DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

A CADEMIC LESSION PLAN FOR SUMMER SEMESTER	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the Faculty: RAJENDRA DORA	Academic Year:2023-24
Course No.:	Course Name: Advance Communication Engg
Program: Diploma	Branch: ELECTRONICS & TELECOMMUNICATION
Year/Sem: 3 r / 6th	Section: A
Total Period s : 60 P/ Sem	End Semester Exam : 80marks
Examination : 3 Hours	Internal Assessment : 20 Marks
TOTAL MARKS : 100 Marks	Start of Class .

Sl. No.	Period	Time (min)	Unit/ Chapter	Topic to be covered	Teaching method
1.	1.	55	1	1.1 State and explain the simple Radar system & its classification	Black board
2.	2.	55	1	1.2 Derive Radar range equation, types of radar and their a lication.	Black board
3.	3.	55	1	I .3 Explain the Performance factor of radar.	Black board
4.	4.	55	1	1.4 Describe the block diagram of pulsed radar s stem.	Black board
5.	5.	55		1.5 State the function of radar indication and moving target indicator.	Black board
6.	6.	55	1	1.6 Define Doppler effect&Describe the block dia ram of C.W radar.	Black board
7.	7.	55	1	I .7 Explain the radar aids to navigator..	Black board
				1.8 Explain aircraft landing system. 1.9 Explain the concept of Navigation Satellite S stem. AVSAT & GPS S stem	Black board
9.	9.	55	1	1.10 Simple radar problems.	Black board
10.	10.	55	2	2.1 Define & Describe Satellite Orbital patterns and elevation(LEO,MEO & GEO) categories	Black board

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				2.2 Describe the Concept of Geostationary Satellite , calculate its height, velocity & round trip time delay & their advantage & disadvantage overother s stem	Black board
12.	12.	55	2	2.3 State Satellite frequency allocation and frequency bands.	Audio visual smart class
13.	13.	55	2	2.4 Describe General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink)	Black board
14.	14.	55	2	2.5 Explain the operation of direct broadcast system (DBS)	Black board
15.	15.	55	2	2.6 Explain the operation of VSAT system.	Black board
16.	16.	55	2	2.7 Define multiple accessing & name various types.	Black board
17.	17.	55	2	2.8 Discuss the Time Division Multiple Accessing(TDMA) & Code Division Multiple Accessing (CDMA) & its advantages & disadvantages.	Audio visual smart class
				2.8 Discuss the Time Division Multiple Accessing(TDMA) & Code Division Multiple Accessing (CDMA) & its advantages & disadvantages	Black board
19.	19.	55	2	2.9 Describe Satellite Application- Communication .Satellite, Digital Satellite Radio.	Black board
20.	20.	55	2	2.10 Explain GPS Receiver & Transmitter.	Black board
21.	21.	55	3	3.1 Define optical communication.	Black board
22.	22.	55	3	3.2 Compare the advantage and disadvantage of o tical fiber metallic cables	Black board
23.	23.	55	3	3.3 Define Electromagnetic Frequency and wave line s ectrum	Black board
24.	24.	55	3	3.4 Need and advantages of optical fibers &principles of light transmission in a fiber using RayTheory	Black board
25.	25.	55	3	3.4 Need and advantages of optical fibers &principles of light transmission in a fiber using Ra Theo	Black board
26.	26.	55	3	3.5 Describe the optical fiber construction	Black board
27.	27.	55	3	3.6 Explain the following terms: Velocity of propagation, Critical angle, Acceptance angle &numerical a erture	Black board
28.	28.	55	3	3.6 Explain the following terms: Velocity of propagation, Critical angle, Acceptance angle &numerical a erture	Black board

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29.	29.	55	3	3.7 Discuss the block diagram of an optical fiber conununication s stcm	Black board
30.	30.	55	3	3.8 Dcfinc thc modes of propagation and index rofilc of o ticnl fiber	Black board
31.	31.	55	3	3.9 Describc thc tllrcc typcs optical fiber configuration: Single-mode step index, Multimode Ste indcx, Multi-modc Graded index	Audio visual smart class
32.	32.	55	3	3.9 Dcscribc the thrcc types optical fiber configuration: Single-mode step index, Multimode Ste index Multi-mode Graded index	Audio visual smart class
33.	33.	55	3	3.9 Describe the three types optical fiber configuration: Single-mode step index, Multimode ste index, Multi-mode Graded index	Audio visual smart class
34.	34.	55	3	3.10 Attenuation in optical fibers — Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion — material Dispersion, waveguide dispersion, Intermodal dispersion	Black board
35.	35.	55	3	3.10 Attenuation in optical fibers — Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion — material Dispersion, waveguide dispersion, Intermodal dispersion	Black board
36.	36.	55		3.10 Attenuation in optical fibers — Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion — material Dispersion, waveguide dispersion, Intermodal dispersion	Black board
37.	37.	55	3	3.11 Optical sources — LED- semiconductor	Black board
38.	38.	55	3	3.12 Define LASER ,its working Principles Block diagram using laser feedback control circuit	Black board
39.	39.	55	3	3.13 Explain Optical detectors — PIN and APD diodes &Block diagram using APD Connectors and splices —Optical cables Cou lers	Black board
40.	40.	55	3	3.13 Explain Optical detectors — PIN and APD diodes &Block diagram using APD Connectors and splices —Optical cables Cou lers	Black board
41.	41.	55	3	3.14 Applications of optical fibers — civil, Industr and Militar a lication	Black board
42.	42.	55	3	3.14 Applications ol' optical fibers — civil, Industr and Militar lication	Audio visual stnart class
43.	43.	55	3	3.15 Explain concept ol' Wave Length Division Multi lexill ' WLDM))rinci les.	Black board

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44.	44.	55	3	3.15 Explain conccpl of Wavc Lcngth Division Multi lexin WLDM rinci ICS,	Black board
45.	45.	55	4	4.1 Discuss thc operation of Electronic Tclc hone S stC111. Telc honc Set	Black board
46.	46.	55	4	4.1 Discuss the opcrntion of Elcctronic Telc honc S stem. Tclc honc Set	Black board
47.	47.	55	4	4.2 Discuss the function of switching system.& Call rocedurcs	Black board
48.	48.	55	4	4.3 Discuss the principle of space and time switchin .	Black board
49.	49.	55	4	4.4 Discuss the numbering plan of telephone networks (National Schemes & International Numberin	Black board
50.	50.	55	4	4.4 Discuss the numbering plan of telephone networks (National Schemes & International Numberin)	Black board
51.	51.	55	4	4.4 Discuss the numbering plan of telephone networks (National Schemes & International Numberin	Black board
52.	52.	55	4	•4.6 Describe the operation of a PBX & Digital EPABX	Black board
53.	53.	55	4	4.6 Describe the operation of a PBX & Digital EPABX	Black board
54.	54.	55	4	4.6 Describe the operation of a PBX & Digital EPABX.	Black board
55.	55.	55	4	4.7 Define units of Power Measurement.	Black board
56.	56.	55	4	4.8 Describe the operation of Internet Protocol Tele hone.	Black board
57.	57.	55	4	4.9 Describe the principal of Internet Telephone	Black board
58.	58.	55	4	Revision and Questions Discussion	Black board
59.	59.	55	4	Revision and Questions Discussion	Black board
60.	60.	55	4	Revision and Questions Discussion	Black board

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