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Internal Assessment Test 3– November 2019

Sub:	Database Management Systems					Sub Code:	17CS53	Branch :	CSE
Date:	19/11/19	Duration:	90 min's	Max Marks:	50	Sem/Sec :	V (A, B& C)		OBE

	Answer any FIVE FULL questions.	MARKS	CO	RBT
1 (a)	What do you mean by multivalued dependency? Describe 4NF with example.	[5]	CO4	L2
(b)	Draw state transition diagram of a transaction. Explain different states of a transaction.	[5]	CO4	L1
2 (a)	Define Minimal cover. Write an algorithm for finding a minimal cover G for a set of functional dependencies F.	[5]	CO4	L1
(b)	A relation R (A, C, D, E, H) satisfies the following FDs. A→C AC→D E→AD E→H. Find the canonical cover for this set of FDs.	[5]	CO4	L3
3 (a)	Discuss the properties of a Transaction.	[5]	CO4	L2
(b)	Given below two sets of FDs for a relation R (A, B, C, D, E). Are they equivalent? i) A→B AB→C D→AC D→E ii)A→BC D→AE	[5]	CO4	L1
4	What are the anomalies that can occur due to concurrent execution of transactions? Explain them with example.	[10]	CO4	L1

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5	What is serializability? How can serializability be ensured? Consider the Schedule S given below. Determine whether the schedule is serializable or not? If it is serializable, write down the equivalent serial schedule(s). **S: r2 (A); r1(C); r3 (A); r2(C); r3 (B); w2 (A); w1 (C); w3 (B);w1 (B); r2(B);**	[10]	CO4	L3
6	What are the conditions to be satisfied for a non-additive join decomposition? Given the universal relation R(ABCDE) F= {BC→D, AC→BE, B→E} What is the key of the relation R? What is the highest normal formof R? Preserving dependency and lossless join property decompose the relation into 3NF.	[10]	CO4	L3

CI CCI HOD

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