PARUL UNIVERSITY – PARUL INSTITUTE OF TECHNOLOGY

COMPUTER SCIENCE AND ENGINEERING DEPARTMENT

Subject: Database Management System (303105203)

Question Bank Unit 5 Relational Database Design

1. Define the terms a)Domain b)Data Dependency
2. Define the terms Functional Dependency with example?
3. What are the different types of attributes? Explain in each detail?
4. What are the different types of functional dependency?
5. Define the terms Armstrong's axiom? Explain the different rules of it?
6. Define the terms closure of FD? Explain the steps to calculate closure of FD with example?
7. How to calculate super key in FD with example?
8. How to candidate key in FD with example?
9. Define the terms a) Prime Attribute b) Non-Prime Attributes
10. Define the terms normalization? What are the different types of it?
11. Explain the terms anomalies in normalization? Describe the different types of it?
12. Explain 1NF with example?
13. Explain 2NF with example?
14. Explain 3NF with example?
15. Explain 4NF with example?
16. Explain BCNF with example?
17. What are the different properties of decomposition?
18. Explain lossless join decomposition with example?
19. Explain lossy decomposition with example?
20. Given relation R with attributes A,B,C,D,E,F,G and set of FDs,
    F = { A → B, B → C, AC → D, CD → E, G → A, AF → G }.
    Find the Closure of AF.
21. Given relation R with attributes A,B,C,D,E,F and set of FDs,
    F = { A → C, A → D, B → E, C → F}.
    Find the Closure of A, AC & BF.
22. Given relation R with attributes A,B,C,D,E and set of FDs,
    F = { B→ D, C → E, AB → E }.
    Find which of the following is super key? (A)AB B)ABC C)ACD D)ABE .
23. Given relation R with attributes A,B,C,D,E and set of FDs,
    F = { A→ B, B → C, C → A }.
    Find which of the following is Candidate key? (A,B,C,D,AB,BC,CD,AD,AC,BD)
24. Given relation R with attributes A,B,C,D,E and set of FDs,
    F = { AB→ B, BC → D, CD → E,E→ A }.
    Find which of the following is Candidate key? (A,B,C,D,AB,BC,CE,BE,BCE)

Question Bank Unit 7 Querry Processing & Optimization

1. Define the terms query processing. What are the different steps to fetch items of it.
2. Explain the steps of query processing with neat sketch diagram.
3. How to measure the query cost? What are the different factors of it.
4. Explain selection operation with linear search & binary search algorithm?
5. How to evaluate query expression? What are the different methods of it?
6. Explain the terms mitralisation with example? What is the disadvantage of it?
7. Explain the term pipelining? What is the different way to evaluate the expression execution?
8. Explain the term query optimization? What are the different approaches of it with example?
9. What are the different equivalence rules? Explain in details?
10. What is meant by query optimization? What are the different feature of it?
11. What are the different approaches of query optimization?