BHAI GURDAS INSTITUTE OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

LESSON PLAN

Subject Name: - Optical Fibres and Communication **Subject Code: -** BTEC-602-18

Year: - 3RD Semester: - 6TH

Lecture	Unit	Date/	Topic	Teaching	Reference
No.		Week		Aids	
L-1			Need of Fiber Optic Communications	BLACK BOARD & PPT	Senior J. Optical Fiber Communications & INTERNET
L-2			Evolution of Light wave Systems, Channel Multiplexing	BLACK BOARD & PPT	Senior J. Optical Fiber Communications & INTERNET
L-3	1	1 st week	Modulation Formats	BLACK BOARD & PPT	. Keiser G., Optical Fiber Communication
L-4	UNIT 1. Introduction	Week	Optical Communication Systems	BLACK BOARD & PPT	. Keiser G., Optical Fiber Communication
L-5		2 nd week	Light wave System Components	BLACK BOARD & PPT	Senior J. Optical Fiber Communications & INTERNET
L-6		2 nd week	Optical Fibers as a Communication Channel	BLACK BOARD & PPT	Keiser G., Optical Fiber Communication
L-7		2 nd week	Optical Transmitters	BLACK BOARD & PPT	Senior J. Optical Fiber Communications & INTERNET
L-8		2 nd week	Optical Receivers	BLACK BOARD & PPT	. Keiser G., Optical Fiber Communication
L-9		3 rd week	Geometrical-Optics Description	BLACK BOARD & PPT	Senior J. Optical Fiber Communications & INTERNET
L-10		3 rd week	Step-Index Fibers, Graded Index Fibers	BLACK BOARD & PPT	Senior J. Optical Fiber Communications

L-11 Week Wave Propagation; Maxwell's Equations BLACK BOARD & Fiber Communicat & INTERNET BLACK BOARD & Fiber Communicat & INTERNET BLACK BOARD & Fiber Communicat & INTERNET BLACK Senior J. Opt Week Week Fiber Communicat & INTERNET BLACK BOARD & Fiber Communicat BLACK BOARD & Optical Fiber Communicat BLACK BOARD & Optical Fiber Communicat BLACK BOARD & Optical Fiber BOARD & Optical Fiber Communicat BLACK BOARD & Optical Fiber
L-12 3rd Wave Propagation; BLACK Senior J. Opt Week Week Maxwell's Equations BOARD & Fiber Communicate & INTERNET L-13 4th Fiber Modes, Single- BLACK . Keiser G., Mode-Fibers BOARD & Optical Fiber Communicate Communicate Communicate PPT Communicate Communicate PPT C
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OPTICAL week Mode Fibers BOARD & Optical Fiber
FIBERS ath Crown Volcaity BLACK Communicat
L-15 Group Velocity BLACK Senior J. Opt Dispersion, Material BOARD & Fiber
week Dispersion, Material BOARD & Fiber Dispersion, Wave guide PPT Communicate
Dispersion & INTERNET
L-16 Higher-order BLACK . Keiser G.,
week Dispersion, BOARD & Optical Fiber
Polarization-Mode PPT Communicat
Dispersion, Dispersion-
Induced Limitations;
L-17 Basic Propagation BLACK Senior J. Opt
week Equation, Chirped BOARD & Fiber Gaussian Pulses, PPT Communicat
Limitations on the Bit & INTERNET
Rate
L-18 5th Fiber Bandwidth, Fiber BLACK Senior J. Opt
week Losses; Attenuation BOARD & Fiber
Coefficient, PPT Communicat
& INTERNET
L-19 Material Absorption, BLACK Senior J. Opt Rayleigh Scattering, BOARD & Fiber
week wave guide PPT Communicat
Imperfections & INTERNET
L-20 Sth Nonlinear Optical BLACK . Keiser G.,
week effects; Stimulated BOARD & Optical Fiber
Light Scattering, PPT Communicat
Nonlinear Phase
Modulation Black Control Col
L-21 Four Wave Mixing, BLACK Senior J. Opt
week Fiber Manufacturing; BOARD & Fiber Design Issues, PPT Communicat
Fabrication Methods, & INTERNET
Cables and Connectors

