

UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA



LESSON PLAN

SESSION: 2025-2026

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE: Th.2

NAME OF THE SUBJECT: Electronics Devices

BRANCH: ELECTRONICS & TELECOMMUNICATION ENGG.

SEMESTER: DIPLOMA 3rd SEM

NUMBER OF CLASSES ALLOTTED PER WEEK: 3

NAME OF FACULTY-DEEPAK RANJAN PATNAIK

UTTAMANINGOPABANDHU INSTITUTE OF ENGINEERING (UGIE)		
LESSON PLAN		
E&TC ENGG.	3RD	DEEPAK RANJAN PATNAIK, SR.LECTURER IN E&TC ENGG.
SUBJECT: Electronics Devices	NO OF DAYS/ WEEK CLASS ALLOTTED: 03	SEMESTER FROM- 14.07.2025 TO 15.11.2025 NO OF WEEKS: - 18

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WEEK NO.	CLASS DAY	THEORY TOPICS
1 st	14-07-2025	Introduction to Semiconductor Physics – Review of Quantum Mechanics.
	15-07-2025	Electrons in periodic Lattices, Energy bands in intrinsic and extrinsic silicon.
	18-07-2025	Diffusion current, Drift current, Mobility and resistivity.
2 nd	21-07-2025	P-N Junction Diodes – Generation and recombination of carriers
	22-07-2025	Poisson and continuity equation P-N Junction Diodes.
	25-07-2025	Construction of P-N Junction Diode, Operating Principle
3 rd	28-07-2025	P-N junction characteristics.
	29-07-2025	I-V characteristics, Small signal switching models
	01-08-2025	Small signal switching models
4 th	04-08-2025	Avalanche breakdown and Zener diode
	05-08-2025	Schottky diode and LED
	08-08-2025	Photo diode
5 th	11-08-2025	Solar cell
	12-08-2025	Bipolar Junction Transistor (BJT) – Construction of BJT
6 th	18-08-2025	Operating Principle of BJT
	19-08-2025	Types of BJT, Working principle of p-n-p and n-p-n BJT
	22-08-2025	I-V characteristics, Ebers Moll Model
7 th	25-08-2025	Different types of transistor connection – Common Base(CB), Common Emitter(CE), Common Collector(CC)
	26-08-2025	Input and output characteristics of transistor in different connections.
	29-08-2025	Define ALPHA, BETA and GAMMA of transistors in various modes. Establish the Mathematical relationship between
8 th	01-09-2025	Basic concept of Biasing Types of Biasing
	02-09-2025	h- parameter model of BJT, Load line and determine the Q-point.
9 th	08-09-2025	Types of Coupling
	09-09-2025	Working principle and use of R-C Coupled Amplifier
	12-09-2025	Frequency Responses of R-C coupled Amplifier
10 th	15-09-2025	FIELD EFFECT TRANSISTOR (FET) – FET & its classifications
	16-09-2025	Differentiate between JFET & BJT
	19-09-2025	Internal Examination -1
11 th	22-09-2025	Construction, working principle & characteristics of JFET
	23-09-2025	Parameters of JFET & establish relation among JFET parameters

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	26 -09-2025	JEFT as an amplifier, Construction and working principle of MOSEFT
12 th	03-10-2025	Classification of MOSEFT
13 th	06 -10-2025	Characteristics (Drain & Transfer) of MOSEFT
	10 -10-2025	Explain the operation of CMOS, VMOS & LDMOS.
14 th	13-10-2025	FEEDBACK AMPLIFIER & OSCILLATOR - Define & classify Feedback Amplifier.
	14-10-2025	Types of feedback – negative & positive feedback.
	17-10-2025	Characteristics voltage gain, band width, input Impedance output impedance.
15 th	20-10-2025	Oscillator- Block diagram of sine-wave oscillator Types
	24-10-2025	Requirement of oscillation, Barkhausen criterion.
16 th	27-10-2025	LC oscillator
	28-10-2025	Colpitts Oscillator
	31-10-2025	Internal Examination -2
17 th	03-11-2025	Hartley Oscillator
	04-11-2025	Wien Bridge Oscillator
	07-11-2025	Integrated Circuit Fabrication Process – Oxidation, Diffusion, Ion implantation, Photo-lithography, Etching, Chemical vapor deposition, Sputtering.
18 th	10-11-2025	Twin-tub CMOS process.
	11-11-2025	Question- answer discussion.
	14-11-2025	Revision.