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Internal Assessment	Test 3– November 2019
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Sub:	Database Ma	anagement	Systems			Sub Code:	17CS53	Bra	nch :	CSE	}		
Date:	19/11/19	Duration:	90 min's	Max Marks:	50	Sem/Sec :	V (A,	OBE					
	Answer any FIVE FULL questions.								ARK S	СО	RB T		
1 (a)	What do you	mean by m	nultivalued of	dependency? I	Desci	ribe 4NF wi	ith example.		[5]	CO4	L2	
(b)	Draw state tr	ansition dia	agram of a t	ransaction. Ex	plair	different s	tates of a						
transaction.									[5]		CO4	L1	
2 (a) Define Minimal cover. Write an algorithm for finding a minimal cover G for a set						[[5]		L1				
of functional dependencies F.													
(b) A relation R (A, C, D, E, H) satisfies the following FDs. $A \rightarrow C AC \rightarrow D$													
$E \rightarrow AD E \rightarrow H$. 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) $A \rightarrow B$ $AB \rightarrow C$ $D \rightarrow AC$ $D \rightarrow E$													
ii) $A \rightarrow BC D \rightarrow AE$								[5]	CO4	L1		
4 What are the anomalies that can occur due to concurrent execution of transactions?						[1	[0]	CO4	L1				
Explain them with example.													





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	Answer any FIVE FULL questions.									ARK S	СО	RB T
1 (a)	What do you	ı mean by n	nultivalued of	dependency? I	Desci	ibe 4NF w	ith example.		[5]	CO4	L2
(b)	Draw state tr	ransition dia	agram of a t	ransaction. Ex	plair	different s	tates of a					
	transaction.								[5]		CO4	L1
2 (a)	Define Minin	mal cover. V	Write an alg	orithm for fin	ding	a minimal o	cover G for a	set	[5]	CO4	L1
	of functional	l dependenc	ies F.									
(b)				es the followin	<u> </u>		AC→D		[5]	CO4	L3
	E→AD E-	→H. Find	the canonica	al cover for the	is set	of FDs.						
3 (a)	Discuss the p	properties o	f a transacti	on.					[5]	CO4	L2
(b)				elation R (A,	B, C	, D, E). Are	they equival	ent?				
	i) A→B	AB→C	D→AC D	D→E					[5]	CO4	L1
	ii)A→BC	D→AE										
4	What are the	anomalies	that can occ	cur due to con	curre	nt executio	n of transacti	ons?	[]	[0]	CO4	L1
	Explain then	n with exam	nple.									

	Answer any FIVE FULL questions	MARK S	СО	RB T
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) $F= \{BC \rightarrow D, AC \rightarrow BE, B \rightarrow E\}$ 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

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	Answer any EIVE ELU L questions	MARK	CO	RB
	Answer any FIVE FULL questions	S		Т
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) $F= \{BC \rightarrow D, AC \rightarrow BE, B \rightarrow E\}$ What is the key of the relation R? What is the highest normal form of R?Preserving dependency and lossless join property decompose the relation into 3NF.	[10]	CO4	L3