SCHEME OFCOURSE WORK

CourseDetails:

CourseTitle	: ComputerNetworks		
CourseCode	:15CT1124	L T P C	3 0 0 3
Program:	: B.Tech.		
Specialization:	: InformationTechnology		
Semester	: VI		
Prerequisites	:----------		
Coursestowhichitis a prerequisite	: UNIX networkprogramming,Adhocnetworks,InformationSecurity		

CourseOutcomes(COs):

Attheendofthecoursethestudentwillbeableto

CO1:ExplainNetworkModels.
CO2:Computeerrordetectionandcorrectioncodes.
CO3:D iscuss routing algorithms.
CO4:DifferentiateTCPand UDP protocols
CO5:Knowsecurityprotocols

CourseOutcomeVersusProgramOutcomes:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO-1		2		2	3							3		2	
CO-2	2	3	2	3	3							2		2	
CO-3	2	3		2	2							2		2	
CO-4	2	3	2	3	2									2	
CO-5		2		2	3							3		1	

Week	Topic/Content	Courseoutcomes	Samplequestions	Teaching learning Strategy	Assessment Methods
1	NETWORKMODELS:LayeredTasks,WAN,LAN,MAN,OSI model,TCP/IPprotocolstack,	CO1	1. Explainhowtoclassifythenetworksaccordingtotheirscales. 2. Differentiate	1.lecture	1.assignment- 12.quiz-1 3.mid-1

S-Stronglycorrelated,M-Moderatelycorrelated,Blank-Nocorrelation

AssessmentMethods:Assignment / Quiz/ Seminar/CaseStudy / Mid-Test /EndExam

Teaching-Learningand Evaluation

			OSI&TCP/IP layer models.		
2	Addressing,NovellNetworks Arpanet,Internet. PHYSICAL LAYER: Transmissionmedia:copper,twistedpair,	CO1	1. Describedifferenttypesof addressingincomputernetwo rks. 2. Explaindifferenttypesoftransmissionmediasinwiredne tworks.	1.lecture	1.assignment- 12.quiz-1 3.mid-1
3	wireless;switching andencoding asynchronouscommunications;NarrowbandISDN,broadbandISDN	CO1	1. Explain circuitswitching ,packetswitchingandmessageswitching. 2. whataretheDifferencesbetweenB-ISDNand N-ISDN?	1.lecture	1.assignment- 12.quiz-1 3.mid-1

4	DATALINK LAYER:Design issues,framing,Errordetection andcorrection,CRC	CO2	1.Whataretheframingtechniquesexplain with examples? 3. What are thedifferent CRCpolynomials?Explain any onewithex	1.lecture 2.CalculationofCRCfordifferentmessageswithdifferentpolynomials.	1.assignment- 12.quiz-1 3.mid-1
5	Elementarydatalinkprotocols,Sliding WindowProtocol,Slip,HDLC,	CO2	1.Whatarethedifferenttypesofslidingwindowprotocols?Explainbriefly.	1.lecture	1.assignment- 12.quiz-1 3.mid-1
6	MEDIUMACCESS SUB LAYER:Randomaccess,Controlledaccess,	CO2	1. Explain roleof MAClayerindatalinklayer.	1.lecture	1.assignment-1

	Channelization,		2.Explainthedifferenttypesof Randomaccesscontrolprotocols.		2.quiz- 13.mid-
7	IEEE802.XStandards,Ethernet,	CO2	1.explain architecture ofEthernet.	1.lecture 2.writing scripts	1 1.assignment- 12.quiz-1 3.mid-1
8	NETWORKLAYER:NetworkLayerDesignIssues,RoutingAlgorithms,	CO3	1.Explainstoreandforwardpacketswitching. 2. DescribeDVR routingwithexample	1.lecture 2. Creationofroutingtablesforsamplenetworks.	1.assignment- 12.quiz-1 3.mid-1

9	Internetworking,Network Layerin Internet	CO3	1.Whatistheroleofnet?. klaye	1.lecture	1.assignment-12.quiz-1 3.mid-1
10	CONGESTION CONTROL: GeneralPrinciples,policies,trafficshaping,flowspecifications,Congestioncontrol invirtualsubnets,	C03	1. Explain general congestion control Principles. 2. WhatistrafficShaping?explainwhatarethetechniquestocontrolcongestioninnetworks.	1.lecture	1.assignment-22.quiz-2 3.mid-2
11	chokepackets,loadsshedding, jittercontrol TRANSPORTLAYER: TransportServices,	CO3,CO4	1. What arethe parameterstomeasure toimprovenetworkperform ance? 2. ListtheTransportlayerservicesNetwork	1.lecture	1.assignment-22.quiz-2 3.mid-2
12	, ElementsofTransportProtocols,InternetTransportProtocols(TCP &UDP);	C04	1.Differentiate TCP andUDPpr otocols.	1.lecture	1.assignment-22.quiz-2 3.mid-2
13	ATMreferencemodel,Application Layer:NetworkSecurity,	CO1,CO2, C03,CO4, CO5	1. Explain architectureofATMreference model. 2. Explain DES andRSAalgorithms. 3. Describedigitalsignaturescheme.	1.lecture	1.assignment-22.quiz-2 3.mid-2

14	Domain namesystem,SNMP,ElectronicMail	CO5	1.Explain SNMP architecture	1.lecture	1.assignment-22.quiz-2 3.mid-2
15	(SMTP,POP3,IMAP,MIME)	CO5	1. Explain SMTP,POP3	1.lecture	1.assignment-22.quiz-2 3.mid-2
16	Mid-II				
17	ENDEXAM				