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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

Computer Science and Engineering

VII Semester

CS9038 – DATABASE TUNING

(Regulation – R 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. How operating systems performance influence the database application performance?
2. Mention any cases where locking is unnecessary.
3. List any two benefits of clustered indexes.
4. Why is it not advisable to have indexes on small tables?
5. 'An integer data type is usually better to use for a number rather than a float data type'. Justify.
6. Brief on the negative influence of triggers on the performance of database applications.
7. Mention a statistics updating tool for any two Database systems.
8. What are event monitors? Give examples.
9. List and brief on any four main configuration parameters.
10. Write a statement using S-Plus programming model to discriminate a person as young and old based on his/her age and assign that to a vector 'V' (if age is less than 40, young ; old otherwise).

Part – B (5 x 16 = 80 marks)

11. i) Describe the ways in which the lock tuning could be done so as to improve the overall database system performance. [10]
ii) 'Start-Up costs are high; Running costs are low' Justify with illustrations. [6]
12. a) i) Which one is preferred: the hash index or b-tree for point- queries? Illustrate your answer. [6]
ii) With illustrations, give the properties, evaluations and drawbacks of clustering index. [10]

Or

- b) i) Discuss on the data structures for the in-memory data. [6]
ii) Illustrate the different types of queries. Mention the suitable index for each type of query. [10]

13. a) i) Rewriting of nested queries help towards query tuning. Explain how you achieve this using proper examples. [12]
ii) Explain the notion of reaching that avoids 'Distinct' in queries. [4]

Or

- b) i) Explain the principles, justification and experiments that are followed for tuning the application interfaces. [12]
ii) Illustrate the approach, aggregate maintenance, which is a tuning factor in reporting applications. [4]
14. a) Explain the tools to gather information, from the producer-consumer hierarchy of DBMS resources, to study the performance of the system. [16]

Or

- b) Explain how to check the following: Are the DBMS subsystem works satisfactorily and the DBMS getting all it needs? [16]
15. a) i) Illustrate the process of finding the finest chopping. [8]
ii) Explain the advantages of using access plans with neat example. [8]

Or

- b) i) Explain the systems FAME and KDB that support time series. [8]
ii) Prove with proper illustrations that: 'a chopping is correct if it is rollback safe and its chopping graph contains no SC-cycle'. [8]