Bhoj Reddy Engineering College for Women: Hyderabad
Department of Electronics and Communication Engineering
Lesson plan of faculty member for the academic year 2017–18

Class: III B Tech   Branch-Section: ECE-A   Semester: I
Subject: Analog Communications   Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
**UNIT – I: Amplitude Modulation**		
1	Introduction to communication systems, Modulation	12 July 2017
2	Need for modulation, FDM	14 July 2017
3	AM-definition, time domain and frequency domain description	15 July 2017
4	Tutorial (G3, G1) - Problems related to AM	12, 13 July 2017
5	Single tone modulation, Power relation in AM waves,	17 July 2017
6	Generation of AM waves: Square law and Switching modulator	19 July 2017
7	Detection of AM waves: square law detector and Envelope detector	21 July 2017
8	DSBSC modulators, Time and Frequency domain descriptions	22 July 2017
9	Tutorial (G2, G3, G1) - Problems related to DSB-SC	17,19, 20 July 2017
10	Generation of DSB-SC waves	24 July 2017
11	Balanced modulator, ring modulator	26 July 2017
12	Coherent detection of DSB-SC modulated waves	28 July 2017
13	Costas loop	29 July 2017
14	Tutorial (G2, G3, G1) - Problems related to DSB-SC	24, 26, 27 July 2017
**UNIT-II: SSB Modulation**		
15	Frequency domain description of SSBSC wave.	31 July 2017
16	Frequency discrimination method of AM SSB modulated wave generation	2 August 2017
17	Time domain description	4 August 2017
18	Phase discrimination method for generating AM SSB modulated waves	5 August 2017
19	Tutorial (G2, G3, G1) - Problems related to SSBSC	31 July, 2, 3 August 2017
20	Demodulation of SSB	7 August 2017
21	Vestigial side band modulation	9 August 2017
22	Frequency description	11 August 2017
23	Generation of VSB modulated wave	12 August 2017
24	Tutorial (G2, G3, G1) - Problems related to SSB and VSB	7, 9, 10 August 2017
25	Time domain description	16 August 2017
26	Envelope detection of VSB wave pulse carrier	18 August 2017
27	Comparisons of AM techniques	19 August 2017
28	Tutorial (G3, G1) - Problems related to VSB	16, 17 August 2017
29	Applications of different AM system	21 August 2017
**UNIT-III: Angle Modulation**		
30	Basic concepts	23 August 2017
31	Frequency Modulation	26 August 2017
32	Tutorial (G2, G3, G1) - Problems related to FM	21, 23, 24 August 2017
33	Single tone FM	30 August 2017
34	Spectrum of sinusoidal FM wave	1 September 2017
35	Tutorial (G3, G1) - Problems related to FM	30, 31 August 2017
36	NBFM, WBFM	4 September 2017
37	constant average power, Transmission BW of FM wave	9 September 2017
38	Tutorial (G2) - Problems related to NBFM, WBFM	4 September 2017
39	Generation of FM waves, Direct FM	11 September 2017
40	Detection of FM waves: Balanced frequency discriminator	13 September 2017

41	Zero crossing detector	15 September 2017
42	Phase Locked Loop (PLL), Comparisons of AM and FM	16 September 2017
43	Tutorial (G2, G3, G1) - Problems related to FM	11, 13, 14 September 2017
UNIT-IV: **Noise in Analog Communication Systems**		
44	Types of Noise: Resistive (Thermal) Noise Source	18 September 2017
45	Shot Noise, Extraterrestrial Noise,	22 September 2017
46	Arbitrary Noise Sources	23 September 2017
47	Tutorial (G2,G1) - Problems related to Noise	18, 21 September 2017
48	White Noise, Narrow Band Noise-Inphase and quadrature phase components and its properties	4 October 2017
49	Modeling of Noise Sources	6 October 2017
50	Average noise Bandwidth, Effective Noise Temperature	7 October 2017
51	Tutorial (G3, G1) - Problems related to Noise	4, 5 October 2017
52	Average Noise Figure, Average Noise Figure of cascaded networks	9 October 2017
53	Noise in DSB and SSB system, Noise in Amplitude Modulation system	11 October 2017
54	Noise in Angle modulation, Noise Triangle in Angle modulation	13 October 2017
55	Pre-emphasis and de-emphasis	14 October 2017
56	Tutorial (G2, G3, G1) - Problems related to Noise	9, 11, 12 October 2017
UNIT-V: **Receivers**		
57	Radio Receiver-Receiver Types, TRF receiver	16 October 2017
58	Super heterodyne receiver, RF section and Characteristics	20 October 2017
59	Frequency changing and tracking	21 October 2017
60	Tutorial (G2, G3, G1) - Problems related to receivers	16, 18, 19 October 2017
61	Intermediate frequency	23 October 2017
62	Automatic Gain Control (AGC)	25 October 2017
63	FM receiver, FM receiver Comparison with AM receiver	27 October 2017
64	Amplitude limiting	28 October 2017
65	Tutorial (G2, G3, G1) - Problems related to Intermediate frequency	23, 25, 26 October 2017
66	Pulse Modulation: Types of Pulse Modulation, Introduction to Pulse Modulation	30 October 2017
67	PAM (single polarity, double polarity), PWM: Introduction	1 November 2017
68	Generation of PWM, Demodulation of PWM	3 November 2017
69	Tutorial (G2, G3, G1) - Problems related to PAM, PWM	30 October, 1, 2 November 2017
70	PPM: Generation of PPM, Demodulation of PPM, TDM	6 November 2017
71	Tutorial (G2) - Problems related to PPM, Solving problems from previous question papers	6 November 2017

Text books:

1. Simon Haykin, "Communication Systems", 2/e, John Wiley and Sons, 2005
2. H Taub, Schlling and Gautam Sahe, "Principles of Communication Systems", 3/e, TMH, 2007.
3. George Kennedy and Bernard Davis, "Electronics and Communication Systems", 4/e, TMH, 2009.
4. B.P Lathi, "Modern Digital and Analog Communication Systems",3/e, B.S Publications, 2005.

Name and signature of the faculty: Ms Saba Sultana   ----

Name and signature of Head of the Department: Ms N Shribala   ----