[4660] - 429

M.E.(Computer Engineering / Computer Networks)
HIGH PERFORMANCE DATABASE SYSTEM
(2008 Pattern) (Semester - II)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :

1) *Answer any three questions from each section.*
2) *Answers to the two sections should be written in separate books.*
3) *Neat diagrams must be drawn wherever necessary.*
4) *Figures to the right indicate full marks.*
5) *Assume suitable data, if necessary.*

SECTION - I

Q1) a)   Explain TP - Monitor architecture & Its components with neat diagram.**[5]**

   b)   Explain how to use a histogram to estimate the size of a selection of the form $6_{ACV}(r)$. **[5]**

   c)   How does a TP Monitor manage processes, messaging & communications. **[6]**

Q2) a)   Draw a wait for graph indicating a deadlock. Explain three actions that need to be taken for recovery from dead lock. Also explain any one method for dealing with deadlock in a distributed system. **[8]**

   b)   How is relational algebra useful in query optimization? List down at least four equivalence rules used in query optimization. **[8]**

Q3) a)   Explain shadow paging recovery scheme & log based scheme. **[8]**

   b)   What are the advantages & disadvantages of hash indices relative to B^+ tree indices? How might the type of index available influence the choice of a query processing strategy? **[8]**

Q4) a) State & Explain OLAP operations. **[6]**

b) Explain the most common steps of ETL process. **[8]**

c) List the primitives for specifying a data mining task & describe any one. **[4]**

SECTION - II

Q5) a) Explain classification process in detail with example. **[8]**

b) Discuss various SQL extensions in detail. **[8]**

Q6) a) Explain active and deductive databases.Explain its merits & demerits. **[8]**

b) What is the difference between. **[8]**

i) XML element & an attribute.

ii) DTD & a XML schema.

Q7) a) Discuss the main memory database access methods. **[8]**

b) Describe how LDAP can be used to provide multiple hierarchical views of data, without replicating the base level data. **[8]**

Q8) Write short notes (any three) **[18]**

a) Decision Tree.

b) Deductive databases.

c) BI & Dashboards.

d) Star Schema.

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