MCA Sem IV CBGS

18/05/15

Advanced Database Theory & Applications

Q.P. Code : 19431

(3 Hours) **[Total Marks : 80**

(1) Question No. 1 is compulsory.
(2) Attempt any four questions from the remaining six questions.

Q1 : a) Write short notes on (any three) : 12
1. Roll-up and Drill-down 2. Phantom Deadlock
3. Multimedia database 4. Persistent Programming Language

b) Compare followings (any two) 08
1. ROLAP and MOLAP
2. Two Phase and Three Phase Commit
3. Web Content and Web structure mining

Q2 : a) Explain OLAP operations on multidimensional cubes with examples. 08
b) Explain Knowledge Discovery Process (KDD) in detail. What is the role of data mining in the KDD process. 07

Q3 : a) What are the various complex data types available in Object Relational DBMS ? Explain with suitable examples. 08
b) Define the terms fragmentation and replication in terms of where data is stored and also how the objects are uniquely identified in distributed database ? 07

Q4: a) What is Classification technique in Data Mining . Explain K-Nearest Neighbors Algorithm for classification. 08
b) Explain ORDBMS Implementation challenges in detail 07

Q5 a) Explain the features of XML and also differentiate between DTD and XML Schema. 08
b) What is a data warehouse and why it is needed ? Explain ETL process in data warehouse . 07

Q6 a) Find out the association rules with all possible support and confidence percent from the following sample data: 08

Transactions	Items
T1	Bread, Jelly,Butter
T2	Bread,Butter
T3	Bread ,Milk,Butter
T4	Juice,Bread
T5	Juice,Milk

b) Explain Bitmap index and bitmap join index with example. 07

Q7 a) Explain K-Means Clustering algorithm in data Mining with a suitable example. 08
b) Discuss deadlock detection in a distributed database. 07