

Total No. of Questions : 10]

SEAT No. :

P3310

[Total No. of Pages : 2

[5353]-184

T.E. (Computer Engg.)

**DATABASE MANAGEMENT SYSTEMS APPLICATIONS**

**(2012 Pattern) (Endsem)**

*Time : 2.30 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer 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 side indicate full marks.*
- 4) *Assume suitable data if necessary'*

**Q1)** a) Explain in detail the specialization and Generalization features of EER diagram with example. [5]

b) Differentiate between Relational database & NOSQL database. [5]

OR

**Q2)** a) What is a data model? Explain different data models in database. [5]

b) Explain the distinctions among the terms primary key, candidate key, and super key. [5]

**Q3)** a) Explain aggregation in MongoDB with suitable Example [5]

b) Write a short note on: [5]

i) Serial Schedule

ii) Equivalent Schedule

OR

**Q4)** a) What is the requirement of atomicity property of transactions in relational databases? Explain with example. [5]

b) Write short note on query optimization in NOSQL databases. [5]

**P.T.O**

- Q5)** a) Explain Connectivity of JAVA with MongoDB Database using JDBC with example. [8]  
b) Explain 2 tier and 3 tier architecture with example. [8]

OR

- Q6)** a) What is a parallel databases? Explain any two parallel architecture in detail. [8]  
b) List the characteristics of Cassandra .Explain Cassandra architecture in detail. [8]

- Q7)** a) What is XML DTD? Explain with example. [7]  
b) Explain various components of Hadoop with neat diagram. [10]

OR

- Q8)** a) Explain Xpath and Xquery with suitable example. [7]  
b) Write a short note on: R programming [5]  
c) What is JSON? Explain JSON schema with suitable example. [5]

- Q9)** a) What is a clustering? Explain any clustering algorithm in brief. [5]  
b) Explain BIS Components in details [7]  
c) Explain the difference between operational database and data ware house [5]

OR

- Q10)**a) Explain KDD process in data mining. [5]  
b) Explain Association Rule Mining. Explain Apriori Algorithm with suitable example. [7]  
c) Write a short note on [5]  
i) Time series analysis  
ii) Sequence Pattern Mining

