

**MICRO LESSON PLAN**  
**IC Applications (A50423)**  
**(III Year B.Tech. I SEM)**

Sl. No.	Name of the Topic	No. of Classes required	Cumulative No. of periods	Teaching Aid
<b>UNIT – I : INTEGRATED CIRCUITS</b>				
1.	Classification, Chip size and circuit complexity	01	01	Chalk & Talk
2.	Classification of integrated circuits	01	02	Chalk & Talk
3.	Comparison of various logic families	01	03	Chalk & Talk
4.	Standard TTL NAND gate analysis and characteristics	01	04	Chalk & Talk
5.	TTL open collector outputs Tri state TTL	02	06	Chalk & Talk
6.	MOS CMOS open drain and tri state outputs	02	08	Chalk & Talk
7.	CMOS transmission gates	01	09	Chalk & Talk
8.	TTL driving CMOS and CMOS driving TTL	01	10	Chalk & Talk
	<b>TTL open collector outputs Tri state TTL (REMEDIAL)</b>	01	11	Chalk & Talk
10.	<b>Tutorial on</b> CMOS transmission gates	01	12	Chalk & Talk
	<b>SPECIAL DESCRIPTIVE TEST-I</b>	01	13	
<b>Unit-II : OP-AMP and Applications</b>				
11.	Basic information of op amp	01	14	Chalk & Talk
12.	Ideal practical op amp, internal circuits	02	16	Chalk & Talk
13.	Op Amp characteristics	01	17	Chalk & Talk
14.	DC and AC Characteristics	02	19	Chalk & Talk
15.	741 op amp and its features	02	21	Chalk & Talk
16.	Basic applications of Op amp	01	22	Chalk & Talk
17.	Instrumentation amplifier , ac amplifier	02	24	Chalk & Talk
18.	V to I and I to V converters	01	25	Chalk & Talk
19.	Sample and Hold circuits	01	26	Chalk & Talk
20.	Multipliers and dividers	01	27	Chalk & Talk
21.	Differentiators and integrators	02	29	Chalk & Talk
22.	Comparisons	01	30	Chalk & Talk
23.	Introduction to voltage regulators	01	31	Chalk & Talk
24.	<b>Tutorial on</b> DC and AC Characteristics	01	32	Chalk & Talk
25.	<b>Tutorial on</b> 741 op amp and its features	01	33	Chalk & Talk
<b>UNIT-III Active Filters and Oscillators</b>				
26.	Introduction	01	34	Chalk & Talk
27.	First order LPF and HPF	02	36	Chalk & Talk
28.	Band reject and all pass filters	02	38	Chalk & Talk

29.	Oscillator types and principle of operation	02	40	Chalk & Talk
30.	RC wien bridge oscillators	01	41	Chalk & Talk
31.	Quadrature type oscillator	01	42	Chalk & Talk
32.	Waveform generators	02	44	Chalk & Talk
33.	VCO	02	46	Chalk & Talk
	Waveform generators ( <b>REMEDIAL</b> )	01	47	Chalk & Talk
34.	<b>Tutorial</b> LPF AND HPF filter	01	48	Chalk & Talk
35	<b>Tutorial</b> problems on RC oscillator	01	49	Chalk & Talk
36	<b>Tutorial</b> problems on Wien bridge oscillators	01	50	Chalk & Talk
<b>Unit – IV : Timers and Phase Locked Loops</b>				
37.	Introduction to 555 timer	01	51	Chalk & Talk
38.	Functional diagram	01	52	Chalk & Talk
39.	Monostable operations & applications	02	54	Chalk & Talk
40.	Astable operations & applications	02	56	Chalk & Talk
41.	Schmitt trigger	01	57	Chalk & Talk
42.	PLL introduction & block diagram	01	58	Chalk & Talk
43.	Principles & description of individual blocks	02	60	Chalk & Talk
44.	<b>Tutorial</b> problems on Monostable	01	61	Chalk & Talk
45.	<b>Tutorial</b> problems on Astable	01	62	Chalk & Talk
	<b>Higher order filters and Applications of PLL (TOPIC BEYOND SYLLABUS)</b>	02	64	Chalk & Talk LCD
<b>UNIT-V : D-A and A-D Converters</b>				
46.	Introduction and basic DAC techniques	01	65	Chalk & Talk
47.	Weighted resistor DAC , R-2R ladder DAC	02	67	Chalk & Talk
48.	Inverted R-2R ladder , IC 1408 DAC	01	68	Chalk & Talk
49.	Different types of ADCs-parallel type	01	69	Chalk & Talk
50.	Counter type	01	70	Chalk & Talk
51.	Successive approximation	01	71	Chalk & Talk
52.	Dual slope ADC	01	72	Chalk & Talk LCD
53.	DAC & ADC specifications	01	73	Chalk & Talk
54.	<b>Tutorial</b> problems on types of DACs	01	74	Chalk & Talk
	<b>SPECIAL DESCRIPTIVE TEST-II</b>	01	75	
<b>Total Number of Classes</b>			<b>75</b>	