

# UTKAL GOURAV MADHUSUDAN INSTITUTE OF TECHNOLOGY, RAYAGADA

## Academic Lesson Plan for 1st Semester – 2024 (Winter)

Name of the Faculty : Er. Subhen Kumar Behera, Sr. Lecturer (ETC)  
& Sri Jyoti Prakash Giri, Lab. Asst (ETC)

Discipline : Civil & Mechanical

Dept.: Department of Mathematics & Science

Semester : 1st

Subject : PR4(a):Fundamental of Electrical & Electronics Engg. Lab

No. of Periods per week : 2,

Total Periods: 30,

Total Marks : 25 Marks

Sessional: 25 Marks

Week/ Month	Period	Experiment	PRACTICAL
3 <sup>rd</sup> Week/ August	1st		<ol style="list-style-type: none"><li>1. Introduction, Identify different types of tools and essential equipments in Electronics Laboratory.</li><li>2. Introduction to the students about maintenance of practical records.</li><li>3. Complete demonstration of Digital and Analog Multimeters and how they are used to measure various quantities like Voltage, Current etc.</li></ol>
4th Week/ August	2nd	Expt.-7	<ol style="list-style-type: none"><li>1. Introduction about Passive and Active electronics components.</li><li>2. Identification of various passive and Active Electronics Components</li></ol>
1st Week/ September	3rd	Expt.-8	<ol style="list-style-type: none"><li>1. Introduction of Resistors, its unit &amp; different types.</li><li>2. Resistance Colour Coding method and related theory.</li><li>3. Theory about Resistors connected in series and parallel.</li><li>4. Connect resistors in Series and Parallel combination and measure its value using Digital Multimeter.</li></ol>
2nd Week/ September	4th	Expt.-9	<ol style="list-style-type: none"><li>1. Introduction of Capacitor and different types.</li><li>2. Connect Capacitors in Series and Parallel Combination and measure its value using multimeter.</li></ol>
3rd Week/ September	5th	Expt.-10	Use Multimeter to measure the value of given Resistor and determine the value to confirm with Colour Code.

4 <sup>th</sup> Week/ September	6th	Expt.-11	1. Identification of PN junction Diode & Light emitting diode (LED) 2. Test the PN junction Diode and LED using Digital Multimeter
1 <sup>st</sup> Week/ October	7th	Expt.-12	1. Test the performance of PN Junction Diode. 2. VI Characteristic of a PN junction Diode 3. Forward Biasing & reverse biasing
2 <sup>nd</sup> Week/ October	8th		PUJA Holidays
3 <sup>rd</sup> Week/ October	9th	Expt.-13	1. Zener Diode and its characteristics. 2. Test the performance of Zener Diode ( Regulating effect).
4 <sup>th</sup> Week/ October	10th	Expt.-14 & 15	1. Transistor brief theory. 2. Identify three terminals of a Transistor using Digital Multimeter. 3. Test the performance of NPN Transistor.
1 <sup>st</sup> Week/ November	11th	Expt.-1	Determine the permeability of magnetic material by plotting its B-H curve.
2 <sup>nd</sup> Week/ November	12th	Expt.-2	Measure Voltage, Current and Power in 1 Phase circuit with resistive Load.
3 <sup>rd</sup> Week/ November	13th	Expt.-3	Measure Voltage, Current and Power in R-L series Circuit.
4 <sup>th</sup> Week/ November	14th	Expt.-4 & 5	1. Determine the transformation ratio (K) of 1-Phase transformer. 2. Connect Single phase Transformer and measure input and output quantities.
1 <sup>st</sup> Week/ December	15th	Expt.-6	Make Star and Delta connection in starter to run Induction Motor

Sri Subhen Kumar Behera,  
Sr.Lecturer(E&TC)  
Dept.of Math&Sc.  
UGMIT,RAYAGADA