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L-22		6 th	Basic Concepts;	BLACK	Senior J. Optical
		week	Emission and	BOARD &	Fiber
	Unit 3:		Absorption Rates, p-n	PPT	Communications
			Junctions		& INTERNET
L-23	OPTICAL	6 th	Non radiative	BLACK	Senior J. Optical
	TRANSMITTERS	week	Recombination, Semi	BOARD &	Fiber
			conductor Materials	PPT	Communications & INTERNET
L-24		6 th	Light Emitting Diodes;	BLACK	Senior J. Optical
			Power-current	BOARD &	Fiber
		week	Characteristics	PPT	Communications
					& INTERNET
L-25		7 th	LED spectrum,	BLACK	Senior J. Optical
		week	Modulation Response	BOARD &	Fiber
				PPT	Communications
					& INTERNET
L-26		7 th	LED Structures	BLACK	Senior J. Optical
		week		BOARD & PPT	Fiber Communications
				PPI	& INTERNET
L-27		7 th	Semi Conductor Lasers;	BLACK	Senior J. Optical
L-27		*	DFB Lasers	BOARD &	Fiber
		week	DI D Lasers	PPT	Communications
					& INTERNET
L-28		7 th	Coupled Cavity	BLACK	Senior J. Optical
		*	semiconductor Lasers,	BOARD &	Fiber
		week	Tunable	PPT	Communications
			Semiconductor Lasers,		& INTERNET
L-29		8 th	Vertical Cavity	BLACK	. Keiser G.,
		week	Semiconductor Lasers,	BOARD &	Optical Fiber
		week	Laser Characteristics	PPT	Communication
L-30		8 th	Small & Large Signal	BLACK	Senior J. Optical
		week	Modulation, Spectral	BOARD &	Fiber
		WCCK	Line width	PPT	Communications
					& INTERNET
L-31	Unit 4:	8 th	Basic concepts, p-n	BLACK	Senior J. Optical
	OPTICAL	week	Photo Diode	BOARD &	Fiber
				PPT	Communications
	RECIEVERS				& INTERNET
L-32		8 th	p-i-n Photo Diodes,	BLACK	Senior J. Optical
		week	Avalanche Photo Diode	BOARD &	Fiber
				PPT	Communications
1.22	4	a th	NACNA DI LI LI LI	DI A CI	& INTERNET
L-33		9 th	MSM Photo detector	BLACK	Senior J. Optical
		week		BOARD &	Fiber
				PPT	Communications
					& INTERNET

L-34		9 th	Receiver Design,	BLACK	Senior J. Optical
		week	Receiver Noise; Noise mechanism	BOARD & PPT	Fiber Communications
			mechanism	FFI	& INTERNET
L-35		9 th	Receiver sensitivity; Bit	BLACK	. Keiser G.,
		week	error rate	BOARD & PPT	Optical Fiber Communication
L-36		9 th	Minimum Receiver	BLACK	Senior J. Optical
		week	Power, Sensitivity	BOARD &	Fiber
			Degradation, Receiver Performance.	PPT	Communications & INTERNET
L-37		10 th	Overview: System	BLACK	Senior J. Optical
		week	Architecture,	BOARD &	Fiber
				PPT	Communications & INTERNET
L-38	-	10 th	Loss limited Light wave	BLACK	Senior J. Optical
		week	systems, Dispersion	BOARD &	Fiber
		, week	limited Light wave	PPT	Communications
L-39	Unit 5:	10 th	systems Power Budget, Long	BLACK	& INTERNET Senior J. Optical
	LIGHT WAVE		Haul systems	BOARD &	Fiber
	SYSTEMS	week		PPT	Communications
	STSTEIVIS				& INTERNET
L-40		10 th	Sources of Power Penalty; Model Noise,	BLACK BOARD &	. Keiser G., Optical Fiber
		week	Dispersive Pulse	PPT	Communication
			Broadening		
L-41		11 th	Mode Partition Noise,	BLACK	. Keiser G.,
		week	Frequency Chirping	BOARD &	Optical Fiber Communication
L-42	-	11 th	Reflection Feedback	PPT BLACK	Senior J. Optical
- 12		week	Noise,	BOARD &	Fiber
		week		PPT	Communications
		41-	WDA41: I.	DI A CI	& INTERNET
L-43		11 th	WDM Light wave systems	BLACK BOARD &	Senior J. Optical Fiber
		week	Зузсенна	PPT	Communications
					& INTERNET
L-44		11 th	Optical TDM Systems.	BLACK	Senior J. Optical
		week		BOARD &	Fiber
				PPT	Communications & INTERNET
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