

Lesson Plan


Name of the Institute :			CVRP		
Department :			ETC		
Semester/Division/Branch :			6th/ETC		
Subject Name with code :			ADVANCE COMMUNICATI ON ENGINEERING Th.-1		
Total No. of Class (Required)			60		
Faculty Name :			PRABHAKAR RATH		
Class No.	Brief Description of the Topic/Chapter to be taught	Remarks			
1	Introduction to the subject.				
2	Basic Radar, advantages & applications.				
3	Working principle of Simple Radar system , its types.				
4	Radar range equation & Performance factor of radar.				
5	Working principle of Pulsed Radar system.				
6	Function of radar indication and Working principle of moving target indicator.				
7	Define Doppler effect & Working principle of C.W Radar.				
8	Radar aids to Navigation, MTI Radar- working principle				
9	Aircraft landing system.				
10	Navigation Satellite System.(NAVSAT) & GPS System				
11	Doubt Clearing class of Chapter-1				
12	Sattellite Communication: Basic Satellite Transponder & Kepler's Laws				
13	Satellite Orbital patterns and elevation(LEO,MEO & GEO) categories				
14	Concept of Geostationary Satellite, calculate its height, velocity & round trip time delay & their advantage & disadvantage				


15	Working of the Satellite sub system, Satellite frequency allocation and frequency bands.	
16	General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink)	
17	Working principle of direct broadcast system (DBS), Working principle of VSAT system.	
18	Define multiple accessing & name various types.	
19	Time Division Multiple Accessing(TDMA) & Code Division Multiple	
20	Accessing (CDMA) – block diagram, its advantages & dis-advantages.	
21	Satellite Application- Communication Satellite(MSAT), Digital Satellite Radio.	
22	Working principle of GPS Receiver & Transmitter & applications.	
23	Optical Satellite Link transmitter & Receiver	
24	Doubt Clearing class of Chapter-2	
25	Basic principle of Optical communication, Compare the advantage and disadvantage of optical fibres & metallic cables	

26	Electromagnetic Frequency and wave line spectrum	
27	Types of optical fibres & principles of propagation in a fibre using Ray Theory	
29	Define terms: Velocity of propagation, Critical angle, Acceptance angle numerical aperture	
30	Optical fibre communication system- block diagram & working principle	
31	Modes of propagation and index profile of optical fiber	
32	Types optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index	
33	Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion – material	
34	Dispersion, waveguide dispersion, Intermodal dispersion	
35	Optical sources(Transmitter) & types – LED- semiconductor laser diodes	
36	Optical detectors – PIN and APD diodes & Block diagram using	

37	Optical repeater & Single Channel system Applications of optical fibres – civil, Industry and Military application	
38	Concept of Wave Length Division Multiplexing (WDM) principles.	
39	Doubt Clearing class of Chapter-3	
40	TELECOMMUNICATION SYSTEM:Working of Electronic Telephone System. (Telephone Set)	
41	Function of switching system.& Call procedures,Space and time switching.	
42	Numbering plan of telephone networks (National Schemes & International Numbering)	
43	Working principle of a PBX & Digital EPABX,Units of Power Measurement.	
44	Working principle of Internet Protocol Telephone	
45	Working principle of Internet Telephone	
46	Doubt Clearing class of Chapter-4	
47	Data Communication:Basic concept of Data Communication,Architecture, Protocols and Standards	
48	Data Communication Circuits,Types of Transmission & Transmission Modes	
49	Data Communication codes,Basic idea of Error control & Error Detection	
50	MODEM & its basic block diagram& common features Voice Band Modem	
51	Doubt Clearing class of Chapter-5	
52	WIRELESS COMMUNICATION:Basic concept of Cell Phone,frequency reuse channel assignment strategic handoff co-channel Interference and system capacity of a	
53	Concept of improving coverage and capacity in cellular system (Cell Splitting, Sectoring)	
54	Wireless Systems and its Standards,Discuss the GSM (Global System for Mobile) service and features.	
55	Architecture of GSM system & GSM mobile station &channel types of GSM system.	
56	working of forward and reveres CDMA channel,the frequency and channel specifications,Architecture and features of GPRS.	
57	Discuss the mobile TCP, IP protocol,Working of Wireless Application Protocol (WAP).	

58	Features of SMS, MMS, 1G,2G, 3G, 4G& 5G Wireless network.	
59	Smart Phone and discuss its features indicate through Block diagram.	
60	Doubt Clearing class of Chapter-6	
61	Previous Year Semester Question discussion	
62	Previous Year Semester Question discussion	


Sign. of Faculty


Sign. of H.O.D