Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2016–17

Class: III B Tech Branch-Section: ECE-C 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	13 June 2016
2	Modulation, need for modulation , FDM	15 June 2016
3	Tutorial (G3,G2,G1) – Basics of Communication	13,15,16 June 2016
4	Introduction to AM, Time and frequency domain representations	16 June 2016
5	Single tone modulation and multi-tone modulation	17 June 2016
6	Power relation in AM waves	20 June 2016
7	Generation of AM Waves : Square law and Switching modulator	22 June 2016
8	Tutorial (G3, G2, G1) - Problems related to AM	20,22,23 June 2016
9	Detection of AM Waves : Square law detector and Envelope detector	23 June 2016
10	DSBSC modulators, Time and Frequency domain descriptions	24 June 2016
11	Generation of DSB-SC signals, balanced modulator, ring modulator	27 June 2016
12	Coherent detection of DSB-SC	29 June 2016
13	Tutorial (G2, G3, G1) - Problems related to DSB-SC	27,29,30 June 2016
14	COSTAS loop	30 June 2016
UNIT-II: **SSB Modulation**		
15	Time and Frequency domain description of SSBSC wave.	1 July 2016
16	Frequency and phase discrimination method for SSB generation	4 July 2016
17	Demodulation of SSB	8 July 2016
18	Vestigial side band modulation : frequency description	11 July 2016
19	Generation of VSB Modulated Wave	13 July 2016
20	Tutorial (G1) - Problems related to SSBSC	11,13,14 July 2016
21	Time domain Description of VSB Wave	14 July 2016
22	Envelope detection of VSB wave	15 July 2016
23	Comparisons of AM techniques and applications	18 July 2016
UNIT-III: **Angle Modulation**		
24	Basic concepts of FM, single tone FM	20 July 2016
25	Tutorial (G2, G3, G1) - Problems related to VSB	18,20,21 July 2016
26	Spectrum of sinusoidal FM wave	21 July 2016
27	Narrow band FM, Wide band FM	22 July 2016
28	Wide band FM constant average power, Transmission BW	25 July 2016
29	Generation of FM Wave: Direct FM	27 July 2016
30	Tutorial (G2, G3, G1) - Problems related to FM	25,27,28 July 2016
31	Detection of FM: Balanced frequency discriminator	28 July 2016
32	Armstrong method, detection FM waves	29 July 2016
33	Zero Crossing Detector	3 August 2016
34	Tutorial (G2, G1) - Problems related to FM	3,4 August 2016
35	Phase Locked Loop (PLL)	4 August 2016
36	Foster steely discriminator , Ratio detector	5 August 2016
37	Comparisons of AM and FM	17 August 2016
38	Tutorial (G2, G1) - Problems related to FM	17,18 August 2016
UNIT-IV: **Noise in Analog Communication Systems**		
39	Types of Noise sources	18 August 2016
40	Characteristics of noise sources	19 August 2016
41	Modelling of noise sources	22 August 2016

42	Average noise Bandwidth and Effective Noise Temperature	24 August 2016
43	Noise factor and noise figure	26 August 2016
44	Average Noise Figure	29 August 2016
45	Noise in DSBSC	31 August 2016
46	Tutorial (G3,G2, G1) - Problems related to Noise	29,31 August & 1 September 2016
47	Noise in SSBSC	1 September 2016
48	Noise in Amplitude Modulation	2 September 2016
49	Noise in Angle modulation	7 September 2016
50	Tutorial (G2, G1) - Problems related to Noise	7,8 September 2016
51	Threshold effect in Angle modulation system	8 September 2016
52	Pre-emphasis and de-emphasis	9 September 2016
UNIT-V: **Receivers**		
53	Receiver and its types, TRF receiver	14 September 2016
54	Tutorial (G2, G1) - Problems related to Noise	14,15 September 2016
55	Super heterodyne receiver	15 September 2016
56	Super heterodyne receiver characteristics	16 September 2016
57	RF section and Characteristics ,Frequency tracking	19 September 2016
58	Intermediate frequency	21 September 2016
59	Tutorial (G2, G3, G1) - Problems related to receivers	19,21,22 September 2016
60	Automatic Gain Control (AGC)	22 September 2016
61	FM receiver characteristics	23 September 2016
62	FM receiver Comparison with AM receiver	26 September 2016
63	Amplitude limiting	28 September 2016
64	Tutorial (G2, G3, G1) - Problems related to Intermediate frequency	26,28,29 September 2016
65	Types of Pulse Modulation , Introduction to Pulse Modulation	29 September 2016
66	PAM (single polarity and double polarity)	3 October 2016
67	Tutorial (G1) - Problems related to FM receiver	27 October 2016
68	PWM Introduction , Generation of PWM	27 October 2016
69	Demodulation of PWM	28 October 2016
70	Generation of PPM	31 October 2016
71	Demodulation of PPM	2 November 2016
72	Tutorial (G3, G2, G1) – Previous question papers	31 October & 2,3 November 2016
73	Discussion of previous question papers	3 November 2016

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 A Jyothirmayi ----

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