

Total No. of Questions : 10]

SEAT No. :

P2070

[Total No. of Pages : 3

[5059]-675

B.E. (Information Technology)
ADVANCED DATABASES
(2012 Pattern) (Semester - II)

Time : 2 ½ Hours]

[Max. Marks : 70

Instructions to the candidates:-

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) Assume suitable data if necessary.*

Q1) a) How concurrency control and recovery is done in distributed database? **[6]**

b) Describe query optimization in parallel databases. **[4]**

OR

Q2) a) Define I/O Parallelism? Explain Speedup and Scale-up parallelism. **[5]**

b) Compare RDBMS, OODBMS and ORDBMS. **[5]**

Q3) a) Consider the following nested relational schema. **[6]**

Emp= (ename, childrensetsetoff(children), skillset setoff(skills))

Children = (name, birthday), Birthday= (day, month, year)

Skills = (type, Examsetsetoff (Exams)), Exams = (year, city)

Answer the following :

- i) Write DTD and XML file
 - ii) Write a query in XPath to list all skill types in Emp.
 - iii) Find the name of all the employees who have a child who has a birthday in March.
- b) Explain concept of improving data access with secondary Indexes in DynamoDB. **[4]**

OR

P.T.O.

- Q4)** a) What is Cassandra Query Language? Explain in detail. [5]
b) Write short notes on Transient and Persistent objects. [5]

- Q5)** a) How stream data management system works? Explain its issues and solutions. [8]
b) What is Graph Mining? Explain with example frequent subgraph mining methods. [8]

OR

- Q6)** a) What is a social Network? Explain different characteristics of social networks. [8]
b) Write a short note on following : [8]
i) Apache Flume NG
ii) Tasks in Link Mining

- Q7)** a) Which are the various text characterization methods? Explain any two of them. [6]
b) Explain concept of data modeling for web usage mining. [6]
c) Explain concept of collaborative filtering using kNN Algorithm. [6]

OR

- Q8)** a) Explain recommender systems. Which are the problems associated with it? [6]
b) Describe Collaborative Filtering :Matrix factorization in detail. [6]
c) Describe most common types of pattern discovery and Analysis techniques employed in the web usage mining. [6]

Q9) a) Write short note on : **[8]**

i) Multimedia Databases

ii) Cloud databases

b) What is deductive database? Explain query evaluation technique in deductive databases. **[8]**

OR

Q10) a) Compare Spatial and Temporal databases. **[8]**

b) What is semantics? Explain semantics in deductive database in detail. **[8]**

