GIETPOLYTECHNIC,JAGATPUR,CUTTACK

LESSONPLAN

Discipline:ETC	Semester:5th	NameOfTheTeachingFaculty: Pradeepta Prajna ranjan Swain
Subject: ANALOG AND DIGITAL COMMUNICATION ETC	No.OfDaysPer Week Class Allotted: 05 P	Semester FromDate:14.07.2025 ToDate: 15 . 11.2025 No.ofweeks:15

Week	ClassDay	TheoryTopic
1st week	1st	➢ UNIT-1:1.1->Communicationprocess-conceptofelementof communicationsystemanditsblockdiagram
	2nd	➢ 1.2:Sourceofinformationandcommunicationchannels
	3rd	➢ 1.3:Classificationofcommunicationsystem(lineandwireless or radio)
	4th	➢ 1.4:Modulationprocess,needofmodulationandclassify modulationprocess
	5th	➢ 1.5:Analoganddigitalsignalanditsclassification
2nd week	1st	➢ 1.6:Basicconceptofsignalssignalsclassification
	2nd	➢ 1.7:Bandwidhlimitation
	3rd	➢ Unit-2:2.1->Amplitudemodulationandderivetheexpressionfor amplitudemodulatedsignal
	4th	➢ 2.1:Powerrelationina.mwaveandfindmodulationindex
	5th	➢ 2.2:Generationofamlitudemodulation-linearlevel am modulationonly
3rd week	1st	➢ 2.3:Demodulationofamwave(lineardiodedetector)
	2nd	➢ 2.3:Squarelawdetectorandp.l.l
	3rd	➢ 2.4:Explainssbsignalanddsbscsignal
	4th	➢ 2.5:Methodofgeneratinganddetectingssb-scsignal(indirect method)
	5th	➢ 2.6:Methodofgeneratingdsb-scsignal(ringmodulator)
4th week	1st	➢ 2.6:Detectionofdsb-scsignal(synchronousdetection)
	2nd	➢ 2.7:Conceptofbalancedmodulator
	3rd	➢ 2.8:Vestigialsidebandmodulation
	4th	➢ UNIT-3:3.1:Conceptofanglemodulationanditstypes(p.m.and f.m)
	5th	➢ 3.2:Basicprincipleoffreq.modulationandfreq.spectrumoff.m signal
5th week	1st	➢ 3.3:Expressionforfreq.modulatedsignalandmodulationindex andsidebandf.msignal
	2nd	➢ 3.4:Explainphasemodulationanddifferencef.mandp.m
	3rd	➢ 3.5:Comparebetweenam&fmmodulation
	4th	➢ 3.6:Methodsoffmgeneration(armstrong)workingprinciplewith blockdiagram
	5th	➢ 3.7:Methodsoffmdemodulator(fosterseely)workingprinciple withblock diagram
6th week	1st	➢ 3.7:Ratiodetectormethod
	2nd	➢ UNIT4:4.1:Classificationofradioreceiver
	3rd	➢ 4.2:Definetermselectivity,sensitivity,fidelity&N.F.
	4th	➢ 4.3:AMtransmitter-workingprinciplewithblockdiagram
	5th	➢ 4.4:Conceptoffrequencyconversion,RF&IFamplifier,tuning& S/Nratio
7th week	1st	➢ 4.5:Workingofsuperheterodyneradioreceiverwithblock diagram
	2nd	➢ 4.6:WorkingofFMtransmitter&receiverwithblockdiagram

	3rd	➢ UNIT-5:5.1->Conceptofsamplingtheorem,nyquistrateand aliasing
	4th	➢ 5.2:Samplingtechniques(instantaneous,natural,flattop)
	5th	➢ 5.3:Analogpulsemodulation-generationanddetectionofPAM
8thweek	1st	➢ 5.3:PWMandPPMsystemwiththehelpofblockdiagramand comparisonofallabove
	2nd	➢ 5.4:Conceptofquantizationofsignalandquantizationerror
	3rd	➢ 5.5:Generationanddetectionof PCMsystemwithblockdiagram anditsapplication
	4th	➢ 5.6:CompandinginPCMandVCODER
	5th	➢ 5.7:Timedivisionmultiplexingandexplainoperationwith ckt.diagram
9thweek	1st	➢ Assignment-1,2
	2nd	➢ 5.8:Generationofdeltamodulation
	3rd	➢ 5.8:Demodulationofdeltamodulation
	4th	➢ 5.9:Generationanddemodulationof DPCMwithblockdiagram
	5th	➢ 5.10:Comparisionb/wPCM,DM,ADMandDPCM
10thweek	1st	➢ ASSIGNMENT-3
	2nd	➢ UNIT:6:6.1:Conceptofmultiplexing,transmitterandreceiver
	3rd	➢ 6.2:Advantageofdigitaloveranalogsystem
	4th	➢ 6.3:Digitalmodulationtechniquesandtypes
	5th	➢ 6.4:GenerationanddetectionofA.S.K
11thweek	1st	➢ 6.4:Generationanddetectionof F.S.K
	2nd	➢ 6.4:Generationanddetectionof P.S.K
	3rd	➢ 6.4:Generationanddetectionof QPSK
	4th	➢ 6.4:GenerationanddetectionofQAM
	5th	➢ 6.4:GenerationanddetectionofMSK
12thweek	1st	➢ 6.4:GenerationanddetectionofGMSK
	2nd	➢ 6.5:WorkingofT1-carriersystem
	3rd	➢ 6.6:Spreadspectrumanditsapplication
	4th	➢ ASSIGNMENT-4
	5th	➢ 6.7:Workingoperationofspreadspectrummodulation techniques
13thweek	1st	➢ Previousyearquestionandanswerdiscussion
	2nd	➢ 6.7:WorkingoperationofFS-SStechniques
	3rd	➢ REPEATOF6.7
	4th	➢ 6.8:Definebit, baud
	5th	➢ 6.8:Definesymbolandchannelcapacity
14thweek	1st	➢ 6.9:Applicationofdifferentmodulationschemes
	2nd	➢ 6.10:TypesofMODEMSandits application
	3rd	➢ REPEATOF6.10
	4th	➢ Discussionoflastfivepreviousyearsquestions
	5th	➢ Discussionoflastfivepreviousyearsquestions
15thweek	1st	➢ Discussionoflastfivepreviousyearsquestions
	2nd	➢ Discussionoflastfivepreviousyearsquestions
	3rd	➢ Discussionoflastfivepreviousyearsquestions
	4th	➢ Discussionoflastfivepreviousyearsquestions
	5th	➢ Discussionoflastfivepreviousyearsquestions

Pradeepta Rajnarayan Swain
Signature of faculty
11.07.25

11/7/25
Signature of HOD
Electrical & ETC Engg.
G.I.E.T (POLY), Gunupur

11/7/25
Signature of principal