

**SUNDARGARH ENGINEERING SCHOOL, KIREI**  
**LESSON PLAN**

**Subject : Circuit and Simulation Lab**

**Discipline : Electrical Engineering**

**Faculty : Udaya Shankar Behera**

**Instructor : Biranchi Toppo**

**Semester : 3<sup>RD</sup>**

<b>Week</b>	<b>No. of days/ per week class allotted:-6</b>	<b>Practical</b>
1 <sup>st</sup>	1 <sup>st</sup>	1. Measurement of equivalent resistance in series and parallel circuit
	1 <sup>st</sup>	
	2 <sup>nd</sup>	1. Measurement of equivalent resistance in series and parallel circuit
	2 <sup>nd</sup>	
2 <sup>nd</sup>	1 <sup>st</sup>	2. Measurement of power and power factor using series R-L-C Load.
	1 <sup>st</sup>	
	2 <sup>nd</sup>	2. Measurement of power and power factor using series R-L-C Load.
	2 <sup>nd</sup>	
3 <sup>rd</sup>	1 <sup>st</sup>	3. Verification of KCL and KVL.
	1 <sup>st</sup>	
	2 <sup>nd</sup>	3. Verification of KCL and KVL.
	2 <sup>nd</sup>	
4 <sup>th</sup>	1 <sup>st</sup>	4. Verification of Super position theorem
	1 <sup>st</sup>	
	2 <sup>nd</sup>	4. Verification of Super position theorem
	2 <sup>nd</sup>	
5 <sup>th</sup>	1 <sup>st</sup>	5. Verification of Thevenin's Theorem
	1 <sup>st</sup>	
	2 <sup>nd</sup>	5. Verification of Thevenin's Theorem
	2 <sup>nd</sup>	
6 <sup>th</sup>	1 <sup>st</sup>	6. Verification of Norton's Theorem
	1 <sup>st</sup>	

	2 <sup>nd</sup>	6. Verification of Norton's Theorem
	2 <sup>nd</sup>	
7 <sup>th</sup>	1 <sup>st</sup>	7. Verification of Maximum power transfer Theorem
	1 <sup>st</sup>	
	2 <sup>nd</sup>	7. Verification of Maximum power transfer Theorem
	2 <sup>nd</sup>	
8 <sup>th</sup>	1 <sup>st</sup>	8. Determine resonant frequency of series R-L-C circuit.
	1 <sup>st</sup>	
	2 <sup>nd</sup>	8. Determine resonant frequency of series R-L-C circuit.
	2 <sup>nd</sup>	
9 <sup>th</sup>	1 <sup>st</sup>	9. Study of Low pass filter & determination of cut-off frequency
	1 <sup>st</sup>	
	2 <sup>nd</sup>	9. Study of Low pass filter & determination of cut-off frequency
	2 <sup>nd</sup>	
10 <sup>th</sup>	1 <sup>st</sup>	10. Study of High pass filter & determination of cut-off frequency
	1 <sup>st</sup>	
	2 <sup>nd</sup>	10. Study of High pass filter & determination of cut-off frequency
	2 <sup>nd</sup>	
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.
	1 <sup>st</sup>	
	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.
	2 <sup>nd</sup>	
12 <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
	1 <sup>st</sup>	
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. i. Superposition theorem ii. Series Resonant Circuit iii. Transient Response in R-L-C series circuit
	2 <sup>nd</sup>	

13 <sup>th</sup>	1 <sup>st</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. i. Superposition theorem ii. Series Resonant Circuit iii. Transient Response in R-L-C series circuit
	1 <sup>st</sup>	
	2 <sup>nd</sup>	12. Construct the following circuits using P-Spice/MATLAB software and compare the measurements and waveforms. i. Superposition theorem ii. Series Resonant Circuit iii. Transient Response in R-L-C series circuit
	2 <sup>nd</sup>	
14 <sup>th</sup>	1 <sup>st</sup>	Practical Practice
	1 <sup>st</sup>	Practical Practice
	2 <sup>nd</sup>	Practical Practice
	2 <sup>nd</sup>	Practical Practice

HOD, Electrical Dept.  
SES, Kirei

Principal  
SES, Kirei