ALLOW HISTORY OF TECHNOLOGY HIST

National Institute of Technology Meghalaya

An Institute of National Importance

CURRICULUM

D	ogrann	me Bachelor of Technology in Electronics and Communication Engineering Year of Regulatio							ulation	2018-19									
	epartme	ent	Electro	onics ar	nd Comm	unication	Engineer	ing					Semest	er			VI		
	urse	Course Name								Credit Structure				Marks Distribution					
Code								L	Т	Р	С	INT	MID	END	То	otal			
EC	314	Data Communication and Networks						3	1	0	4	50	50	100		<u>00</u>			
		To intro	oduce co	ommun	ication ne	twork arcl	nitecture				CO1	of its app		data com	munication	networks	and ident	ificatio	
Course Objectives		To teach the utility of the layered architecture							Course Outcomes	CO2 Able to relate the TCP/IP									
		To develop an ability and skill to design various communication networks								CO3	Able to analyze the requirements for an organizational network layout and give the most appropriate networking architecture and technologies suited								
		To deven	-	ability a	and skill t	o design v	arious wire	ed and wi	reless		CO4	and havin	ng a workin	ng knowl	ommunicati edge of con security fea	nectionles			
NT.	CO						Mapping	with Prog	gram Out	tcomes (POs)						Mapping with PSOs			
No.	COs	PO	1 P	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO	
1	CO1	3		2	3	1	-	-	-	-	-	-	-	-	3	-	2	3	
2	CO2	2		2	-	1	-	-	-	-	-	-	-	-	2	-	3	2	
3	CO3	3		3	2	1	2	-	-	-	-	-	-	-	2	3	2	2	
4	CO4	2		2	2	-	2	2	-	-	-	-	-	-	2	3	2	2	
-									SY	YLLABUS					Hou				
No.								Content										COs	
	A Con	nmunica	tion Mod			g Overvie unication,		municatio	on Netwo	rking Concep	ot, ISP, To	pology and	Transmiss	ion					
Ι	Media Protoc	, Concep col Arch	ot of Clie i tecture	del, Da ent and e:	ta Commu Server, A	unication, In Example	Data Com e Configur	ation.		rking Concep erence Model					08		CO1,	CO2	
І	Media Protoc The No Digita Async	, Concep col Arch eed for F l Data C hronous	ot of Clie itecture Protocol 2 Commun and Sync	del, Da ent and e: Archite nication chrono	ta Commu Server, A ecture, A n Issues: us Transn	unication, In Example Simple Pro	Data Com e Configur otocol Arc	ration. hitecture, rames and	OSI Refe		, The TCI	P/IP Protoco	ol Architec	ture.	08		C01, C01,		
	Media Protoc The No Digita Async: Line C Data I Data I Sliding Local LAN	, Concep col Arch eed for F I Data C hronous Configura Link Lay Link Con g Windo Area No	et of Clie itecture Protocol A Commun and Sync ations, In yer trol Med w Protoc etwork (Archite	del, Da ent and e: Archite nication chrono nterfaci dium A col, Pol	ta Commu Server, A ecture, A n Issues: us Transn ng, Physio ccess Con lling, High ew:	unication, an Example Simple Pro- nission, Co cal, Logica atrol (Mac) n-Level Da	Data Com e Configur otocol Arc oncept of F al and Port And Logi ata Link C	ration. hitecture, rames and Address cal Link (ontrol (HI	OSI Refe l Packets, Control (I DCL), Pe	erence Model	, The TCI Fors, Error er Issues, I sues.	P/IP Protoco Detection,	ol Architec Error Corre	ection,				CO2	
