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Fifth Semester B.E. Degree Examination, Dec.201Vriii. 2020 Database Management System

	Tir	ne: 3	3 hrs. Max. M	Max. Marks: 80	
℃) " * E.		N	ote: Answer any FIVE full questions, choosing ONE full question from each modu	ıle.	
1	Module-1 a. Discuss the main characteristics of the database approach and how it differs from t				
tu a cc			file systems. Explain the component module of I)13MS and their interactions with the heldiagram.	(08 Marks)	
 7 ` ¹¹			OR		
remain \mathbf{g} = \mathbf{g} , 42 \mathbf{g} =	2	a. b.	 Draw an ER-diagram for AIRLINE database schema with atleast five entity specify primary key and structural constraints and weak entity type. Define the following terms: i) Weak entity type ii) Degree of a relationship type 	(10 Marks)	
			ili) Role names and recursive relationship.	(06 Marks)	
0	3	a.	Discuss the different types of update operations on relational database. Expla basic operations deals with constraint violations.	in how the (08 Marks)	
0 -a 5 6		b.	Explain the data types available for attribute specification in SQL.	(08 Marks)	
u. 0 c. cz	4	a.	Consider the two tables T_i and T' . Show the results of the following operations: T_i R A B C		
Г З ст.			$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
Sr. tIO			i) $T > a_{r^2}, T,$ ii) $b < l_T = 12$		
0 0 <			iii) T, T_{-1-2A} T ₂		
0 Z			iv) $T \gg E \qquad T$,		
-E 0			v) T = AND 1' ₁₁₍ = $T_2 O^{-1} \cdot 2$	(10 Marks)	
a .		b. 1	Explain Unary relational operations with an example.	(06 Marks)	



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Module-3

5	Consider the following schema of order database				
	SALESMAN (Salesmanid, name, city, commission);				
	CUSTOMER (Custid, custname, city, grade, salesmanid);				
		ORDERS (Ordno, purchaseamt, orddate, custid, salesmanid);			
	Write SQL queries for the following:				
	i) Find the name and numbers of all salesman who had more than one customer.				
	ii) Count the customers with grade above Bangalore's average.				
	iii) List all the salesman details whose first name is 'John'.				
	iv) List all salesman and indicate those who have and don't have customers in th (Use UNION operation).	neir cities			
	v) Use the delete operation by removing salesman with $id = 2000$.	(16 Marks)			
	OR				
6 a .	Explain three-tier architecture with neat diagram.	(08 Marks)			
b.	xample. (08 Marks)				
	Module-4				
7 a. Define normal form. Explain INF, 2NF and 3NF with suitable example. (08 Marks)					
h. Discuss insertion, deletion and modification anomalies. Why are they considered bad?					
	Illustrate with example.	(08 Marks)			
	OR				
8 a. Explain the four informal guidelines that may be used as measures to determine the qual					
of relation schema design. (08 Marks)					
b. Write an algorithm for finding a minimal cover 'F' for a set of functional dependencies `E'.					
Find the minimal cover for the given set of FD's					
		(08 Marks)			
	Module-5				
9 a. Di	scuss the atomicity, durability, isolation and consistency preserving prope	erties of a			
database transaction (08 M					
b. V	Why concurrency control is needed demonstrate with example?	(08 Marks)			

OR

10 a. Discuss Two-Phase Locking Technique for concurrency control.(10 Marks)b. Explain NO-UNDO/REDO Recovery based on deferred update.(06 Marks)