AND THE OF TECHNOLOGICAL PROPERTY OF THE CHILD COLOR AND		National Institute of Technology Meghalaya An Institute of National Importance													CURRICULUM		
Progi	ramme	Master of Computer Applications								Academic Year of Regulation				2024-25			
Depa	ırtment	Computer Science and Engineering								Semester				V			
Cours	_	Course Name Pre-Requisit							a	Credit S	Structure			Marks Di	Marks Distribution		
Code		7.5.7.54							L	Т	Р	С	INT		END	Total	
CA67	5	Distributed Computing System							3	0	0	3	50	50	100	200	
	dis exc Thi syr	This course explains the advantages and challenges in designing distributed operating system, algorithms for different primitives, mutual exclusion, deadlock detection, agreement, etc. This course describes the details of distributed computing techniques, synchronous and processes, minimum spinning tree and communication protocol algorithms.								CO's CA675.1	such as algorithms for different p Able to design and demonstrate t distributed computing techniques synchronization and construction		ating system primitives the es for process n of				
Cours Objecti	ves dis	This course provides the methodologies to design and implement distributed mutual exclusion algorithm and distributed deadlock detection and termination algorithms This course provides the techniques to design and develop applications based on requirements of various fault tolerance system, algorithm for failure recovery and fault tolerance in distributed systems.							Course Outcomes	CA675.3	forwarding Able to do of Distriby detection Able to do system to	mum spinning tree for message varding and receiving. to develop the practical understanding istributed mutual exclusion and deadlocetion for various processes. to design and analyse the fault tolerantem to achieve high reliability and iracy using the principle of fault toleranterithms			erant Create		
										CA675.5				orld			
COs		Mapping with Program Outcomes (POs)												Мар	ping with	PSOs	
	P	201	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
CA675		3	3	2	1	_				2				3		3	
CA675		1	2	3	3	2	2			1				2	3	3	
CA675		1	2	3	3	3	2	3		2			1	2	3	2	
CA675		2	3	3	2	2	3	2		2			1	3	3	3	
CA67	5 2	2.00	2.60	3.00	2.25	2.25	2.33	2.50		1.75			1.00	2.40	3.00	2.60	
			2.00	3.00	1 2.23	2.23	2.55		LLABUS	1.75			1.00	1 20	0.00	2.00	
No.							Coi	ntent						Hours		COs	
-	of ope	s concepts Computer architecture: CICS, RISC, Multi-core Computer networking: ISO/OSI Model Evolution erating systems uction to distributed computing systems (DCS): DCS design goals, Transparencies, Fundamental issues												C	CA675.1		
II	Physic													12	CA675.2		
III	Group (techniq	process communication: Message passing communication Remote procedure call Transaction communication communication communication; Broadcast atomic protocols, Deadlocks in distributed systems, Load scheduling and balancing													CA675.3, CA675.4		
IV Distributed database system : A Case study										6	CA675.5						
						٦	Total Ho	urs						42			
	ial Read			Addison	Maclay "r)ictributod	Systems	Concents	nd Design", 5	th Edition	Pearson 2	<u></u>					
										ui cultion,	redisoli, 20	711					
2.	M. Singh	ial, N.G	5. Shivaratl	hri, "Advaı	nced Opera	ting Syster	ms", McG	raw Hill, 20)17								
3.	Randy Cl	how, T	. Johnson,	Addison V	Vesley, "Di	stributed C	perating	Systems ar	nd Algorithms	", Pearson,	, 1997						
Supple	mentar	y Rea	dings														

1. A.S. Tanenbaum, "Distributed Operating Systems", Prentice Hall

2. M. Tamer Ozsu, Patrick Valduriez, "Principles of Distributed Database Systems", 3rd Edition, Prentice Hall International, 2011