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

13419 : Database System Design : 1 NMEF 2

P. Pages : 2
Time : Three Hours

AX - 3471
Max. Marks : 80

Notes : 1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.

1. a) Explain the similarities and differences between the E-R model and the semantic object model. **7**

b) What are hybrid objects? Explain with an example. **6**

OR

2. a) Explain file processing system Hence justify the need of database system. **7**

b) Describe and explain elements of E-R model with an example. **6**

3. a) Define determinant. Give an example of a relation having a functional dependency in which the determinant has two or move attributes. **6**

b) What is deletion anomaly and insertion anomaly? Explain with an example. **7**

OR

4. a) Define Domain/key normal form. Justify its importance. **7**

b) Explain the following terms- **6**
i) De-Normalization ii) Controlled redundancy

5. a) Describe three different ways to avoid null values. When are null values not a problem? **7**

b) What do you mean by binary relationship? Explain with an example. **7**

OR

6. a) Explain what is surrogate key? Hence justify the statement "Surrogate keys serve to maintain entity identity". **7**

b) Define the term parent and child and give example of each for 1:N relationship, why the key of the parent must be placed in the child than placing the key of the child in the parent. **7**

7. a) Define union compatible. Give an example of two relationship that are union compatible and two that are union incompatible. **6**

b) Differentiate between view and view instance. How a view is different from materialization? **7**

OR

8.	a)	List the three types of changes that can occur when updating a view instance.	**6**
	b)	Describe ambiguity that arises when values are null. Describe two ways such values can be eliminated.	**7**
9.	a)	Explain two phase locking. How does releasing all locks at the end of the transactions relate to two phase locking.	**7**
	b)	Explain the use of user, privilege and role in oracle security.	**7**

OR

10.	a)	Describe five difficult problems for organizations that create and use multiple-user databases.	**7**
	b)	What is DBMS security? Explain the role of database recovery in maintaining the security.	**7**
11.	a)	Explain the relationship of ODBC OLE DB and ADO.	**6**
	b)	Explain the multi-tier Architecture.	**7**

OR

12.		Explain Network environment of database connectivity. Hence justify the use of JDBC and MySQL in web.	**13**

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