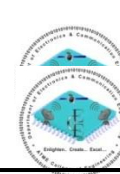


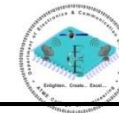
Lesson Plan & Work-done Diary for AY: 2025-26 (ODD Semester)

Course with Code: Satellite and Optical Communication - BEC515D				Faculty:			Semester & Section: 5th	
Class No.	Date planned (DD/MM)	Topics Covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-0								
1		Bridge Course	Chalk and Talk	1		Bridge Course	Chalk and Talk	
2		Bridge Course	PPT	2		Bridge Course	PPT	
3		Bridge Course	PPT	3		Bridge Course	PPT	
Module-1								
4		Satellite orbits and Trajectories: Definition and Basic Principles	Chalk and Talk	4		Satellite orbits and Trajectories: Definition and Basic Principles	Chalk and Talk	
5		Orbital parameters, Injection velocity and satellite trajectory	Chalk and Talk	5		Orbital parameters, Injection velocity and satellite trajectory	Chalk and Talk	
6		Types of Satellite orbits	Chalk and Talk	6		Types of Satellite orbits	Chalk and Talk	
7		Orbital perturbations, Satellite stabilization,	Chalk and Talk	7		Orbital perturbations, Satellite stabilization,	Chalk and Talk	
8		Orbital effects on satellite's performance	Chalk and Talk	8		Orbital effects on satellite's performance	Chalk and Talk	
9		Eclipses, Look angles & Azimuth angle.	Chalk and Talk	9		Eclipses, Look angles & Azimuth angle.	Chalk and Talk	
10		Elevation angle and Quiz	SRS	10		Elevation angle and Quiz	SRS	

Course with Code: Satellite and Optical Communication - BEC515D				Faculty:			Semester & Section: 5th A	
Class No.	Date planned (DD/MM)	Topics Covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-2								
11		Satellite subsystem: Introduction	PPT	9		Satellite subsystem: Introduction	PPT	
12		Attitude and Orbit control	PPT	10		Attitude and Orbit control	PPT	
13		Tracking, Telemetry and command subsystem, Payload	PPT	11		Tracking, Telemetry and command subsystem, Payload	PPT	
14		Earth Station: Types of earth station,	PPT	12		Earth Station: Types of earth station,	PPT	
15		Earth station Architecture & Design considerations	PPT	13		Earth station Architecture & Design considerations	PPT	
16		Testing & Earth station Hardware	PPT	14		Testing & Earth station Hardware	PPT	
17		Satellite tracking	PPT	15		Satellite tracking	PPT	
18		Revision and quiz on Module 2	SRS			Revision and quiz on Module 2	SRS	



Course with Code: Satellite and Optical Communication - BEC515D				Faculty:			Semester & Section: 5th A	
Class No.	Date planned (DD/MM)	Topics Covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-3								
19		Communication Satellites: Introduction	PPT	21		Communication Satellites: Introduction	PPT	
20		Related Applications	PPT	22		Related Applications	PPT	
21		Frequency Bands, Payloads	PPT	23		Frequency Bands, Payloads	PPT	
22		Satellite Vs. Terrestrial Networks	PPT	24		Satellite Vs. Terrestrial Networks	PPT	
23		Satellite Telephony	PPT	25		Satellite Telephony	PPT	
24		Satellite Television, Satellite radio	PPT	26		Satellite Television, Satellite radio	PPT	
25		Regional satellite Systems, National Satellite Systems.	PPT	27		Regional satellite Systems, National Satellite Systems.	PPT	
26		Revision and quiz on Module 3	SRS	28		Revision and quiz on Module 3	SRS	



Course with Code: Satellite and Optical Communication - BEC515D				Faculty:			Semester & Section: 5th A	
Class No.	Date planned (DD/MM)	Topics Covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-4								
27		Optical Fiber Structures: Optical Fiber Modes and Configurations	PPT	31		Optical Fiber Structures: Optical Fiber Modes and Configurations	PPT	
28		Mode theory for circular waveguides	PPT	32		Mode theory for circular waveguides	PPT	
29		Single mode fibers, Fiber materials	PPT	33		Single mode fibers, Fiber materials	PPT	
30		Attenuation and Dispersion: Attenuation	PPT	34		Attenuation and Dispersion: Attenuation	PPT	
31		Absorption & Scattering Losses	PPT	35		Absorption & Scattering Losses	PPT	
32		Bending loss: Signal Dispersion: Modal delay	PPT	36		Bending loss: Signal Dispersion: Modal delay	PPT	
33		Group delay, Material dispersion	PPT	37		Group delay, Material dispersion	PPT	
34		Revision and quiz on Module 4	SRS	38		Revision and quiz on Module 4	SRS	

Course with Code: Satellite and Optical Communication - BEC515D				Faculty:			Semester & Section: 5th A	
Class No.	Date planned (DD/MM)	Topics Covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-5								
35		Optical Sources and detectors: Light Emitting Diode: LED Structures	PPT	41		Optical Sources and detectors: Light Emitting Diode: LED Structures	PPT	
36		Light source materials, Quantum efficiency and LED power	PPT	42		Light source materials, Quantum efficiency and LED power	PPT	
37		Laser Diodes: Modes and threshold conditions Rate equations	PPT	43		Laser Diodes: Modes and threshold conditions Rate equations	PPT	
38		External quantum efficiency & Resonant frequencies	PPT	44		External quantum efficiency & Resonant frequencies	PPT	
39		Photodetectors: The pin Photodetector, Avalanche Photodiodes	PPT	45		Photodetectors: The pin Photodetector, Avalanche Photodiodes	PPT	
40		WDM Concepts: Overview of WDM, Isolators and Circulators	PPT	46		WDM Concepts: Overview of WDM, Isolators and Circulators	PPT	
41		Fiber grating filters (No derivation), Dielectric thin-film filters	PPT	47		Fiber grating filters (No derivation), Dielectric thin-film filters	PPT	
42		Diffraction Gratings & Quiz	PPT	48		Diffraction Gratings & Quiz	PPT	

	Activity	Planned	Actual	Remarks
1	Theory Classes	50		NIL
2	Assignments/ Quizzes/ Self-study			NIL
3	Tutorials/ Extra classes			NIL
4	Internal Assessments			NIL
5	ICT based Teaching (% of usage in Curriculum)			NIL
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	