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: EEE Semester: I

Subject: Integrated Circuit Applications Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Integrated Circuits		
1	Introduction and classification	13 June 2016
2	Chip size and circuit complexity, classification of integrated circuits	16 June 2016
3	Comparison of various logic families	17 June 2016
4	Standard TTL NAND gate-Analysis and Characteristics	18 June 2016
5	Tutorial (G3,G2,G1) - Problems related to TTL	15,17,18 June 2016
6	TTL open collector output, Tristate TTL	20 June 2016
7	MOS& CMOS open drain	23 June 2016
8	Tri-state outputs	24 June 2016
9	CMOS transmission gate	25 June 2016
10	Tutorial (G3, G2, G1) – Problems related to TTL	22, 24,25 June 2016
11	IC Interfacing -TTL driving CMOS	27 June 2016
12	CMOS driving TTL	30 June 2016
UNIT-II: **OP-AMP and Applications**		
13	Basic information of OP-AMP	01 July 2016
14	Ideal and Practical OP-AMP, internal circuits	02 July 2016
15	Tutorial (G3, G2, G1) - Problems related to OP-AMP	29 June, 1,2 July 2016
16	OP-AMP Characteristics-DC Characteristics	4 July 2016
17	AC Characteristics	8 July 2016
18	741 OP-AMP and its features	9 July 2016
19	Tutorial (G2, G1) - Problems related to OP-AMP	8,9 July 2016
20	Modes of Operations-inverting and non-inverting	11 July 2016
21	Differential amplifier	14 July 2016
22	Basic applications of OP-AMP	15 July 2016
23	Instrumentation Amplifier	16 July 2016
24	Tutorial (G3, G2, G1) – Applications of OP-AMP	13, 15, 16 July 2016
25	ac amplifier	18 July 2016
26	V-I and I-V converter	21 July 2016
27	Sample and hold circuits, multipliers and Dividers	22 July 2016
28	Differentiators and integrators	23 July 2016
29	Tutorial(G3, G2, G1) - Problems related to OP-AMP	20, 22, 23 July 2016
30	Comparators	25 July 2016
31	Introduction to Voltage Regulators	28 July 2016
UNIT-III: **Active Filters**		
32	Introduction,1 order LPF,HPF filters	29 July 2016
33	Band pass, Band reject Filters, All Pass Filters	30 July 2016
34	Tutorial (G2, G3, G1) - Problems related to Filters	27, 29, 30 July 2016
35	Oscillator Types	4 August 2016
36	Principle of Operation –RC, Wien Quadrature type	5 August 2016
37	Waveform Generators-triangular	6 August 2016
38	Tutorial (G2, G3, G1) - Problems related to Filters	3, 5, 6 August 2016
39	Saw tooth, Square wave generator	18 August 2016
40	VCO	19 August 2016
UNIT-IV: **Timers and Phased Locked Loops**		
41	Introduction to 555 Timer	20 August 2016
42	Tutorial (G2, G3, G1) - Problems related to timers	17,19,20 August 2016

43	Functional Diagram	22 August 2016
44	Monostable operations	26 August 2016
45	Astable operation	27 August 2016
46	Tutorial (G2, G3, G1) –Problems related to waveform generators	24,26,27 August 2016
47	Applications	29 August 2016
48	Schmitt Trigger	1 September 2016
49	PLL Block diagram and Introduction	2 September 2016
50	Principle of PLL	3 September 2016
51	Tutorial (G2, G3, G1) –Problems related to waveform generators	31 August,1,2 September 2016
52	Description of individual block of PLL	8 September 2016
53	Revision	9 September 2016
UNIT-V: **D-A and A-D Converters**		
54	Introduction	10 September 2016
55	Tutorial (G2, G3, G1) –Problems related to PLL	7,9,10 September 2016
56	Basic DAC Techniques	15 September 2016
57	Weighted resistor DAC	16 September 2016
58	R-2R Ladder DAC	17 September 2016
59	Tutorial (G2, G3, G1) –Problems related to DAC	14,16,17 September 2016
60	Inverted R-2R DAC	19 September 2016
61	IC 1408 DAC	22 September 2016
62	Different types of ACD	23 September 2016
63	Parallel comparator type ADC	24 September 2016
64	Tutorial (G2, G3, G1) –Problems related to ADC	21,23,24 September 2016
65	Counter type ADC	26 September 2016
66	Successive Approximation ADC	29 September 2016
67	Dual Slope ADC	1 October 2016
68	Tutorial (G2, G3, G1) –Problems related to DAC	28 September,1 October 2016
69	DAC Specifications	3 October 2016
70	ADC Specifications	27 October 2016
71	Revision	28 October 2016
72	Revision	29 October 2016
73	Problems on both DAC and ADC	26,28,29 October 2016
74	Revision of previous question papers	31 October 2016
75	Revision of previous question papers	3 November 2016
76	Revision of previous question papers	2 November 2016

Text books:

1. Operational Amplifiers & Linear Integrated Circuits, Robert F. Coughlin Fredrick f.Driscoll,PHI.
2. Operational Amplifiers & Linear Integrated Circuits: Theory and Applications, Denton J Daibey, TMH.
3. Design with Operational Amplifiers & Analog Integrated Circuits Sergio Franco, McGraw Hill.
4. Digital Fundamentals –Floyd and Jain.

Name and signature of the faculty: Ms R Sindhuja ----

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