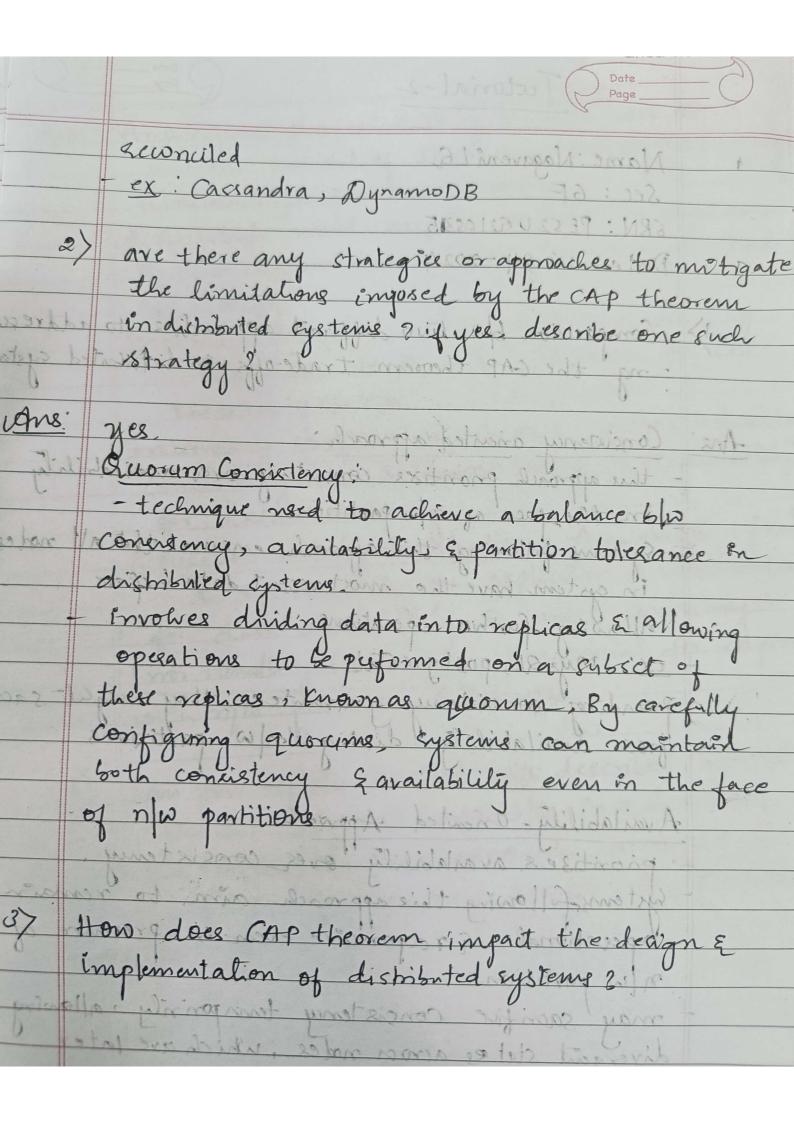
	Tutorial-2	Classmate Date Page
4	Name: Nagaveni 16	Lecconded
	Sec: 6F Sammer A	- ex : Cacrana
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no toga	Date: 16-04-2024	as are there as
DECON	have smaded by the CAP the	the limit
- Charles	Comparision blu two different	approaches to address
	- ng the CAP theorem trade-	Hs in distributed system
-Ans:	Consistency oriented approach:	idons nes
	this approach prioritizes concisteni	over availabilité
- K	in the face of nonties concistent	- technique
Nã OTR	Systems following this approach	ensures that all notes
-	in cystem have the most recent	data belor
anough!	allowing further operations	t sommer d
He	ex: Mysal, postgresal	corest ans
1 - 2	and not considerate to	2:4122.46.1-
0	onding consistency guarantee	they might sacr
free availability during n/w partitions		
	tency savailabilli even in	
AV	railability-Oriented Approach	was an to
prioritises availability over consistency.		
tystemsfollowing this approach aim to remain		
8	pegational & reconsive ever	en presence of
n w partitions		
may sacrifice concistency temporinly, allowing		
OOIV	lergent states ainces nodes, w	nich are later



