UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING, ROURKELA

LESSON PLAN

SESSION: 2025-2026

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

SUBJECT CODE: Th.1
NAME OF THE SUBJECT: Analog Circuits
BRANCH: ELECTRONICS & TELECOMMUNICATION ENGG.
SEMESTER: DIPLOMA 4th sem
NUMBER OF CLASSES ALLOTTED PER WEEK: 3
NAME OF FACULTY-DEEPAK RANJAN PATNAIK

UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING (UGIE)
LESSON PLAN

DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY
E&TC ENGG.	**3RD**	DEEPAK RANJAN PATNAIK, SR.LECTURER IN E&TC ENGG.
SUBJECT: Analog Electronics	**NO OF DAYS/ WEEK CLASS ALLOTTED**: 03	SEMESTER FROM- 22.12.2025 TO 15.04.2026 NO OF WEEKS: - 17

WEEK NO.	CLASS DAY	THEORY TOPICS
1st	22-12-2025	**DIODE CIRCUITS** – Half wave & Full wave rectifiers with concept of filter circuit.
2nd	29-12-2025	Half wave & Full wave rectifiers with concept of filter circuit.
	1-01-2026	Different type of Non-linear circuits- clipper, diode series & shunt,
	03-01-2026	positive & negative biased & unbiased and combinational clippers circuit & its application
3rd	05-01-2026	Different type of Clamper circuit (Positive & Negative clamper) & its application
	08-01-2026	**AMPLIFIER-** Voltage amplifier, current amplifier
4th	12-01-2026	Trans-conductance amplifier, Trans- resistance amplifier
	15-01-2026	Small signal analysis
	17-01-2026	Low frequency transistor models
5th	19-01-2026	Estimation of voltage gain, input resistance, output resistance
	22-01-2026	Design procedure for particular specifications
6th	29-01-2026	Low frequency analysis of multistage amplifiers. High frequency transistor models
	31-01-2026	**TUNED AMPLIFIER-** Defined and classify Tuned amplifier
7th	02-02-2026	Explain parallel Resonant circuit
	04-02-2026	Resonance Curve & sharpness of Resonance.
	07-02-2026	Working principle of Single tuned Voltage
8th	09-02-2026	Double tuned Amplifier & its limitation
	12-02-2026	**OPERATIONAL AMPLIFIER-** Differential amplifier & explain its
9th	16-02-2026	Symbol of Op-Amp
	19-02-2026	Open loop and closed loop amplifier
	21-02-2026	Op-Amp parameters

10th	23-01-2026	Input bias current ~~Common Mode Rejection Ratio~~
	26-02-2026	Slew rate Input and output Impedance
11th	02-03-2026	Bandwidth and gain bandwidth product
	05-03-2026	Discuss the types of integrated circuits, manufacturer's designations of
	07-03-2026	Draw and explain the Open Loop configuration (inverting, non-inverting Amplifier)
12th	09-03-2026	Draw and explain the Closed loop configurations: inverting and
	12-03-2026	**APPLICATION OF OPERATIONAL AMPLIFIER**- Basic mathematical applications such as adder and subtractor. Discuss the summing scaling using inverting and non-inverting amplifiers.
13th	16-03-2026	DC & AC Amplifies using OP-AMP. Integrator and differentiator using op-amp. Sample and Hold circuit
	19-03-2026	I-V converter and V-I converter
14th	23-03-2026	Comparator Schmitt Trigger
	26-03-2026	Active filter using OP-AMP
15th	30-03-2026	**Integrated Circuit Timer**-
	02-04-2026	Function of Output, Reset, Discharge, Control voltage, Trigger and
	04-04-2026	555 timer used as, Astable Multi-vibrator, Monostable Multi-vibrator, Pulse width modulator and Pulse position modulator.
16th	06-04-2026	**Power Supply and Regulated Power Supply**-
	09-04-2026	Design a bipolar unregulated power supply 7.4 Design a fixed dual voltage power supply using 7800 and 7900n series of IC three terminal regulator
17th	13-04-2026	Design an adjustable dual voltage regulated power supply using LM317 and LM337 chips.