II III	Media Protoc The No Digita Async Line C Data I Data I Sliding Local LAN Techno Routin Algori Intern Basic I Router Trans	, Concep col Arch eed for F I Data C hronous Configura Link Lay Link Con g Windo Area No Protocol ology (W ng And C ng In Cir thm, Eff etwork Protocol rs, IPv4, port Pro	to of Clie itecture Protocol A Commun and Sync ations, In yer trol Med w Protoce etwork (C Archite Vi-Fi). Congesti cuit-Swir cets of C Protocol Function Subnet, ' otocols:	del, Da ent and ent and ent and ent and enternation chrono nterfaci dium Ad col, Pol Overvi ecture, itching Congest bls: ns, Prin The In	ta Commu Server, A ecture, A f n Issues: us Transm ng, Physic ccess Com lling, High ew: Bridges, Datrol In S Networks tion, Cong nciples Of ternet IPv	unication, an Example Simple Pro- nission, Co cal, Logica atrol (Mac) n-Level Da Emergence Switched I s, Routing gestion Co E Internetw 6.	Data Com e Configur otocol Arc oncept of F al and Port And Logi ata Link Co e of High Networks: In Packet ntrol In Pa orking, Fr	ation. hitecture, rames and Address cal Link (ontrol (HI Speed I -Switchin cket Swit	OSI Refe l Packets, Control (I DCL), Pe LANs, El g Networ ching Ne	erence Model , Types of Err LIC) Sub laye rformance Iss thernet, Toke	, The TCI ors, Error er Issues, I sues. en Bus, T	P/IP Protoco Detection, Flow Contro Flow Contro ticasting, F	ol Architec Error Corre ol, Error Co , Wireless looding, Re	ture.	08		C01,	CO2	
II	Media Protoc The No Digita Async Line C Data I Sliding Local LAN Techno Routin Algori Intern Basic I Router Trans Qualit Netwo Securi Encryp Distril File Ti	, Concep col Arch eed for F I Data C hronous Configura Link Con g Windo Area No Protocol ology (W ng And C ng In Cir thm, Eff network Protocol rs, IPv4, port Protocol rs, IPv4, port Protocol rs, IPv4, port Secu ty Requi- ption and buted A ransfer I	to of Clie itecture Protocol A Commun and Sync ations, In yer trol Med w Protoce etwork (C Archite Vi-Fi). Congesti cuit-Swi Ects of C Protocol Function Subnet, ' ptice Para rity: irement a l Digital pplicatio Protocol	del, Da ent and ent and ent and ent and ent and conterfacion dium Ad col, Pol Overvi ecture, dium Ad col, Pol Overvi ecture, dium Ad congest Dis: ns, Prin The In <u>ameter</u> and At Signat ons : (FTP),	ta Commu Server, A ecture, A n Issues: us Transming, Physic ccess Com lling, High ew: Bridges, Ditrol In S Networks tion, Cong nciples Off ternet IPv , TCP And ttacks, Co ures.	unication, unication, Example Simple Pro- hission, Co cal, Logica trol (Mac) h-Level Da Emergence Switched I s, Routing gestion Co f Internetw 6. d UDP Pro- nfidentiali	Data Com e Configur otocol Arc oncept of F al and Port And Logi ata Link C e of High Networks: In Packet ntrol In Pa orking, Fr otocols. ty With E SMTP and	ation. hitecture, rames and Address cal Link (ontrol (HI Speed I -Switchin cket Swit agmentati	OSI Refe l Packets, Control (I DCL), Pe LANs, Et g Networ ching Ne on Conco , Messag Hyper T	erence Model , Types of Err LIC) Sub laye thernet, Toke thernet, Toke rks, Broadcas tworks. ept, Connecti ge Authentica ransfer Proto	, The TCI Fors, Error er Issues, I sues. en Bus, T sting, Mul onless Int	P/IP Protoco Detection, Flow Contro Flow Contro Token Ring ticasting, F ernetworkir Hash Funct	el Architec Error Corre ol, Error Co , Wireless looding, Ra ng, Gatewa	ture. ection, ontrol, LAN outing y And c-Key	08		C01, C02,	CO2 CO3	

Essential Readings

- 1. Behrouz A. Forouzen, "Data Communications and Networking", 4th ed., Tata Mcgraw-Hill, 2007.
- 2. William Stalling, "Data and Computer Communications", 8th ed. PHI, 2006.

Supplementary Readings

- 1. Andrew S. Tanenhaun, "Computer Networks", 5th ed., PHI, 2014.
- Garcia Leon and Widjaja, "Communication Networks", 2nd ed. Tata Mcgraw-Hill, 2004. 2.