

Code: CSCS1T4

I M.Tech-I Semester-Regular Examinations-February 2016

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

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

- 1 a) Discuss the main characteristic of the data base approach?
7 M
- b) What is data independence? Explain the differences between logical data independence and physical data independence.
7 M
- 2 a) Write short notes on the following: 7 M
 - i) structural constraints
 - ii) Weak Entities
- b) What is UML? Explain class diagram with an example.
7 M
- 3 a) Briefly explain about Nested queries. 7 M
- b) What do you mean by Relational Algebra? Explain. 7 M

- 4 a) List out problems caused by Redundancy. 7 M
- b) Briefly explain Boyce-Codd Normal Form. 7 M
- 5 a) Briefly explain about Hash-Based Indexing . 7 M
- b) How does multilevel indexing improve the efficiency of searching an index file? 7 M
- 6 a) Explain PROJECT and SET operations with examples. 7 M
- b) Explain in brief semantic query optimization. 7 M
- 7 a) Define and explain recoverability with an example. 7 M
- b) Explain in brief transaction support in SQL. 7 M
- 8 a) Explain about the ARIES recovery algorithm. 7 M
- b) Discuss about the shadow paging. 7 M