

Roll No

IT-403

B.E. IV Semester

Examination, December 2016

Data Base Management System

Time : Three Hours

Maximum Marks : 70

- Note:* i) Answer any five questions.
ii) All questions carry equal marks.

1. a) Discuss the various components of database system. 7
b) What are the different levels of data abstraction? Explain each of them. 7
2. a) Draw an E-R diagram of university by determining entities of interest and the relationship that exists between there entities. 7
b) What are data models? Discuss briefly any one data model. 7
3. a) What are the different types of database end users? Discuss the main activities of each. 7
b) Explain about set operation in relational algebra. 7
4. a) What is referential integrity? How it is implemented using SQL. 7
b) Draw an E-R diagram for a hospital management system. Assume suitable entity and relations. 7
5. a) Explain join, natural join, outer join, full outer join, left outer join and right outer join with example. 7
b) What is BCNF? Give an example of a relation schema R and set of dependencies such that R is in BCNF, but not in UNF. 7

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6. a) What are the inference rules for multivalued dependencies? Explain. 7
b) Discuss the important design goals for relational database, and explain why each is desirable. 7
7. a) Discuss the relative advantages of centralized and distributed database. 7
b) What are object oriented databases? What are its advantages and disadvantages? 7
8. Write short notes : 14
 - a) Security and integrity constraints
 - b) Functional dependency
 - c) Concurrent operations
 - d) Problems with dangling tople

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