

**IV B.Tech II Semester Supplementary Examinations, Apr/May 2006**  
**ADVANCED DATABASES**  
( Common to Computer Science & Engineering and Computer Science &  
Systems Engineering)

**Time: 3 hours****Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. Explain ISO/OSI reference Architecture. [16]
2. Consider the global relations: PATIENT (NUMBER, NAME, SSN, AMOUNT-DUE, DEPT, DOCTOR, MED-TREATMENT) DEPARTMENT (DEPT, LOCATION, DIRECTOR) STAFF(STAFFNUM, DIRECTOR, TASK) Define their fragmentation as follows
  - (a) DEPARTMENT has a horizontal fragmentation by LOCATION, with two locations: Each department is conducted by one DIRECTOR.
  - (b) There are several staff members for each department, led by the departments director, STAFF has a horizontal fragmentation derived from that of DEPARTMENT and a semi-joint on the DIRECTOR attribute. Which assumption is required in order to assure completeness and disjointness? Give also the reconstruction of global relations from fragments. [8+8]
3.
  - (a) Distinguish between non-redundant and redundant allocation.
  - (b) Write briefly on the Measure of Costs and Benefits of Fragment Allocation. [16]
4. What is parametric query. Give an example. Describe cut operation with respect to the example. [3+3+10]
5. Discuss about the Query optimization using SDD-1 algorithm. [16]
6.
  - (a) What are the goals of transaction management.
  - (b) Define:
    - i. Atomicity.
    - ii. Durability.
    - iii. Serializability.
    - iv. Isolation. [4+12]
7.
  - (a) Explain centralized controller methods for deadlock detection. List out the drawbacks.
  - (b) Explain hierarchical controller method for deadlock detection. [10+6]
8.
  - (a) Explain the operation of two-phase commitment protocol at the time when all sites are inactive.

(b) Explain the features of primary copy locking approach.

[10+6]

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