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DEPARTMENT OF ELECTRICAL ENGINEERING

Govt. Polytechnic, Balasore

LESSON PLAN FOR ACADEMIC SESSION - 2026-27 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 : 01/07/2026	To Date : 05/11/2026
Name of the Teaching Faculty: Er. Bikash Jena, Lect Stage-I (ELECT)	

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

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

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01/07/26.

Lect. Stage-I, Elect Dept.
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Teaching Faculty

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