LAST MOMENT TUITIONS

Database Management Systems

December 18

Computer Engineering (Semester 5)

Total marks: 80
Total time: 3 Hours

INSTRUCTIONS
(1) Question 1 is compulsory.
*(2) Attempt any **three** from the remaining questions.*
(3) Draw neat diagrams wherever necessary.

1.a. Define DBA. Discuss role of DBA. (5 marks)

1.b. Explain components of ER Models (5 marks)

1.c. Explain ACID properties of transaction (5 marks)

1.d. Explain Database Languages. (5 marks)

2.a. Define deadlock. Explain Deadlock detection, prevention and recovery. (10 marks)

2.b. List 5 significant differences between file processing system and database management system. (10 marks)

3.a. Explain overall architecture of DBMS in detail. (10 marks)

3.b. Construct ER diagram and convert into relational model for company. Which has several employees working on different types of projects. Several employees are working on one department. Every employee has manager. Several employees are supervised by one employee. (10 marks)

4.a. Explain the concept of serializability with its types. (10 marks)

4.b. Explain following relational algebra operations with suitable example

(a)project (b)select (c)union (d)Cartesian product (10 marks)

5.a. Employee (eid, ename, address, city) (10 marks)

Works (eid, cid, city)

Company (cid, cname, city)

1)modify database so that john now lives in Mumbai.

2)find employee who live in same city as the company for which they work.

3)give all employees of 'AZ Corporation ' where there is increase in salary by 15%.

4)Find the names of all employees, company name and city of residence such that employee name begins with 'I'

5)delete all tuples in works relation for employees of small bank corporation.

5.b. Define Normalization. Discuss 1NF,2NF,3NF in detail (10 marks)

Write short notes on any two

6.a. Log Based Recovery. (7 marks)

6.b. Constraints in SQL. (7 marks)

6.c. Specialization and Generalization (6 marks)