



**VI Semester B.E. (CSE/ISE) Degree Examination, January 2013
(2 K6 Scheme)**

CI-6.2 : DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours

Max. Marks : 100

Instruction : Answer any five questions, Selecting atleast two from each Part.

PART – A

1. a) With an example, discuss the database system technology. **6**
b) Briefly explain the capabilities that a good DBMS should possess. **7**
c) Discuss the criteria used for classification of DBMS. **7**
2. a) With a neat diagram explain the main phases of database design. **10**
b) What is an attribute ? Explain the different types of attributes that occur in an E-R model. **10**
3. a) What is union compatibility ? Explain why do the union, intersection and difference operations require that the relation on which they are applied be union compatible. **10**
b) With a suitable example for each discuss the following operations.
 - 1) Join
 - 2) Outer Join
 - 3) Division
 - 4) Cartesian product. **10**
4. a) For a student database application :
 - 1) Design a relational scheme for the application.
 - 2) Define and declare the relations using SQL 2 statements.
 - 3) Specify some basic queries using SQL. **15**b) Write a note on assertion and views in SQL. **5**



PART – B

5. a) Discuss insertion, deletion and modification anomalies. Why are they considered bad ? Illustrate with examples. **6**
- b) Define BCNF. How does it differ from 3 NF ? **8**
- c) Consider the following two sets of functional dependencies.
- $F = \{ A \rightarrow C$ $G = \{ A \rightarrow CD$
 $AC \rightarrow D$ $E \rightarrow AH\}$
 $E \rightarrow AD$
 $E \rightarrow H \}$
- Check if they are equivalent. **6**
6. a) Discuss decomposition 'D' of a relation and the properties that 'D' should possess. **10**
- b) Explain Fourth and Fifth normal forms. **10**
7. a) Explain oracle database structure. **5**
- b) Explain storage organization in oracle. **7**
- c) Discuss the architecture of MS-ACCESS. **8**
8. Write short notes on : **20**
- a) Multimedia database
- b) Data warehouse
- c) Digital libraries
- d) Mobile databases.
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