) Write a Short note on Hive Database **[5]**

Q9) a) Explain BIS Components in Detail. **[5]**

b) Explain Association Rule mining Algorithm with Example **[7]**

c) Differentiate between OLAP and OLTP. **[5]**

OR

Q10) a) Write short note on Data-mining regression analysis. **[5]**

b) Explain K Means Clustering Algorithm with Suitable Example. **[7]**

c) What is Classification? Explain different steps in Classifications? **[5]**

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