	Understand												
Level 2	Apply	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%		
	Analyze				0.0	HIN							
Level 3	Evaluate	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%		
	Create												
	Total	Total 100 %		10	0 %	10	0 %	10	0 %	100%			

# CLA – 4 can be from any combination of these: Assignments, Seminars, Tech Talks, Mini-Projects, Case-Studies, Self-Study, MOOCs, Certifications, Conf. Paper etc

Course Designers		
Experts from Industry	Experts from Higher Technical Institutions	Internal Experts
Mr. S. Karthik, IT Analyst, Tata Consultancy	Dr. Neelanarayanan,, Professor, School of Computer Science and Engineering, VIT	1. Mr. M. Ramesh
Services	Chennai	2. Dr.S.Sabeen

Course Code USA20502J Course Name			COMPUTER	NETWORKS		ourse		С			Pro	fessio	nal (	Core			L 4	T 0	P C 2 5
Pre-requisite Courses		Nil	Co- requisite Courses	I Nil ARM		rogre Cour		E	AD	}		7		Ni	il				
72-77-77-77-77-77-77-77-77-77-77-77-77-7	Course Offering Department Computer Science Data Book / Codes/Stand									4				N	il				
Course Learni (CLR):	ng Rationale	The purpose	of learning this course i	is to:		Lea	arnin	ng			Pr	ograi	n Lea	arnin	g Out	comes	(PLO)		
CLR-1: Unde	rstand the e	volution of comp	outer networks using the	e layered network architec	ture	1	2	3	1	2	3 4	5	6	7	8 9	10	11 12	13	14 15
CLR-2: Understand the addressing concepts and learn networks devices							5	Ţ			al	ıti			tiv	2			na
CLR-3 : Desig	CLR-3: Design computer networks using subnetting and routing concepts						en	ment				liza	2	ig .	oret tigati	. 60	SE	IIIs	ssio viv
CLR-4: Unde	rstand the e	rror types, frami	ng, flow control			Thinking	Proficiency	.⊆			Related	ecializa	tilize	ااا داااه نااطهما	iterpre ivestiga	olving	nalytical	Skills	rotession Rehavior Ite Long
CLR-5: Understand the various Medium Access Control techniques and also the characteristics of					tics of	Ę,	Pro	Atta	<del>-</del>	of	Rel Pro	Spe	Ę	Z 2	lnt Int	Sol	Añ	그	Pro H

	physical layer functionalities  6: Know the algorithms behind the protocols that helps data transfer																			
Course Learning Outcomes (CLO):	At the end of this course, learners will be able to:	44	ý,	4	Ų	0														
CLO-1: Acquire the basics of	f computer network and its architecture	3	80	70		L	Н		Н	L	-		2	L	L	120	Н	-	-	_
CLO-2: Acquire the knowled	lge of various networks devices and addressing methods	3	85	75		M	Н	L	М	L	-	-	-	М	L	17.0	Н	-	-	7
CLO-3 : Design the network routing methods			75	70		М	Н	М	Н	L	-	-	-	М	L	-	Н	-	-	-
CLO-4: Find the error type that may happen during data transportation			85	80		М	Н	М	Н	L	-	-	2	М	L		Н	-	-	3 <u>2</u> 8
CLO-5: Understand the physical layer functions and components			85	75		Н	Н	М	Н	L	-	-	-	М	L	1751	Н	-	-	7.5
CLO-6: Speak on the topolo	LO-6: Speak on the topology chosen for a architecting a network that an organization demands			70		L	Н	-	Н	L	-	-	-	L	L	-	Н	-	-	-

Day Sales	ation our)	18	18	18	18	18
S-1		Evolution of Computer Networks	Addressing Types	Network layer functionalities	Introduction- Error Types	Physical layer
3-1	SLO-2	The Internet	Physical , Logical addresses	Delivery vs Forwarding	Types of Error	Overview of physical layer
6.3	SLO-1	The Internet today	Port, specific addresses	Unicast routing protocols	Error Control Mechanism	Functionalities
S-2	SLO-2	Data communications	IPV4 addresses	Intra domain routing	Error Detection	Analog and Digital
	SLO-1	Components	Notations	Inter domain routing	Error Correction	Data, signals
S-3	SLO-2	Networks		Multicast routing protocols	Error Detection vs Error Correction	Transmission impairment
S-4	SLO-1	Physical structures	Categories of Classful addressing	Application of Multicast routing protocols	Parity	Attenuation
200,0000	SLO-2	Categories of Networks	Categories	Distance vector routing	Checksum	Distortion, Noise
S 5-8		Laboratory 1: Introduction of packet racer	Laboratory 4:IP addressing and subnetting(VLSM)	Laboratory 7: Implementation of static routing	Laboratory 10: Implementation of EIGRP configuration	Laboratory 13: Implementation of Single-Area OSPF link costs and interface
S-9	SLO-1	Network Models	Categories of addressing	Application of Distance vector routing	Hamming code	Performance metrics
	SLO-2	Protocols	Classless addressing	Node instability issues	Application of Hamming code	Bandwidth, Delay
S-10	SLO-1	Categories of Classless addressing RIPv1		RIPv1	Correction vs Detection	Throughput, Jitter

