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Internal Assessment Test 3 – Jan 2022

Sub:	Database Management System					Sub Code:	18CS53	Branch:	CSE
Date:	24/01/22	Duration:	90 mins	Max Marks:	50	Sem / Sec:	5/A,B,C		OBE

	Answer any FIVE FULL Questions	MARKS	CO	RBT
1(a)	Explain the following (i). Candidate key (ii). Primary Key (iii). Super key	[4]	CO2	L2
(b)	Given below are two sets of FD's for a relation R (A, B, C, D, E).Are they equivalent? F= {A->C, AC->D, E->AD, E->H} and G= {A->CD, E->AH}	[6]	CO4	L3
2(a)	Explain transaction states with a neat diagram.	[4]	CO4	L3
(b)	Write the algorithm to find the minimal cover for a sets of FD's Consider R={A,B,C,D,E,F} .FD's {A->C,AC->D,E->AD,E->H} Find the irreducible cover for this set of FD's(minimal cover).	[6]	CO4	L3
3(a)	List and explain ACID Properties.	[4]	CO4	L2
(b)	Check whether the given schedule is serializable or not using a precedence graph. Explain with an algorithm. S1:R1(X) R2(Z) R1(Z) R3(X) R3(Y) W1(X) W3(Y) R2(Y) W2(Z) W2(Y)	[6]	CO4	L3
4(a)	Define Multivalued dependency. Explain 4NF with an example.	[4]	CO4	L2
(b)	Explain the problems that can occur when concurrent transactions are executed.	[6]	CO4	L2
5	Explain informal design guidelines for relation schemas.	[10]	CO4	L2
6	Consider R = {A,B,C,D,E,F) and D={R1,R2,R3} where, R1(A,B) R2(C,D,E) R3(A,C,E) The following functional dependencies hold on relation R. F = {A→B; C→DE; AC→F}. Check if D is lossless decomposition.	[10]	CO4	L3
7	What is the need of normalization? Explain the first, second and third normal form with examples.	[10]	CO4	L2

[P.T.O]

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