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: Linear and Digital IC Applications Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Operational Amplifier		
1	Introduction to Operational Amplifiers	13 June 2016
2	Ideal and Practical Op-Amp, Features of 741 Op-Amp	15 June 2016
3	Characteristics of Op-Amps: DC	16 June 2016
4	AC Characteristics	17 June 2016
5	Tutorial (G1,G3,G2) – DC and AC Characteristics	13, 15, 16 June 2016
6	Modes of operation: Inverting and Non-Inverting amplifier	20 June 2016
7	AC amplifiers, Differentiators and Integrators	22 June 2016
8	Comparators	23 June 2016
9	Schmitt Trigger, Problems	24 June 2016
10	Tutorial (G1, G3, G2) - Problems	20, 22, 23 June 2016
11	Introduction to Voltage Regulators, 723 Regulator features	27 June 2016
12	Three terminal Voltage Regulator	29 June 2016
13	Problems	30 June 2016
UNIT-II: Op-Amp, IC-555 & IC 565 Applications		
14	Introduction to Active Filters	1 July 2016
15	Tutorial (G1, G3, G2) – Problems on Differentiators and Integrators	27, 29, 30 June 2016
16	Characteristics of Band Pass Filter	4 July 2016
17	Band Reject and All Pass Filter	8 July 2016
18	Tutorial (G1) - Characteristics of all Filters	4 July 2016
19	Analysis of 1st order LPF and HPF Butterworth Filters	11 July 2016
20	Continuation	13 July 2016
21	Waveform Generators: Triangular and Sawtooth generator	14 July 2016
22	Square Wave generator, IC 555 Timer functional diagram	15 July 2016
23	Tutorial (G1, G3, G2) - Problems	11, 13, 14 July 2016
24	Monostable and Astable operations, Applications	18 July 2016
25	IC 565 PLL-Block Schematic	20 July 2016
26	Applications	21 July 2016
UNIT-III: **Data Converters**		
27	Introduction: Basic DAC techniques	22 July 2016
28	Tutorial (G1, G3, G2) - Problems related to Filters	18, 20, 21 July 2016
29	Weighted Resistor DAC, R-2R ladder DAC	25 July 2016
30	Inverted R-2R DAC	27 July 2016
31	Types of ADCs-Parallel Comparator type	28 July 2016
32	Counter type ADC, Successive Approximation ADC	29 July 2016
33	Tutorial (G1, G3, G2) - Problems	25, 27, 28 July 2016
34	Dual Slope ADC	1 August 2016
35	DAC and ADC Specifications	3 August 2016
UNIT-IV: **Digital Integrated Circuits**		
36	Classification of Integrated Circuits	4 August 2016
37	Comparison of Logic Families	5 August 2016
38	Tutorial (G1, G3, G2) - Problems	1, 3, 4 August 2016
39	CMOS Transmission Gate	17 August 2016
40	IC Interfacing-TTL driving CMOS and CMOS driving TTL	18 August 2016
41	Combinational Logic ICs-Specifications and Applications of TTL-74XX and CMOS 40XX series	19 August 2016

42	Tutorial (G3, G2) - Problems related to ICs	17, 18 August 2016
43	Code Converters, Decoders	22 August 2016
44	Multiplexers, LED and LCD decoders	24 August 2016
45	LCD decoders with drivers, Encoders, Priority Encoders	26 August 2016
46	Tutorial (G1, G3) - Problems	22, 24 August 2016
47	Multiplexers, Demultiplexers	29 August 2016
48	Priority Generators, Checkers	31 August 2016
49	Parallel binary Adders and Subtractors	1 September 2016
50	Magnitude Comparators	2 September 2016
51	Tutorial (G1, G3, G2) - Revision	29, 31 August,1 September 2016
UNIT-V: **Sequential Logic IC's and Memories**		
52	Familiarity with 74XX and CMOS 40XX series	7 September 2016
53	All types of Flip-Flops	8 September 2016
54	Flip-Flops	9 September 2016
55	Tutorial (G1, G3, G2) - Problems	7, 8 September 2016
56	Synchronous counter	14 September 2016
57	Decade Counter	15 September 2016
58	Shift Register, Problems	16 September 2016
59	Tutorial (G1, G3, G2) - Problems	14, 15 September 2016
60	Memories – Rom Architecture	19 September 2016
61	Types of ROMS and applications	21 September 2016
62	RAM Architecture	22 September 2016
63	Static RAM	23 September 2016
64	Tutorial (G1, G3, G2) - Problems	19, 21, 22 September 2016
65	Dynamic RAMs	26 September 2016
66	Revision	28 September 2016
67	Problems	29 September 2016
68	Tutorial (G1, G3, G2) - Problems	26, 28, 29 September 2016
69	Revision	3 October 2016
70	Tutorial (G1) - Previous question papers	3 October 2016
71	Previous question papers	27 October 2016
72	Discussion of previous question papers	28 October 2016
73	Tutorial (G2) – Previous question papers	27 October 2016

Text books:

1. Ramakanth A. Gayakwad, "Op-Amps and LInear ICs", PHI, 2003
2. D. Roy Chowdhury, "Linear Integrated Circuits", New Age International Pvt. Ltd., 2/e, 2003.
3. Floyd and Jain, "Digital Fundamentals", Pearson Education, 8/e, 2005.

Name and signature of the faculty: Nasreen Sultana ----

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