

NOV - 2016

Total No. of Questions :10]

SEAT No. :

P1751

[Total No. of Pages :3

[5058] - 391

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

b) Explain the concept of specialization & generalization in E-R Model using suitable example. [5]

OR

Q2) a) Explain wide column store data model of NOSQL databases. [5]

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

Q3) a) Consider relational schema [5]

Customer (cname, ccity, phone)

Loan (lno, branch_name, amount)

Borrower (cname, lno)

Depositor (cname, accno)

Branch (bname, bcity)

Account (bname, accno, bal)

Write SQL queries for following requirements (Any two):

- i) Find out average account balance at each branch.
 - ii) Find all customers who have both account and loan at the bank.
 - iii) Find average account balance at Shivajinagar branch.
- b) Write short note on performance tuning & query optimization of NOSQL database. [5]

OR

P.T.O.

Q4) a) Write short note on crowd sourcing. [5]

b) What is recoverable schedule? Why is recoverability of schedule is desirable? [5]

Q5) a) What is speedup and scale up attributes in parallel database architectures? Explain the different factors affecting the speedup and scaleup attributes. [8]

b) Compare 2-tier and 3-tier client server architecture with suitable example. [8]

OR

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

b) Explain distributed database system architecture. [8]

Q7) a) Consider the requirements of library having following elements [7]

students (roll_no, name, class)

Teachers (ID, Name, department)

Book (Acce._No, Title, author, publisher)

write a XML DTD for above elements.

b) Write short note on: [10]

i) HBASE

ii) HIVE

OR

Q8) a) List & explain advantages of using XML Schema over XMLDTD. [7]

b) Explain in brief different building blocks of HADOOP. [5]

c) Write short note on Querying XML data. [5]

Q9) a) Explain with neat diagram different components of data warehouse. [5]

b) Write short note on Data-mining association rules. [5]

c) Explain Recommendation algorithm. [7]

OR

Q10) a) What is data mining clustering? Explain how knowledge can be extracted from databases using Data Mining clustering. [5]

b) Explain in brief different BIS components. [5]

c) Write short note on Data-mining regression analysis. [7]

