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]**

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

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