



SOMAIYA
VIDYAVIHAR UNIVERSITY

Semester: January 2022 – May 2022 Examination: In-Semester Examination		
Programme code: Programme:	Class: SY	Semester: IV (SVU 2020)
Name of the Constituent College: K. J. Somaiya College of Engineering	Name of the department: COMP	
Course Code: 116U01C403	Name of the Course: Relational Database Management System	

Question No.		Max. Marks
Q.1	<p>Answer any 2</p> <p>a. What are the drawbacks of file system and which features of DBMS handles those drawback.</p> <p>b. Explain the three level schema architecture of DBMS and different levels of dependencies in this architecture with diagram.</p> <p>c. Draw DBMS architecture and role its components with diagram.</p>	5*2
Q.2	<p>Consider following relation:</p> <p>Student(RollNumber, StudentName, Address)</p> <p>Teachers(TeacherID, TeacherName, TeachingSubject)</p> <p>Associated_with(RollNumber, TeacherID)</p> <p>Write the relational algebra expression for the following:</p> <p>i. Find the name of Students who live in 'Mumbai'.</p> <p>ii. Find the name of teacher who teaches 'DBMS' Subject.</p> <p>iii. Find the name of teacher who teaches 'TAC' Subject to 'John Smith' Student.</p> <p>iv. Delete records of students whose address is 'Pune'.</p> <p style="text-align: center;">OR</p> <p>Design Relational Mapping for the following ERD.</p> <pre>graph LR Manufacturer[Manufacturer] -- "made-by" --> Part[Part] Part -- "contains" --> Order[Order] Customer[Customer] -- "order" --> Order Manufacturer --- name1((name)) Manufacturer --- address1((address)) address1 --- city1((city)) address1 --- street1((street)) Part --- description1((description)) Part --- part-num1((part-num)) Customer --- ID1((ID)) Customer --- name2((name)) Customer --- Mob-no1((Mob no)) Order --- order1((order)) Order --- prdet-bum1((prdet-bum))</pre>	10

Q.3	<p>Consider following relations:</p> <p>Person (driver_id, Name, address)</p> <p>Car (license, model, year)</p> <p>Accident (report_no, adate, location)</p> <p>Owns (driver_id, license)</p> <p>Participated (driver_id, license, report_no, damage_amount)</p> <p>Assume some tuples in relations and write the SQL for the following:</p> <p>i. Find total number of people who owned cars that are involved in accidents in 2004.</p> <p>ii. Write DCL command to create new user 'Alice' and grant only select and insert access rights to relation 'Person'.</p> <p>iii. Create a view to count number of reports generated in each location.</p> <p>iv. Write a trigger to raise an exception "No negative damage amount is allowed" while adding entries in the respective table.</p>	10
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