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12SCS13

**First Semester M.Tech. Degree Examination, Dec. 2013 / Jan 2014.**  
**Advances in Database Management Systems**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. What are the categories of constraints on databases? Discuss the main types of constraints. (10 Marks)  
b. With suitable example, explain how update operations are dealt with constraint violation. (10 Marks)
- 2 a. Explain the characteristics of Relations. (08 Marks)  
b. What is object identifier? What primary characteristics should an OID possess? What are its advantages and disadvantages? (12 Marks)
- 3 a. Explain object and literals with respect to ODMG. (10 Marks)  
b. What is ODL? Explain graphical notations and object database schema for part of UNIVERSITY database. (10 Marks)
- 4 a. With suitable examples, explain generalized model for Active Databases and Triggers in Oracle. (10 Marks)  
b. Explain briefly deductive databases and illustrate Prolog / Datalog notations with examples. (10 Marks)
- 5 a. Explain different types of Temporal Relational databases. (05 Marks)  
b. Explain the ways to horizontally partition a relation. (08 Marks)  
c. Explain distributed DBMS architecture. (07 Marks)
- 6 a. What is a distributed deadlock? Explain the algorithms to detect distributed deadlocks. (10 Marks)  
b. Explain implementation techniques for OLAP. (10 Marks)
- 7 a. Write and explain the algorithm for finding frequent item sets. (10 Marks)  
b. With a diagram, explain a mobile ad\_hoc network. (10 Marks)
- 8 Write short notes on :  
a. Multimedia databases.  
b. Constraints in GIS.  
c. Multidimensional Database design.  
d. The Genome Databases. (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written e.g. 42+8 = 50, will be treated as malpractice.