[5155]-22
M.E. (Computer Engineering/Computer Networking)
HIGH PERFORMANCE DATABASE SYSTEMS
(2008 Course) (Semester -II)

Time : 3 Hours]   *[Max. Marks : 100*
Instructions to the candidates:
1) *Solve any three questions from each section.*
2) *Answer to each section should be written on different answer sheets.*
3) *Assume suitable data, if necessary.*
4) *Draw neat diagram wherever required.*

SECTION -I

Q1) a) Explain TP-monitor Architecture. **[6]**

b) Discuss tunable parameters and different techniques used for tuning of databases. **[6]**

c) Explain various TPC benchmarks. **[4]**

Q2) a) Discuss the importance of low level primitive operations incase of Query optimizations. **[6]**

b) Explain hash join algorithm with example. **[6]**

c) Discuss how materialized view are important in query optimization. **[4]**

Q3) a) Discuss the choice of indexing (B-tree or hash file) for a relation. Justify your answer. **[6]**

b) Compare between optimistic & Pessimistic locking for concurrency control. **[6]**

c) Discuss flat and Nested transactions. **[4]**

Q4) a) Explain data warehouse Architecture. **[6]**

b) Explain various data warehouse schemes with examples. **[6]**

c) Explain OLAP operation with example. **[6]**

SECTION -II

Q5) a) How XML integration is achieved with SQL servers. **[6]**

b) Discuss Aggregations in SQL. **[6]**

c) Discuss about SQL 3 standards, objected oriented and security features. **[4]**

Q6) a) Given the following transactional data. **[6]**

Sr. No	Transaction ID (TIDs)	List of Items (IDs)
1	T100	I1, I2, I5
2	T200	I2, I4
3	T300	I2, I3
4	T400	I1, I2, I4
5	T500	I1, I3
6	T600	I2, I3
7	T700	I1, I3
8	T800	I1, I2, I3, I5
9	T900	I1, I2, I3

Find candidate and frequent itemsets using APRIORI algorithm where minimum support count is 2.

b) Explain decision tree induction & write basic algorithm for inducing decision tree from training tuple. **[6]**

c) List and explain Data mining applications. **[4]**

Q7) a) Explain Active and Deductive databases.   **[6]**

b) Explain merits and demerits of main memory database.   **[6]**

c) Brief about Semantic database.   **[4]**

Q8) Write a short note on (any three)   **[18]**

a) LDAP

b) XML

c) Multimedia Database

d) Hibernate

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