	N. J. 14 . 15	ASSIGNMEN	II :	-3	ri e	401 3		100		
	Considering 3 unnormalized tables:-							8		
	_	J	120	ea tak	ole s	· -	7			
(i)	Table 1: Students		0 0 0		1 20	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
		D Student_Name				rse_Name	EU!	- 1		
	101	Alice			1	1S, AI				
	102	Воь	-			ta structures				
	103	Charlie	CIOI	, (102)	DRW	DBMS, PM /NOT				
		72 G								
(ii)										
	Order_10						Price			
	201	John		Laptops, Mouse			1000,50			
	202	Emma		Keyboard			100			
	203	Sam		Laptop	s , H(eadphones	1000,20	0 1: 1:		
	_									
(iii)	Table 3: Employees									
	EID	Employee_Name		Dept Skills			4			
	EOI	1 1 2		IT Java, Python						
	E02	Sarah	1	1R		nunication	 			
	E03	Tom	1	IT Java, SQL						
						,				
I	Convert to First Normal Form (INF)									
1.										
	· Each row should have atomic values.									
	· No repeating groups.									
	· Each column has only one value per row.									
2.	Table : Students (INF)									
(i)	Student-	ID Student_Nam	Student_Name Con		ourse_IDs Course_N		ame	- 10		
	101	Alice	Alice C		CIOI DBMS					
	101	101 Alice		CIO2 AI						
	102	Bob	Clos		Data Structure		ictures			
	,						Control State Control			

	103		Charlie	Charlie Cioi		SMS	A TOTAL CONTRACTOR	
		103 Charlie C104		C104	PM			
					(145	1 220	Little tra.	(11)
(ji)	Table: Orders (INF)							
	Oraer_ID			Customer - Name		S)	Price	· , ,
		201	John	John		ps	1000	
	201		John	John		e	50	
		202	Emm	Emma 1 Sam		ard	100	
		203	Sar			P.	1000	4
		203	sar	n	Head	nones	200	
	17133 112							
	Ta	ble : Er	mployee (1	NF)		[.]	2.32	
(iii)		EID	Employee_	Name	Dept	Ski	lls dell	
		EOI	David		IŢ	Tay	1a HJ.	
		EOI	David		IT	Pyt	Python	
		E02	Sarah	1) 19	HR	Comm	nunication	o.T
		E03	Tom		1. 1 7 12	J	ava	
		E03	Tom		ITAL	S	al 194	L
					8 31 3		(5)	
3.	Jus	stification	on.	n. 1015 - 101				
•	Atomicity Ensured: Each column contains onl						ains only	y one
	value, making data easier to query.							
•	Da	ata Integrity Improved: Eliminates inconsistent stor						
	formats.							
•	Sil	mplifie	s Queries:	Makes	sear	ching	and filte	eving e
	by ensuring each pieces of data is stored in a since							
	cell				74 . 181	0.3	154	
<u>I</u>	Convert to Second Normal Form (2NF)							
1	Rules:							
	· It should be in INF.							
	· No partial dependency i.e all non-key columns dep							

	on the entire primary key not just part of it.								
2 .	Table: Students (2NF)								
(i)	Student_1		ame	a Wad Englandings					
U	101			cultural and harman					
	102	Вор							
	103	Charlie	100.5	Transfer to the first transfer transfer to the first transfer trans					
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.000 0.000	3,000						
	Table : Cou	rses (2NF)	175						
	course_ID	Course_Name	_1170.3						
	CIOI	DBMS							
	C102	AI	3.4	op. Kora aki					
	C103	Data Structure	Sacretaria						
	C104	PM TI	far.	17 17 17					
	resolved fill three- fill								
	Table: Course_Enrollment (2NF)								
	Student_	ID Course-11	0.770						
	loi	CIUI							
	loi	C10 2							
	102	(103		min the state of					
	103	Clol	de la la	M. O. Manney D. M.					
	103	C104	831 2116	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
	anseringerin estatunuli i Leswick santarii sala e								
(i)	Table: Orders (2NF)								
	Order_ID	Customer_No	ıme	and an Matrix					
	201	John	0 0000	1 00 0000, 50 00					
	202	Emma							
	203	Sam							
	Carl Marie Down W. Level W. Co. of S.								
	Table: Items (2NF)								
	Oraer_ID	Item	Price	1 12 10 31 11					
- 1	201	Laptop &	1000	The second second					

			1						
	201	Mouse	50						
	202	Keyboard	100						
	203	Laptop	1000						
	203	Headphones	200						
3.	Justification								
•	Eliminates Partial Dependencies: Every non-key column is								
•	fully dependent on the entire primary key. Reduce Data Redundancy: Removes duplication of student								
	name, course name etc								
•	Imp Avoids update anomalies: Ensures updates happen								
	in one place instead of multiple rows.								
(1)	Convert to Third Normal Form (3NF)								
1.	Rules:								
	· It should be 2NF.								
	· No transitive dependencies ie non-key attributes should								
	should not depend on other non-key attributes.								
۵.	Table: Items (3NF)								
	- Item	Price							
	Laptop	1000							
	Mouse	50							
	keyboard	100							
	Headpho	nes 200							
3.	Justification.								
•	Eliminates transitive dependencies.								
	Reduces P. Redundency.								
•	Increases Data Consistency - Updates affect only one								
	table instead of multiple places.								