Total No. of Questions : 06]

SEAT No. :

P3789

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[4960] - 1307

M.E. (Computer Engineering)

HIGH PERFORMANCE DATABASES

(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 50*

Instructions to the candidates:

1) ***All six questions are compulsory.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Assume suitable data, if necessary.***

Q1) a) Describe the impact of database workloads on system performance. **[4]**

b) Describe different choices in Tuning the Conceptual Schema. **[5]**

Q2) a) Define data fragmentation. Explain any one method of database fragment allocation in distributed databases. **[4]**

b) Explain any one Timestamp Ordering Algorithm for concurrency control in distributed databases. **[4]**

Q3) a) Consider a multi database system in which it is guaranteed that at most one global transaction is active at any time, and every local site insures local serializability. **[4]**

i) Suggest ways in which the multidatabase system can ensure that there is at most one active global transaction at any time.

ii) Show by example that it is possible for a non- serializable global schedule to result despite the assumptions.

b) Write a short note on (any one): **[4]**

i) Transactional workflow

ii) Real Time Transaction system

P.T.O.

Q4) a) Consider the list of contents at the front of any book. Show that how you might represent that list of contents as an XML document. Design DTD for the XML document. **[4]**

b) Explain SOAP architecture in web databases. **[4]**

Q5) a) Explain any two methods that allow users to store and query different types of multimedia information. **[5]**

b) Explain Spatial Data Model and Spatial Database Queries. **[4]**

Q6) Write a short note on (Any Two): **[8]**

a) Hadoop File System

b) Performance Benchmarks

c) E-Commerce