GOVERNMENT POLYTECHNIC, BALASORE
Government of Odisha
ସରକାରୀ ବହୁବୃତ୍ତି ଅନୁଷ୍ଠାନ, ବାଲେଶ୍ୱର

LESSON PLAN (WINTER-2025)		
Discipline: CIVIL ENGINEERING (SECTION – I)	**Semester: 1ST**	**Name of the Teaching Faculty: DEBASISH MOHAPATRA**
Subject: Fundamentals of Electrical & Electronics Engineering(Course Code- TH 4(a)	**No of Days /per week class allotted: 2**	**Semester From date:** 6TH August, 2025 **No of Weeks:** 15
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	**UNIT I Overview of Electronic Components & Signals:** Passive Active Components: Resistances, Capacitors, Inductors,
	2nd	Diodes, Transistors,
2nd	1st	FET, MOS and CMOS and their Applications.
	2nd	Concept and simple problems of Resistance, Capacitor & Inductor
3rd	1st	classification and Working of diode(PN juction,LED, Zener)
	2nd	classification and Working of diode(PN juction,LED, Zener)
4th	1st	classification and Working of diode(PN juction,LED, Zener)
	2nd	transistor, FET, Concept of MOS and CMOS)
5th	1st	transistor, FET, Concept of MOS and CMOS)
	2nd	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms, Ideal/non-ideal
6th	1st	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms
	2nd	Ideal/non-ideal voltage/current sources, independent/dependent voltage current sources.
7th	1st	**UNIT II Overview of Analog Circuits:** Operational Amplifiers-Ideal Op-Amp, Practical op amp
	2nd	Operational Amplifiers-Ideal Op-Amp, Practical op amp
8th	1st	Operational Amplifiers-Ideal Op-Amp, Practical op amp
	2nd	Operational Amplifiers-Ideal Op-Amp, Practical op amp
9th	1st	Open loop and closed loop configurations, Application of Op-Amp as amplifier
	2nd	Open loop and closed loop configurations, Application of Op-Amp as amplifier
10th	1st	adder, differentiator and integrator.
	2nd	adder, differentiator and integrator.
11th	1st	adder, differentiator and integrator.
	2nd	**UNIT III Overview of Digital Electronics:** Introduction to Boolean Algebra, Electronic Implementation of Boolean Operations, Gates-Functional Block Approach (Simple problems of Number system)

12th	1st	Introduction to Boolean Algebra, Electronic Implementation of Boolean Operations, Gates-Functional Block Approach (Simple problems of Number system)
	2nd	Introduction to Boolean Algebra, Electronic Implementation of Boolean Operations, Gates-Functional Block Approach (Simple problems of Number system)
13th	1st	Storage elements-Flip Flops-A Functional block approach,
	2nd	Storage elements-Flip Flops-A Functional block approach,
14th	1st	Counters: Ripple, Up/down and decade
	2nd	Counters: Ripple, Up/down and decade
15th	1st	Introduction to digital IC Gates (of TTL Type).
	2nd	Introduction to digital IC Gates (of TTL Type).

Debarsh Mohapatra
Faculty

HOD 09/09/13