Tribhuvan University
Institute of Science and Technology
2076
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Bachelor Level / Fourth Year /Seven Semester/Science   Full Marks: 60
Computer Science and Information Technology-(CSc.401)   Pass Marks: 24
(Advanced Database Management System)   Time: 3 hours.

Candidates are required to give their answers in their own words as for as practicable.
The figures in the margin indicate full marks.

Attempt all questions.   **(10 x 6 = 60)**

1. What is query processing? How is it different from query optimization? Discuss cost estimation for relational algebra expressions.   (1+2+3)

2. What is data fragmentation? Discuss horizontal and vertical fragmentation in detail.   (1+5)

3. Why do we need extended ER modeling? Discuss class/subclass relationship with example.   (2+4)

4. How do object relational database support multi-valued and composite attributes? Discuss with example.   (6)

5 What are the uses of active database? Discuss active database with example.   (2+4)

6. Discuss mobile computing architecture. Discuss mobile data management in detail.   (3+3)

7. Why do we need temporal database? Discuss valid time, transation time, and bi-temporal relations.   (2+4)

8. Discuss benefits and applications of data mining. How is classification differnt from clustering?   (3+3)

9. What is web service? Discuss SOAP in detail.   (2+4)

10. Write short notes on: (2x3)
   a) Deductive database
   b) ODMG