

Total No. of Questions :10]

SEAT No. :

**P1505**

**[5460]-184**

[Total No. of Pages : 2

**T.E. (Computer Engg.)**

**DATABASE MANAGEMENT SYSTEMS APPLICATIONS**

**(2012 Course) (Semester-I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Answer Q.No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 Q. No. 6, Q. No. 7 or Q. No. 8, Q. No. 9 or Q. No. 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 considering the requirements of Banking Enterprise. [5]

OR

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

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

**Q3) a) Consider following structure for Mongo DB 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 BASE properties of transactions in NOSQL databases. [5]

OR

*P.T.O.*

- Q4)** a) What are NOSQL Database Types? Explain Document database type in detail. [5]
- b) What are ACID properties of Transaction? Explain Isolation Property in detail. [5]
- Q5)** a) Explain Shared Nothing and shared Memory Parallel Database Architectures with suitable examples. [8]
- b) Explain concept of distributed Database. How Distributed Transaction Works? [8]

OR

- Q6)** a) What is Mongo DB Sharding? Explain How images can be stored in Mongo DB? [8]
- b) Explain different steps required for JAVA to MongoDB database connection using JDBC. [8]
- Q7)** a) What is XML ? Explain XQuery and FLWOR with example. [7]
- b) Explain Hadoop Architecture in Detail. 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 OLAP and OLTP [5]

OR

- Q10)**a) What is difference between Data warehousing and Data Mining? [5]
- b) Explain K Means Clustering Algorithm with Suitable example. [7]
- c) What is Classification? What are the different steps for Classification?[5]

