

AQ – 2698

First Semester M. E. (Computer Science and Engg.) Examination

DATABASE PROCESSING

Paper – 1 RME 5 / 3 RME 2

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) Due credit will be given to neatness and adequate dimensions.
(2) Assume suitable data wherever necessary.
(3) Illustrate your answer wherever necessary with the help of neat sketches.
(4) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (a) What is minimum cardinality and maximum cardinality ? Explain with the help of example. 7
(b) Explain the difference between an object class name and object instance name. Give example for each. 7

OR

2. (a) Define attribute domain. What are the types of attribute domain ? Why is a semantic description necessary ? 7
(b) Name the major components of database system and briefly explain function of each. 7
3. (a) Compare and contrast BCNF and 3NF with suitable example. 6
(b) Define functional dependency and give an example of two attributes that do not have functional dependency. 7

OR

4. Discuss the relationship between all the normal forms. Explain the cases of single valued, multivalued dependency cases with respect to normalization. Explore domain key normal form. 13
5. (a) What is referential integrity constraints? Give the steps to create the primary key with ON DELETE CASCADE. 6

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- (b) Give an example of a simple object and composite object and show how to represent this by means of a relation. 7

OR

6. (a) Explain the statement "surrogate keys serve to maintain entity identity." Explain why this is important. 6
(b) Explain how the representation of weak entities differ from the representation of strong entities with example. 7

7. Consider the following schema

CATALOG ((NO , (TITLE)

STUDENTS (SID, FNAME,LNAME,MINIT)

COURSES (TERM, LINENO, (NO, A, B, C, D)

COMPONENTS (TERM, LINENO, COMPNAME, MAXPOINTS, WEIGHT)

ENROLLS (SID, TERM, LINENO)

SCORES (SID, TERM, LINENO, COMPNAME, POINTS)

Write down SQL expression for the following :-

- (a) get the names of students who have not enrolled in any course.
(b) Get the term, line numbers and course title of courses with the highest enrollments.
(c) Get the names of students who have enrolled in highest number of courses.
(d) Get the titles of courses that have enrollments of five or fewer students.

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OR

8. (a) Describe the worst and best extremes for loading the database with data. 6
(b) What are view instances? Explain how they are updated and deleted. 7
9. (a) Explain why a transaction may have many cursors. How is it possible that a transaction may have more than one cursor on a given table ? 7
(b) Explain the read committed and read uncommitted. 7

OR

10. (a) Explain the difficulties faced by the organization that create and use multi-user databases. 7
- (b) What is rollback ? Explain why it is important to write log before changing database values. 7
11. (a) How does MYSQL use read locks ? How it uses write locks ? 6
- (b) Explain the importance of XML to database applications. 7

OR

12. (a) Define abstraction. How is it related with OLE DB ? 6
- (b) Explain three tier architecture. What are the roles of each ? 7