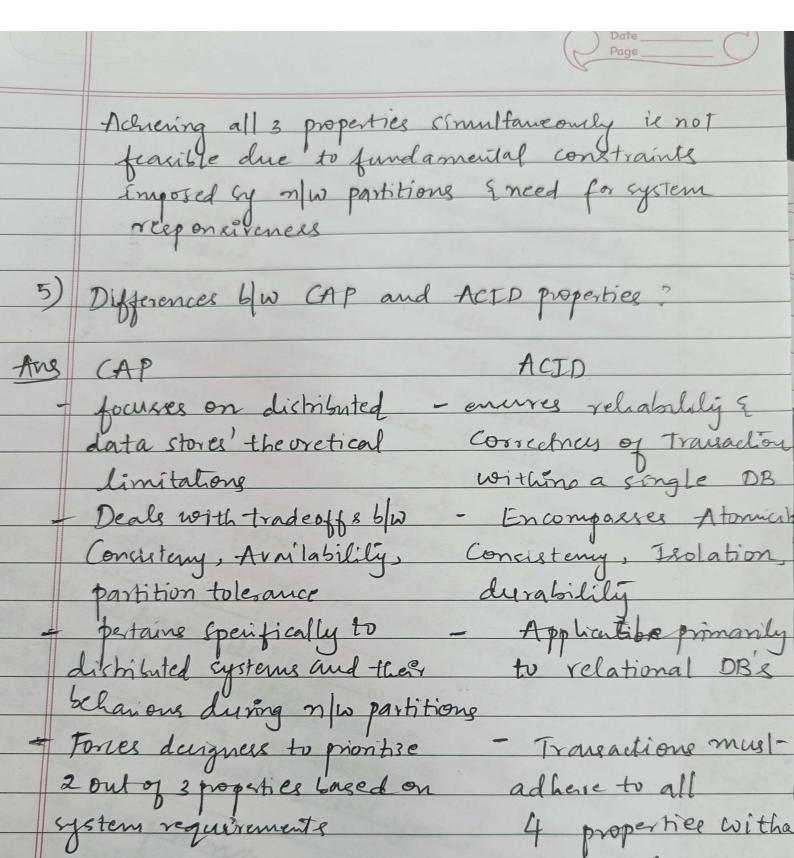
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Ans: Architectural choices: CAP extern designers to prioritize two out of there characterice : Concretery availability partition tolerance, * Architects must carefully consider the requirement of their applications & choose an appropriate trade Data model Selection choice of Data model Ceg: relational, NoSQL) is influenced by CAP theorem priorities is now some Concurrancy control mechanisme i cystens enplosing for data consistency Replication and synchronisation: Availability - focus d systems rely on replication & synchronisation for data availability & eventual conciletery Error Handling & Recovery are concial for coping with n/a partitions & failures Can you explain the trade off described by CAP theorem? why is it impossible for a distributed data store to simultaneously gurantee all 3 properties of Consistency, Availability, partition didributed externs due to fators live laterry how failines or only congestion

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Date ________ Ang tradeoffs blw Consistency, Availability, partition tolerance indichibuted agreems Congreterry Every read recieves the most recent write or an emor in other worde all nodes have the same data at the same time Availability: Every request recieves a response, without the quaranter that it contains the moit regent data. system remains responsive even en pace of n/w faitures partition tolerance cystem continues to operate despite now partitions that prevent some moder from communicating with others why is it impossible? Any - Concistency v/s availability: encuring both simultance Le only is challenging because mainting concilleny often requires coordination and synchronisation among nodes. for ex Ena n/w garthoncienerio maintaining consistency might require waiting for communi - cation to be restored leading to reduced idiferacialistification po entre a NIW partitions: n/w failures are inevitable in distributed existens due to factors like lateray how failures or now congestion



componise