	SLO-2	Standards Organizations	Prefix usage	RIPv2	Framing	Wireless 802.11
S-11	SLO-1	Layered Tasks	Network Address Translation (NAT)	Difference of RIPV1 and RIPV2	Flow control	Addressing mechanism
	SLO-2	Hierarchy	Types of NAT	Link state routing	Error control	Transmission Media
6.43	SLO-1	OSI Model	NAT Terminology	Principle of Link state routing	ARQ	Twisted pair
S-12	SLO-2	Layered Approach	Translation table	Dijkstra's Algorithm	ARQ types	Coaxial
S 13-16	SLO-1 SLO-2	Laboratory 2: Implementation of various Topology creation	Laboratory 5: Configuring Interfaces	II annialni v v illinielneni allini ni	Laboratory 11:Implementation of EIGRP bandwidth and adjacencies	Laboratory 14:Implementation of Multi-Area OSPF with stub areas and authentication
S-17	SLO-1	Peer-Peer Approach	IPV6 addresses	Applications of Dijkstra's Algorithm	Random access	Fiber Optics
	SLO-2	Layers in the OSI Model	Types, Notation	OSPF	ALOHA	Architecture of IEEE 802
	SLO-1	OSI Reference Model	VLSM	EIGRP	CSMA	IEEE 802.15
S-18	SLO-2	Comparison of Layers	Masking	Path vector routing	CSMA/CD	Architecture
C 10	SLO-1	TCP/IP Protocol Suite	CIDR	Applications of Path vector routing	CSMA/CA	IEEE 802.15.4
S-19	SLO-2	TCP/IP Reference Model	Address Aggregation	Stabilized routing table creation for AS	Collision Detection VS Collision Avoidance	Architecture
	SLO-1	Comparison with OSI Model	Networking devices	BGP	Controlled access	IEEE 802.16
S-20	SLO-2	Comparison of the OSI and TCP/IP Reference Models	Router, Switch, Hub, Bridges	BGP sessions	Channelization	Architecture
S 21-24	SLO-2	Laboratory 3: Implement the categories of network(LAN,MAN,WAN)	Laboratory 6: Basic router configuration, creating passwords	II anoratory 4. Implementation of	Laboratory 12: Implementation of EIGRP authentication and timers	Laboratory 15: Redistribution Between EIGRP and OSPF

Learning Resources 1 Behrouz A. Forouzan, (2010), "Data Communications and Networking", 5th Edition

2.ToddLammle,(2011), "CCNA Study Guide", Seventh Edition
3.WilliamStallings,(2010), "Data and Computer Communications", Ninth Edition

Learning Ass	Learning Assessment														
Blo	om's			Continous	Final Examination (50%										
Level of	Thinking	CLA - 1	l (10%)	CLA - 2	2 (10%)	CLA – 3	3 (20%)	CLA – 4	# (10%)	weightage)					
		Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice	Theory	Practice				
Level 1	Remember	20%	20%	15%	15%	15%	15%	15%	15%	15%	15%				

	Understand												
Level 2	Apply	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%		
	Analyze				06	HIN							
Level 3	Evaluate	10%	10%	15%	15%	15%	15%	15%	15%	15%	15%		
	Create										9		
	Total	Total 100 %		10	0 %	10	0 %	10	0 %	100%			

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Mr. S. Karthik, IT Analyst, Tata Consultancy	Dr. Neelanarayanan,, Professor, School of Computer Science and Engineering, VIT	Dr. P.Muthulakshmi
Services	Chennai	Dr. S.Kanchana

Course Code	USA20503J	Course Name	SOFTWARE ENGINEER	RING AND TESTING		urse egory	C			Prof	ession	al C	ore C	ours	e		-	L T 4 0	P 2	C 5
Pre-requ Cours	uisite es		Co-requisite Nil				ressive urses	Nil		1	7		7							
Course C	Offering Departm	ent Computer	Science	Data Book / Codes/S	tandards	Nil				7										
Course L (CLR):	earning Rational	The purpo	se of learning this course is	to,		Lea	arning				Prog	ram	Learı	ning	Outc	ome	s (PLC	D)	458	
CLR-1:	Familiarize the so	oftware life cycl	le models and software deve	elopment process		1	2 3		1 2	3	4 !	5 6	7	8	9	10	11 1	12 1	3 14	15
CLR-2:	Understand the v	arious techniqu	ies for requirements, planni	ng and Testing			(%)	78		+			ķ	,		01:	ø	- 3		
CLR-3:	Examine the basi	c methodologie	es for software design, devel	lopment, testing		0.0	7	ng u	g	da	00		eu.	#	ج ھ	ca	Mgt.			
CLR-4:	Manage user exp	ectations and s	oftware development team			100	ed	mo ieri	BE .	N B		8	n L	dec	lua	un I	ect N	· d -	7 7	3
CLR-5 : /	Acquire the lates	t industry know	ledge like agile for developr	ment		Thinking	xpected xpected	ttainment ngineering	roblem	Sign	esign, lodern	clety	nvironment	irthics	ndividual	ommunicatio			. 1	
CLR-6:	Usage of tools ar	nd comply the g	lobal standards for testing			Į.	Exp	Att Eng	kps Apple	Des	Des Mo	300	E	Surs Eth	Ind	Cor	Proj Fipa	200	PSO	PSO