

**Bhoj Reddy Engineering College for Women: Hyderabad**  
**Department of Electronics and Communication Engineering**  
 Lesson plan of faculty member for the academic year 2020–21

Class: II B Tech                      Branch-Section: ECE-C  
 Subject: Electronic Devices and Circuits

Semester: I  
 Lectures per week:  
 3+1(Tutorial)

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: Diode and Applications</b>		
1	Introduction to electronics devices and circuits	2 September 2020
2	Diode - Static and Dynamic resistances	4 September 2020
3	Diode -Equivalent circuit	5 September 2020
4	Load line analysis	7 September 2020
5	Diffusion and Transition Capacitances	9 September 2020
6	Diode Applications: Switch-Switching times	11 September 2020
7	Rectifier - Half Wave Rectifier	12 September 2020
8	Full Wave Rectifier, Bridge Rectifier	14 September 2020
9	Rectifiers with Capacitive and Inductive Filters	16 September 2020
10	Clippers-Clipping at two independent levels	18 September 2020
11	Clamper-Clamping Circuit Theorem	19 September 2020
12	Clamping Operation, Types of Clampers	21 September 2020
<b>UNIT-II: Bipolar Junction Transistor (BJT)</b>		
13	Principle of Operation	23 September 2020
14	Common Emitter Configuration	25 September 2020
15	Common Base Configuration	26 September 2020
16	Common Collector Configuration	28 September 2020
17	Transistor as a switch	30 September 2020
18	Switching times	3 October 2020
19	Transistor Biasing and Stabilization	5 October 2020
20	Operating point	7 October 2020
21	DC & AC load lines	9 October 2020
22	Biasing - Fixed Bias	10 October 2020
23	Self-Bias, Bias Stability	12 October 2020
24	Bias Compensation using Diodes, Problems on BJT biasing	14 October 2020
<b>UNIT-III: Junction Field Effect Transistor (FET)</b>		
25	FET Construction, FET Principle of Operation	16 October 2020
26	Pinch-Off Voltage	26 October 2020
27	Volt - Ampere Characteristic	28 October 2020
28	Comparison of BJT and FET	31 October 2020
29	Biasing of FET	9 November 2020
30	FET as Voltage Variable Resistor	11 November 2020
31	Special Purpose Devices: Zener Diode - Characteristics	13 November 2020
32	Voltage Regulator	16 November 2020
33	Principle of Operation - SCR	18 November 2020
34	Principle of Operation - Tunnel diode	20 November 2020
35	Principle of Operation - UJT, Varactor Diode	21 November 2020
<b>UNIT-IV: Analysis and Design of Small Signal Low Frequency BJT Amplifiers</b>		
36	Transistor Hybrid model	23 November 2020
37	Determination of h-parameters from transistor characteristics	25 November 2020
38	Typical values of h- parameters in CE	27 November 2020

39	Typical values of h- parameters in CB and CC configurations	28 November 2020
40	Transistor amplifying action	2 December 2020
41	Analysis of CE Amplifier	4 December 2020
42	Analysis of CC, CB Amplifiers	5 December 2020
43	CE Amplifier with emitter resistance	7 December 2020
44	Low frequency response of BJT Amplifiers	9 December 2020
45	Effect of coupling and bypass capacitors on CE Amplifier	11 December 2020
<b>UNIT-V: FET Amplifiers</b>		
46	Small Signal Model	12 December 2020
47	Analysis of JFET Amplifiers	14 December 2020
48	Analysis of CS JFET Amplifiers	16 December 2020
49	Analysis of CD JFET Amplifiers	18 December 2020
50	Analysis of CG JFET Amplifiers	19 December 2020
51	MOSFET Characteristics in Enhancement	21 December 2020
52	MOSFET Characteristics in Depletion mode	23 December 2020
53	Basic Concepts of MOS Amplifiers	28 December 2020
54	Revision	30 December 2020
55	Revision	1 December 2021
56	Revision	2 December 2021

**Text books:**

1. Electronic Devices and Circuits- Jacob Millman, McGraw Hill Education.
2. Electronic Devices and Circuits theory– Robert L. Boylestead, Louis Nashelsky, 11th Edition, 2009, Pearson.

**Reference books:**

1. The Art of Electronics, Horowitz, 3rd Edition Cambridge University Press.
2. Electronic Devices and Circuits, David A. Bell – 5th Edition, Oxford.
3. Pulse, Digital and Switching Waveforms –J. Millman, H. Taub and Mothiki S. Prakash Rao, 2Ed., 2008, Mc Graw Hill.

Name and signature of the faculty: Ms A Navila ----

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