GIET POLYTECHNIC, JAGATPUR, CUTTACK

LESSON PLAN

Discipline: ETC	Semester: 5th	Name Of The Teaching Faculty: SUDIPTA KUMAR DAS
Subject: W.P AND BCE	No. Of Days Per Week Class Allotted: 04 P	Semester From Date: 01.07.2024 To Date: 08.11.2024 No. of weeks: 15

Week	Class Day	Theory Topic
1st week	1st	UNIT-1: 1.1: Effect of environment such as reflection,refraction and interference
	2nd	1.1: Diffraction ,Absorption and Attenuation
	3rd	1.2: Classification based on modes of propagation-Ground wave, ionosphere and sky wave propagation
	4th	1.3: Definition-critical frequence,maximum useable freq.skip distance
2nd week	1st	1.3: Fading, duct propagation and troposphere actual and virtual height
	2nd	1.4: Radiation mechanism of an antenna-Maxwell equation
	3rd	1.5: Definition-antenna gain, directive gain, directivity, polarization and effective aperture
	4th	1.5: Definition-radiator to resistance, input impedadance,bandwidth,beam width and radiation pattern
3rd week	1st	1.6: Antenna-types of antenna: monopole and dipole antenna and Omni directional antenna
	2nd	1.7: Directional high freq. antenna, Yagi and rhombus only
	3rd	1.7:U.H.F and microwave antenna: dish antenna and horn antenna
	4th	1.8: Concept and benefit of smart antenna
4th week	1st	UNIT-2: 2.1:Fundamentals of transmission line
	2nd	2.2: Equivalent ckt.of transmission and R.F equivalent ckt.
	3rd	2.3: Characteristics impedance, methods of calculation
	4th	2.3: Simple numerical
5th week	1st	2.4: Losses in transmission line
	2nd	2.5: Standing wave-SWR,VSWR
	3rd	2.5: Reflection coefficient, simple numerical
	4th	2.6: Quarter wave half wave length line
6th week	1st	2.7: Impedance matching and stub-single and double
	2nd	2.8: Primary and secondary constant of x-mission line
	3rd	ASSIGNMENT-1,2
	4th	UNIT-3: 3.1: Define aspect ratio, rectangular switching, flicker and horizontal resolution
7th week	1st	3.1: Define-video bandwidth, interlaced scanning, composite video signal ,synchronization pulses
	2nd	3.2: T.V transmitter –block diagram and function of each block
	3rd	3.3: Monochrome T.V receiver - block diagram and function of each block
	4th	3.4: Color T.V signal
8th week	1st	3.5:Types of T.V technology-C.R.T.TV,Plasma display panel
	2nd	3.5: Digital lighting processing ,L.C.D,OLED display
	3rd	3.5: Q.L.E.D display ,OLED display-only comparisons
	4th	3.6: Discuss the principle of operation-LCD display
9th week	1st	3.6: Large screen display
	2nd	3.7: CATV system and types and n/w
	3rd	3.8: Digital T.V technology-digital TV signal

	4th	➢ 3.8: Transmission of digital TV signal and digital TV receiver video programme processor unit
10th week	1st	➢ ASSIGNMENT-3
	2nd	➢ Repeat of 3.8
	3rd	➢ UNIT-4 : 4.1: Define microwave wave guide
	4th	➢ 4.2: Operation of rectangular wave guide and its advantages
11th week	1st	➢ 4.3: Propagation of EM wave through wave guide with TE mode
	2nd	➢ 4.3: Propagation of EM wave through wave guide with TM mode
	3rd	➢ 4.4: circular wave guide
	4th	➢ 4.5: Operation of cavity resonator
12th week	1st	➢ 4.6: Working of directional coupler
	2nd	➢ 4.6: Working of isolator and circulator
	3rd	➢ 4.7: Microwave tubes –principle of operation of two cavity klystron
	4th	➢ 4.8: Principle of operation of travelling wave tubes
13th week	1st	➢ 4.9: Principle of operation of cyclotron
	2nd	➢ 4.10: Principle of operation of tunnel diode and Gunn diode
	3rd	➢ UNIT-5: 5.1: Broadband communication system-fundamentals of components and n/w architecture
	4th	➢ 5.2: Cable broadband data n/w-architecture
14th week	1st	➢ 5.2:Future broadband tele communication, internet based n/w importance
	2nd	➢ 5.3: SONET-signal frame components ,topology advantages, application and disadvantages
	3rd	➢ 5.4: ISDN devices interfaces
	4th	➢ 5.4: ISDN service ,architecture and application
15th week	1st	➢ 5.5:BISDN interfaces and terminology
	2nd	➢ 5.5: BISDN protocol Architecture and application
	3rd	➢ Last 5 previous year questions discussion
	4th	➢ Last 5 previous year questions discussion

29.06.2024
Signature of faculty

24/6/24
Signature of Sr. Lect.

Head of Dept. (HOD)
Electrical & ETC Engg.
G.I.E.T (POLY), Gunupur

29/6/24
Signature of principal