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M.E. First Semester (Information Technology) (Full Time) (C.G.S.)

13419 : Database System Design : 1 NMEF 2

P. Pages : 2 | **AW - 3742**

Time : Three Hours | Max. Marks : 80

* 0 3 5 6 *

Notes : 1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.
3. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) What is function of indexes? When are they desirable, and what is their cost? **7**

b) What is E-R Modeling? Explain the use of E-R diagrams with an example to simplify the database management activities? **7**

OR

2. a) What do you mean by semantic objects? Thus create data model with semantic objects? **7**

b) Explain the statement "A database is a self-describing collection of integrated records"? **7**

3. a) Define determinant. Give an example of a relation having a functional dependency in which the determinant has two or more attributes? **7**

b) Describe domain key normal form. Explain the use of its in a situation to normalize the data tables? **6**

OR

4. a) Explain synthesis of relations. Hence justify the role of iteration. **6**

b) Define functional dependency. Give an example of two attributes that have a functional dependency and give an example of two attributes that do not have a functional dependency? **7**

5. a) Explain in brief the steps of transforming semantic object into relational database design? **6**

b) Explain the following terms : **7**
i) Intersection Relation.
ii) Surrogate key.
iii) Association object.

OR

6. a) Explain following terms : **6**
i) Compound objects.
ii) Composite objects.
iii) Hybrid objects.

b) Design a tree network database and explain entity relationship transformation? **7**

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7.	a)	What are the three types of changes that can occur when updating a view instance?	6
	b)	Define horizontal and vertical security which type of security is supported by username, password and application code?	7

OR

8.	a)	Explain with example. i) Data modification. ii) Data Insertion. iii) Data Deletion.	6
	b)	Describe SQL in view of changing and retrieving data?	7
9.	a)	List and explain seven important task for a DBA?	7
	b)	Explain two phase locking and how does releasing all locks at the end of transaction?	7

OR

10.	a)	Describe the database recovery. Hence explain oracle backup and recovery?	7
	b)	Explain the three levels of transaction isolation supported by oracle?	7
11.	a)	Describe multi-tier architecture. Thus explain the use of XML?	7
	b)	What is an interface? Explain the difference between an interface and an implementation.	6

OR

12.	a)	What are tools which supports the ODBC and JDBC? Explain the Role of My-SQL.	7
	b)	List the major limitations of MySQL. For what type of workload is MySQL excel used?	6

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