

Code: CSCS1T4

**I M.Tech - I Semester - Regular Examinations – April, 2015**

**DATABASE MANAGEMENT SYSTEMS  
(COMPUTER SCIENCE & ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

- 1 a) Enumerate and discuss the advantages of a Database Management System. 7 M
- b) Discuss Three schema architecture. 7 M
- 2 a) Describe the relationship between Entities, Attributes and Entity sets. 7 M
- b) Briefly discuss about conceptual design with the ER model. 7 M
- 3 a) What are relational database constraints. 7 M
- b) Differentiate between relational algebra & relational calculus. 7 M
- 4 a) Explain briefly about Third Normal Form. 7 M
- b) What are Dependency-Preserving Properties? Explain. 7 M

- 5 a) Discuss briefly about File organization and Indexing. 7 M
- b) Explain in brief disk access using RAID technology. 7 M
- 6 a) Explain SELECT and JOIN operations with examples. 7 M
- b) Give an overview of query optimization in Oracle. 7 M
- 7 a) Explain the desirable properties of Transactions. 7 M
- b) Define and explain serializability with an example. 7 M
- 8 a) Briefly discuss about Lock-Based concurrency control. 7 M
- b) Enumerate and explain ARIES Recovery Algorithm. 7 M