C.V. RAMAN POLYTECHNIC BBSR

LESSON PLAN

Discipline: Diploma Branch: ETC	Semester: 3rd	Name of the Teaching Faculty: Sabyasachi Patra
Subject: Electronics-Devices (ETCPC 203)	No. of Days/per week class allotted: 45days/ 3 class per week	Semester From Date: 14/07/2025 To Date:15/11/2025 No. of Weeks:15
Week	**Class Day**	**Theory**
1st	1st	1.1 Review of Quantum Mechanics
	2nd	1.2 Electrons in Periodic Lattices
	3rd	1.3 Energy Bands in Intrinsic & Extrinsic Si
2nd	1st	1.4.1 Diffusion Current
	2nd	1.4.2 Drift Current
	3rd	1.4.3 Mobility and Resistivity
3rd	1st	2.1 Generation and Recombination
	2nd	2.2 Poisson and Continuity Equations
	3rd	2.3.1 Construction of P-N Junction Diode
4th	1st	2.3.2 Operating Principle
	2nd	2.3.3 P-N Junction Characteristics
	3rd	2.3.4 I-V Characteristics
5th	1st	2.3.5 Small Signal Switching Models
	2nd	2.3.6 Avalanche Breakdown
	3rd	2.3.7 Zener Diode
6th	1st	2.3.8 Schottky Diode
	2nd	2.3.9 LED

	3rd	2.3.10 Photodiode and Solar Cell
7th	1st	3.1 Construction of BJT
	2nd	3.2 Operating Principle of BJT
	3rd	3.3 Types of BJT
8th	1st	3.4 Working of p-n-p & n-p-n BJT
	2nd	3.5 I-V Characteristics
	3rd	3.6 Ebers Moll Model
9th	1st	3.7 CB, CE, CC Configurations
	2nd	3.8 Input & Output Characteristics
	3rd	3.9 Alpha, Beta, Gamma Definitions
10th	1st	3.10 Mathematical Relationship
	2nd	3.11, 3.12 Biasing and Types
	3rd	3.13 h-Parameter Model
11th	1st	3.14 Load Line, Q-Point
	2nd	3.15 Types of Coupling
	3rd	3.16 R-C Coupled Amplifier
12th	1st	3.17 Frequency Response
	2nd	4.1, 4.2 FET Intro & BJT vs JFET
	3rd	4.3 JFET Construction & Operation
13th	1st	4.4 JFET Parameters
	2nd	4.5 JFET as Amplifier, MOSFET Intro
	3rd	4.6 MOSFET Classification
14th	1st	4.7 MOSFET Characteristics
	2nd	4.8 CMOS, VMOS, LDMOS
	3rd	5.1, 5.2 Feedback Amplifier & Types, 5.3 Characteristics of Amplifiers, 5.4 Oscillators & Barkhausen Criterion
15th	1st	5.5.1 to 5.5.3 LC oscillator, Colpitts, Hartley, Wien.
		6.1 Oxidation, 6.2 Diffusion

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	2nd	6.3 Ion implantation. 6.4 Photo-lithography 6.5 Etching
	3rd	6.6 Chemical vapor deposition 6.7 Sputtering 6.8 Twin-tub CMOS process

S. Patra

Signature of Faculty
(ETC)

Signature of HOD (ETC)