

# 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: IT-A

Semester: I

Subject: Analog and Digital Electronics

Lectures per week: 3

Lecture Number	Topics to be covered	Date (s)
<b>UNIT – I: Diodes and Applications</b>		
1	Introduction, Junction diode characteristics, Open circuited p-n junction,	01 September 2020
2	p-n junction as a rectifier, V-I characteristics, effect of temperature,	04 September 2020
3	Diode resistance, diffusion capacitance, diode switching times,	05 September 2020
4	Breakdown in diodes	08 September 2020
5	Tunnel diodes, photo diode, LED	11 September 2020
6	Diode Applications - clipping circuits,	12 September 2020
7	Comparators	15 September 2020
8	Half wave rectifier, Full wave rectifier	18 September 2020
9	Rectifier with capacitor filter	19 September 2020
<b>UNIT - II BJTS</b>		
10	Transistor characteristics: The junction transistor	22 September 2020
11	Transistor as an amplifier	25 September 2020
12	CB, CE, CC configurations	26 September 2020
13	Comparison of transistor configurations, the operating point	29 September 2020
14	Self-bias or Emitter bias, bias compensation	03 October 2020
15	Thermal runaway and stability, transistor at low frequencies	06 October 2020
16	CE amplifier response, gain bandwidth product	09 October 2020
17	Emitter follower, RC coupled amplifier	10 October 2020
18	Two cascaded CE and multi stage CE amplifiers	13 October 2020
<b>UNIT - III FETs and Digital Circuits</b>		
19	FETs: JFET, V-I characteristics	16 October 2020
20	MOSFET, low frequency CS and CD amplifiers	27 October 2020
21	CS and CD amplifiers.	31 October 2020
22	Digital Circuits: Digital (binary) operations of a system,	10 November 2020
23	OR gate, AND gate, NOT, EXCLUSIVE OR gate	13 November 2020
24	De Morgan Laws, NAND and NOR DTL gates	17 November 2020
25	Modified DTL gates, HTL and TTL gates	20 November 2020
26	Output stages,	21 November 2020
27	RTL and DCTL, CMOS	24 November 2020
28	Comparison of logic families	27 November 2020
<b>UNIT - IV Combinational Logic Circuits</b>		
29	Basic Theorems and Properties of Boolean Algebra	28 November 2020
30	Canonical and Standard Forms, Digital Logic Gates	01 December 2020
31	The Map Method, Product-of-Sums Simplification	04 December 2020
32	Don't-Care Conditions, NAND and NOR Implementation	05 December 2020
33	Exclusive-OR Function, Binary Adder-Subtractor	08 December 2020
34	Decimal Adder, Binary Multiplier, Magnitude Comparator	11 December 2020
35	Decoders Encoders, Multiplexers	12 December 2020
<b>UNIT - V Sequential Logic Circuits</b>		
36	Sequential Circuits, Storage Elements: Latches and flip flops	15 December 2020
37	Analysis of Clocked Sequential Circuits	18 December 2020
38	State Reduction and Assignment	19 December 2020
39	Shift Registers, Ripple Counters	22 December 2020

40	Synchronous Counters	29 December 2020
41	Random-Access Memory	01 January 2021
42	Read-Only Memory.	02 January 2021

**Text books:**

1. Integrated Electronics: Analog and Digital Circuits and Systems, 2/e, Jaccob Millman, Christos Halkias and Chethan D. Parikh, Tata McGraw-Hill Education, India, 2010. H Taub, Schilling and Gautam Sahe, "Principles of Communication Systems", 3/e, TMH, 2007.
2. Digital Design, 5/e, Morris Mano and Michael D. Cilette, Pearson, 2011. B.P Lathi, "Modern Digital and Analog Communication Systems", 3/e, B.S Publications, 2005.
3. Electronic Devices and Circuits, Jimmy J Cathey, Schaum's outline series, 1988
4. Digital Principles, 3/e, Roger L. Tokheim, Schaum's outline series, 1994.

Name and signature of the faculty: Ms K Sushma ----

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