DEPARTMENT OF ELECTRICAL ENGINEERING

BIT. Polytechnic, Balasore

LESSON PLAN FOR ACADEMIC SESSION - 2025-26

ELECTRICAL CIRCUITS

Course Code : EEPC203 (Th-2)	**Semester : 3rd**
Total Periods : 45 Hours	**Examination : 3 Hours**
Theory Periods : 3 P/Week	**Progressive Assessment: 30 Marks**
Maximum Marks : 100	**End Semester Examination : 70 Marks**
Semester From Date : 14/07/2025	**To Date : 15/11/2025 (approx.)**
Name of the Teaching Faculty:	**Er. Sarbanidhi Dey (Elect)**

WEEK	PERIOD	TOPIC
1st	1st	**Single Phase A.C Series Circuits** Generation of alternating voltage
	2nd	Phasor representation of sinusoidal quantities
	3rd	R, L, C circuit elements its voltage and current response
2nd	1st	R-L, R-C, R-L-C combination of A.C series circuit Impedance, reactance, impedance triangle
	2nd	Power factor, active power, reactive power, apparent power
	3rd	Power triangle and vector diagram Resonance, Bandwidth
3rd	1st	Quality factor and voltage magnification in series R-L, R-C, R-L-C circuit
	2nd	**Single Phase A.C Parallel Circuits** R-L, R-C and R-L-C parallel combination of A.C. circuits
	3rd	Impedance, reactance, phasor diagram, impedance triangle
4th	1st	Power factor, active power, apparent power, reactive power, power triangle.
	2nd	Resonance in parallel R-L circuit
	3rd	Resonance in parallel R-C circuit
5th	1st	Resonance in parallel R-L-C circuit
	2nd	Bandwidth, Quality factor
	3rd	voltage magnification
6th	1st	**Three Phase Circuits** Phasor and complex representation of three phase supply
	2nd	Phase sequence and polarity
	3rd	Types of three-phase connections
7th	1st	Phase and line quantities in three phase star and delta system
	2nd	Balanced and unbalanced load
	3rd	Neutral shift in unbalanced load
8th	1st	Three phase power, active, reactive and apparent power in star system

	2nd	Three phase power, active, reactive and apparent power in delta system
	3rd	**Network Reduction and Principles of Circuit Analysis** Source transformation
9th	1st	Star/delta transformation
	2nd	Delta/star transformation
	3rd	Mesh Analysis
10th	1st	Node Analysis
	2nd	**Network Theorems** Superposition theorem
	3rd	Superposition theorem problems
11th	1st	Thevenin's theorem
	2nd	Thevenin's theorem problems
	3rd	Norton's theorem
12th	1st	Norton's theorem problems
	2nd	Maximum power transfer theorem
	3rd	Maximum power transfer theorem problems
13th	1st	Reciprocity Theorem
	2nd	**Two Port Network** Open Circuit Impedance Parameters
	3rd	Problems involving open Circuit Impedance Parameters
14th	1st	Short Circuit Admittance Parameters
	2nd	Problems involving short Circuit Admittance Parameters
	3rd	Transmission Parameters, Hybrid Parameters
15th	1st	Problems involving Transmission Parameters and Hybrid Parameters
	2nd	Interrelationship of Two Port Network
	3rd	Inter Connection of Two Port Network