1st 3.3 Pin-detectors

GIET POLYTECHNIC,JAGATPUR,CUTTACK

LESSON PLAN

DISCIPLINE: ETC	SEMESTER:- 5TH	NAME OF THE TEACHING FACULTY:- SUBHASHREE KHATUA
SUBJECT:- FIBER OPTICS COMMUNICATIONS TH-3(A)	No of Days per Weeks Class Allotted: 03	Semester From date:01.07.2026 To date:05.11.2026 No of Weeks:-15
Week	Class/Day	Theory Topics
1st	1st	**Unit-I:Introduction to Fiber Optic Communication :** 1.1 Introduction to vector nature of light(contd.)
	2nd	1.1 Introduction to vector nature of light
	3rd	1.2 Propagation of light
2nd	1st	1.3 Propagation of light in a cylindrical dielectric rod(contd.)
	2nd	1.3 Propagation of light in a cylindrical dielectric rod
	3rd	1.3 Propagation of light in a cylindrical dielectric rod
3rd	1st	1.4 Ray model(contd.)
	2nd	1.4 Ray model
	3rd	1.5 Wave model(contd.)
4th	1st	1.5 Wave model
	2nd	**Unit-II:Optical Fibers :** 2.1 Different types of optical fibers (contd.)
	3rd	2.1 Different types of optical fibers
5th	1st	Modal analysis of a step index fiber
	2nd	2.3 Signal degradation on optical fiber due to dispersion and attenuation(Contd.)
	3rd	2.3 Signal degradation on optical fiber due to dispersion and attenuation
6th	1st	2.3 Signal degradation on optical fiber due to dispersion and attenuation
	2nd	2.4 Fabrication of fibers and measurement techniques like OTDR(Contd.)
	3rd	2.4 Fabrication of fibers and measurement techniques like OTDR
7th	1st	**Unit-III:Optical sources :** 3.1 LEDs and Lasers
	2nd	3.2 Photo-detectors (Contd.)
	3rd	3.2 Photo-detectors

8th	1st	3.3 Pin-detectors
	2nd	3.4 Detector responsivity
	3rd	3.5 Noise (Contd.)
9th	1st	3.5 Noise
	2nd	3.6 Optical receivers
	3rd	**Unit-IV:Optical link design :** 4.1 BER calculation (Contd.)
10th	1st	4.1 BER calculation
	2nd	4.2 Quantum limit (Contd.)
	3rd	4.2 Quantum limit
11th	1st	4.3 Power penalties(Contd.)
	2nd	4.3 Power penalties
	3rd	**Unit-V:Optical switches :** 5.1 Coupled mode analysis of directional couplers(Contd.)
12th	1st	5.1 Coupled mode analysis of directional couplers
	2nd	5.2 Electro-optic switches (Contd.)
	3rd	5.2 Electro-optic switches
13th	1st	5.2 Electro-optic switches
	2nd	**Unit-VI:Nonlinear effects in fiber optic links:** 6.1 Concept of self-phase modulation (Contd.)
	3rd	6.1 Concept of self-phase modulation
14th	1st	6.2 Group velocity dispersion
	2nd	6.3 Optical amplifiers: EDFA , Raman amplifier (Contd.)
	3rd	6.3 Optical amplifiers: EDFA , Raman amplifier
15th	1st	6.3 Optical amplifiers: EDFA , Raman amplifier
	2nd	6.4 Coherent communication and WDM systems (Contd.)
	3rd	6.4 Coherent communication and WDM systems

Sign. of faculty

24.06.26
Sign. of Sr. lecturer
Head of Dept. (HOD)
Electrical & ETC E...
G... E.T (POLY)...

24.6.26
Sign. of principal

Principal
GIET (Polytechnic)
Jagatpur, Cuttack