

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Electronics and Communication Engineering

Lesson plan of faculty member for the academic year 2018–19

Class: III B Tech

Branch-Section: ECE-A

Semester: I

Subject: Linear and Digital IC Applications

Lectures per week: 4

Lecture Number	Topic to be covered	Date(s)
UNIT – I: Operational Amplifier		
1	Introduction to Integrated Circuits	9 July 2018
2	Classification and package types of ICs	12 July 2018
3	Ideal Op-Amp and Practical Op-Amp	13 July 2018
	Op-Amp Characteristics, Features of 741 op-amp	
4	Op-Amp Characteristics	14 July 2018
5	DC Characteristics	16 July 2018
6	AC Characteristics	19 July 2018
7	Modes of operation: Inverting, Non-Inverting	20 July 2018
	Problem solving	
8	Differential Amplifier	21 July 2018
9	Instrumentation Amplifier	23 July 2018
10	AC Amplifier	26 July 2018
11	Differentiators & Integrators	27 July 2018
	Problem solving	
12	Comparators	28 July 2018
13	Schmitt trigger and problems	30 July 2018
14	Introduction to Voltage Regulators	02 August 2018
15	Features of 723	03 August 2018
	Problem solving	
16	Three terminal voltage regulators	04 August 2018
UNIT - II: Op-Amp, IC-555 & IC 565 Applications		
17	Introduction to the filters, Analysis of 1 st order LP Butterworth filter	09 August 2018
18	Characteristics of Band pass filter, Analysis 1 st order HP Butterworth filter	10 August 2018
	Band reject and All pass filters	
19	Square wave generator, Triangular waveform generator	11 August 2018
20	Sawtooth waveform generator, Introduction to 555 timers, Functional diagram	13 August 2018
21	Monostable Operation	16 August 2018
22	Astable Operation	17 August 2018
	Problem solving	
23	IC 565 PLL - Introduction, Block schematic, Analog Phase detector	18 August 2018
24	Digital Phase detector, PLL pin diagram	20 August 2018
25	Principles and description of individual blocks of 565 (VCO)	23 August 2018
26	PLL applications	24 August 2018
	Problem solving	
27	Overview of UNIT II	25 August 2018
UNIT – III: Data Converters		
28	Introduction, DAC Techniques, Weighted Resistor DAC	27 August 2018
29	R- 2R ladder DAC, Inverted R-2R DAC	30 August 2018
30	DAC Techniques	31 August 2018
	IC 1408 DAC	
31	Parallel Comparator Type ADC, Counter Type ADC	01 September 2018
32	Successive Approximation ADC	06 September 2018
33	Dual Slope ADC	07 September 2018
	Problem solving	
34	Servo Tracking and Charge balancing ADC	8 September 2018
35	DAC and ADC Specifications	10 September 2018
36	DAC and ADC Specifications	14 September 2018

	Problem solving	
UNIT – IV: Digital Integrated Circuits		
37	Classification of Integrated Circuits, Comparison of various logic families	15 September 2018
38	Comparison of various logic families	17 September 2018
39	CMOS Transmission gate	20 September 2018
40	TTL driving CMOS and CMOS driving TTL	22 September 2018
41	Use of TTL-74XX & CMOS 40XX series	24 September 2018
42	Code converter TTL ICs and their applications	27 September 2018
43	Decoder TTL ICs and their applications	28 September 2018
	Problem solving	
44	Demultiplexer TTL ICs and their applications	29 September 2018
45	LED & LCD Decoders with Drivers	01 October 2018
46	Parity generators, Parallel binary adder/subtractor	04 October 2018
47	Parallel binary adder /subtractor circuits using 2's Complement system	05 October 2018
	Problem solving	
48	Parallel binary adder /subtractor circuits using 2's Complement system	06 October 2018
49	Magnitude Comparator circuits	08 October 2018
UNIT – V: Sequential Logic IC's and Memories		
50	All types of Flip-flops	11 October 2018
51	All types of Flip-flops	12 October 2018
	Problem solving	
52	Synchronous Counters	13 October 2018
53	Decade Counter	22 October 2018
54	Mod- n Counters	25 October 2018
55	Shift registers and Applications	26 October 2018
	Problems on Synchronous Counter design	
56	ROM Architecture	27 October 2018
57	Types of ROMS and Applications	29 October 2018
58	RAM Architecture	01 November 2018
59	Static RAMs	02 November 2018
	Revision	
60	Dynamic RAMs	03 November 2018
60	Overview of Unit IV & V	05 November 2018
62	Revision	08 November 2018
63	Previous papers discussion	09 November 2018
	Revision	
64	Overview of syllabus	10 November 2018

TEXT BOOKS:

1. Op Amps and Linear ICs - Ramakanth A Gayakwad, PHI, 2003.
2. Linear Integrated Circuits – D.Roy Chowdhury, New Age International (p) Ltd, 2/e, 2003.
3. Digital Fundamentals – Floyd and Jain, Pearson Education, 8th Edition, 2005.
4. Digital Design Principles and Practices - John F Wakerly 3/e, 2005.

Name and signature of the faculty: N Sumalatha ----

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