SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR Total number of pages:[2] ROLL No: Total number of questions:06 B.Tech. || CSE || 6th Semester Relational Database Management System II (RP) Subject Code: BTCS 602 Paper ID: M/18 (for office use) (2011-2014 batch) Max Marks: 60 Time allowed: 3 Hrs **Important Instructions:** All questions are compulsory Assume any missing data PART A (2×10) All COs Short-Answer Questions: Q. 1. (a) What is referential integrity constraint? (b) List two reasons why null values might be introduced into database. (c) Let R=(A, B, C), S=(C, D, E) and let q and r be relations on schema R and s be a relation on schema S. $\{|\exists b (\in r \land b = 10)\}\$ to SQL: Convert (d) What do you mean by transaction? (e) Write down data mining process. (f) What is LOG in RDBMS? (g) What are advantages and disadvantages of structured Query Language? (h) What do you mean by database security? (i) State any two variations of 2PL protocol. (j)How do we create a table using SQL command? PART B (8×5) a. Write a short note on DDL & DML. Q. 2. b. Why Normalization is useful? Explain 2nd NF & 3NF. Describe the three schema architecture. Why do we need mapping between COa schema levels? Explain. Explain about the steps followed in Query Processing. COb Q. 3. For the following relation schema: employee (employee-name, street, city) COb works (employee-name, company-name, salary) company (company-name, city) manages (employee-name, manager-name). Give an expression in SQL for each of the following queries: a. Find the names, street address, and cities of residence for all employees who work for 'First Bank Corporation' and earn more than

\$10,000.

b. Find the names of all employees in the database who live in the same cities as the companies for which they work. c. Find the names of all employees in the database who live in the same cities and on the same streets as do their managers. d. Find the names of all employees in the database who do not work for 'First Bank Corporation'. Assume that all people work for exactly one company. What do you mean by concurrency control? Explain various concurrency COc control techniques. OR Explain about various deadlock prevention techniques/ conditions. COc Write about the five-level schema architecture of distributed databases also COd give advantages and disadvantages of distributed database systems. Explain in detail advantages and disadvantages of OODBMS. COd Write short note on following (any two) COe a. Oracle Database b. IBM DB2

Q. 4.

Q. 5.

Q. 6.

c. Microsoft SQL Server

Explain various database recovery techniques.

*****All the Best****

OR

COe