

### **ACADEMIC LESSON PLAN OF WINTER 2023**

Discipline Electrical	Semester: 3 <sup>rd</sup> Sec-B	Name of the Teaching Faculty: - Lucky Rani Behuria & Sangeeta Kumari Patro
Subject: - Circuit Simulation Lab	No of Days/per Week Class Allotted: 2d(3hr)/week	Semester From: -1 <sup>st</sup> Aug 2023 to 30 <sup>th</sup> Nov 2023  No. of Weeks: 17 weeks
Week	Class Day	Practical Topics
1 <sup>st</sup>	1 <sup>st</sup>	1. Measurement of equivalent resistance in series and parallel circuit
	2 <sup>nd</sup>	1. Measurement of equivalent resistance in series and parallel circuit
2 <sup>nd</sup>	1 <sup>st</sup>	2. Measurement of power and power factor using series R-L-C Load.
	2 <sup>nd</sup>	2. Measurement of power and power factor using series R-L-C Load.
3 <sup>rd</sup>	1 <sup>st</sup>	3. Verification of KCL and KVL
	2 <sup>nd</sup>	3. Verification of KCL and KVL
4 <sup>th</sup>	1 <sup>st</sup>	4. Verification of Super position theorem
	2 <sup>nd</sup>	4. Verification of Super position theorem
5 <sup>th</sup>	1 <sup>st</sup>	5. Verification of Thevenin's Theorem
	2 <sup>nd</sup>	5. Verification of Thevenin's Theorem
6 <sup>th</sup>	1 <sup>st</sup>	6. Verification of Norton's Theorem
	2 <sup>nd</sup>	6. Verification of Norton's Theorem
7 <sup>th</sup>	1 <sup>st</sup>	7. Verification of Maximum power transfer Theorem
	2 <sup>nd</sup>	7. Verification of Maximum power transfer Theorem
8 <sup>th</sup>	1 <sup>st</sup>	8. Determine resonant frequency of series R-L-C circuit.
	2 <sup>nd</sup>	8. Determine resonant frequency of series R-L-C circuit.
9 <sup>th</sup>	1 <sup>st</sup>	9. Study of Low pass filter & determination of cut-off frequency
	2 <sup>nd</sup>	9. Study of Low pass filter & determination of cut-off frequency
10 <sup>th</sup>	1 <sup>st</sup>	10. Study of High pass filter & determination of cut-off frequency
	2 <sup>nd</sup>	10. Study of High pass filter & determination of cut-off frequency
11 <sup>th</sup>	1 <sup>st</sup>	11. Analyze the charging and discharging of an R-C & R-L circuit with oscilloscope and Compute the time constant from the tabulated data and determine the rise time graphically.

	2 <sup>nd</sup>	11. Analyze the charging and discharging of an R-C & R-L circuit with oscilloscope and Compute the time constant from the tabulated data and determine the rise time graphically.
12 <sup>th</sup>	1 <sup>st</sup>	12. Introduction to P-Spice/MATLAB software.
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. i. Superposition theorem
13 <sup>th</sup>	1 <sup>st</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. ii. Series Resonant Circuit
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. ii. Series Resonant Circuit
14 <sup>th</sup>	1 <sup>st</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms iii. Transient Response in R-L-C series circuit
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms iii. Transient Response in R-L-C series circuit
15 <sup>th</sup>	1 <sup>st</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms iii. Transient Response in R-L-C series circuit
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms iii. Transient Response in R-L-C series circuit
16 <sup>th</sup>	1 <sup>st</sup>	Revision Class.
	2 <sup>nd</sup>	Revision Class.
17 <sup>th</sup>	1 <sup>st</sup>	Revision Class.
	2 <sup>nd</sup>	Revision Class.

*Lucky Dani Belusia*

Signature of Faculty