



SYNERGY SCHOOL OF ENGINEERING
DEPARTMENT OF ELECTRICAL ENGINEERING

Discipline : Electrical Engineering	Semester : - 3 rd Sem	Name of the teaching faculty: -SUNANDITA SAOO		
Subject: - ELECTRICAL CIRCUITS LABORATORY	No. of Days/week class Allotted: 4	No. of weeks: -15 SESSION-2026-27 WINTER		
No. of week	No. of lab class	Topic to be Taught	DATE OF DELIVERY	
			G1	G2
1 ST	1 st	Use voltmeter, ammeter, wattmeter to determine active, reactive and apparent power consumed in given R-L-C series circuit. Draw phasor diagram.		
	2 nd	Use voltmeter, ammeter, wattmeter to determine active, reactive and apparent power consumed in given R-L-C series circuit. Draw phasor diagram.		
2 ND	1 st	Use variable frequency supply to create resonance in given series R-L-C circuit or by using variable inductor or variable capacitor.		
	2 nd	Use variable frequency supply to create resonance in given series R-L-C circuit or by using variable inductor or variable capacitor.		
3 RD	1 st	Use voltmeter, ammeter, wattmeter, p.f meter to determine current, p.f., active, reactive and apparent power for given R-L-C parallel circuit with series connection of resistor and inductor in parallel with capacitor.		
	2 nd	Use voltmeter, ammeter, wattmeter, p.f meter to determine current, p.f., active, reactive and apparent power for given R-L-C parallel circuit with series connection of resistor and inductor in parallel with capacitor.		
4 TH	1 st	Use variable frequency supply create resonance in given parallel R-L-C circuit or by using variable inductor or capacitor.		
	2 nd	Use variable frequency supply create resonance in given parallel R-L-C circuit or by using variable inductor or capacitor.		
5 TH	1 st	Use voltmeter, ammeter, wattmeter, p.f meter to determine line and phase quantities of voltage and current for balanced three phase star and delta connected load and calculate active, reactive, and apparent power. Draw phasor diagram.		
	2 nd	Use voltmeter, ammeter, wattmeter, p.f meter to determine line and phase quantities of voltage and current for balanced three phase star and delta connected load and calculate active, reactive, and apparent power. Draw phasor diagram.		
6 TH	1 st	Use voltmeter, ammeter to determine current through the given branch of a electric network by applying mesh analysis.		
	2 nd	Use voltmeter, ammeter to determine current through the given branch of a electric network by applying mesh analysis.		

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7 TH	1 st	Use voltmeter, ammeter to determine current through the given branch and voltage across the given element of circuit by applying superposition theorem.		
	2 nd	Use voltmeter, ammeter to determine current through the given branch and voltage across the given element of circuit by applying superposition theorem.		
8 TH	1 st	Use voltmeter, ammeter to determine equivalent circuit parameter in a given circuit by applying Thevenin's theorem		
	2 nd	Use voltmeter, ammeter to determine equivalent circuit parameter in a given circuit by applying Thevenin's theorem		
9 TH	1 st	Use voltmeter, ammeter to determine equivalent circuit parameter in a given circuit by applying Norton's theorem		
	2 nd	Use voltmeter, ammeter to determine equivalent circuit parameter in a given circuit by applying Norton's theorem		
10 TH	1 st	Use voltmeter, ammeter to determine load resistance for maximum power transfer for a given circuit by applying maximum power transfer theorem.		
	2 nd	Use voltmeter, ammeter to determine load resistance for maximum power transfer for a given circuit by applying maximum power transfer theorem.		
11 TH	1 st	Use the node-voltage method to solve a circuit that containing resistors and independent and dependent current sources and voltage sources is connected between non-reference nodes using Simulink Simscape.		
	2 nd	Use the node-voltage method to solve a circuit that containing resistors and independent and dependent current sources and voltage sources is connected between non-reference nodes using Simulink Simscape.		
12 TH	1 st	Use the mesh-current method to solve a circuit for an arbitrary network containing resistors and independent and dependent voltage and current sources using Simulink Simscape.		
	2 nd	Use the mesh-current method to solve a circuit for an arbitrary network containing resistors and independent and dependent voltage and current sources using Simulink Simscape.		
13 TH	1 st	Using Simulink, determine A.C voltage and current response in given R, L, C circuit.		
	2 nd	Using Simulink, determine A.C voltage and current response in given R, L, C circuit.		
14 TH	1 st	Using Simulink, create resonance in given series R-L-C circuit.		
	2 nd	Using Simulink, create resonance in given series R-L-C circuit.		
15 TH	1 st	Verify network theorems(Superposition, Thevenin's, Norton's, Maximum power transfer) using Simulink Simscape.		
	2 nd	Verify network theorems(Superposition, Thevenin's, Norton's, Maximum power transfer) using Simulink Simscape.		

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20.06.2026

Prepared by


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