

REC309: ANALOG & DIGITAL ELECTRONICS ODD SEM

S N	Topics	
1.	UNIT-I Special Diodes their characteristics and applications	
2.	LED, Photo diode,	
3.	Schottky diode,	
4.	Tunnel diode;	
5.	Introduction to Power devices	
6.	Characteristics of SCR	
7.	TRIAC, DIAC.	
8.		
9.	UNIT-II Amplifier and Frequency Response-	
10.	Introduction to Amplifier,	
11.	Transfer Function,	
12.		
13.	Frequency Response of Common Emitter,	
14.	Multistage amplifier	
15.		
16.	Frequency response of Common source MOSFET Amplifier	
17.		
18.	UNIT-III Feedback- General feedback structure;	
19.	properties of negative feedback;	
20.	series-series, series-shunt, shunt-series and shunt-shunt feedback amplifiers.	
21.	Oscillators-Basic principle of sinusoidal oscillator	
22.	R-C Phase Shift oscillators	
23.	Wein Bridge oscillators	
24.	tuned oscillators	
25.	Collpits and Hartley	
26.	Crystal oscillator, CLAP Oscillator.	
27.	UNIT-IV Number System,	
28.		
29.	Gate Level Minimization (up to three Variables),	
30.		
31.	SOP, POS Simplification.	
32.		
33.		
34.	Combinational Logic Circuits:	
35.	Binary Adder/ Subtractor	
36.		
37.	Multiplexer/ Demultiplexer,	
38.		
39.	Decoder/ Encoder	
40.	Sequential Logic: Introduction to latches,	
41.	flip-flops- S-R, T, D, J-K.	
42.		
43.		
44.	UNIT-V Registers & Counter:	
45.	Serial and parallel data transfer, shift left/right registers,	
46.		
47.	universal shift register.	

48.	Mode N Counters, ripple counters,	
49.	synchronous counters,	
50.		
51.	Ring/Johnson counters.	
52.		
53.	Memory: Introduction to ROM, RAM,	
54.		
55.	PLA, PAL.	

Text Books:

Text Books:

1. A.S. Sedra and K.C. Smith “Microelectronics Circuits” Oxford University Press (India)
2. Malvino & Leach, “Digital Principles and applications” Tata Mc. Graw Hill
3. R.A. Gayakwad “Op amps and Linear Integrated Circuits” Prentice Hall of India.
4. Balbir Kumar and Shail B. Jain, “Electronic Devices and Circuits” Prentice Hall of India, 2007

Reference Books:

1. Taub & Schilling “Digital Electronics”- Tata McGraw Hill
2. Anil K. Maini, “Digital Electronics: Principles and Integrated circuits” Wiley India Ltd, 2008.
3. Millman, J. and Grabel A, “Microelectronics” McGraw Hill
4. Anand Kumar, “Switching Theory and Logic Design” Prentice Hall of India, 2008.
5. Alope. K. Dutta, “Semiconductor Devices and circuits”, Oxford University Press, 2008.