



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad – 500043

List of Laboratory Experiments

ELECTRICAL AND ELECTRONICS ENGINEERING LABORATORY								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P		C	CIA	SEE
AEED03	Foundation	0	0	2	1	40	60	100
		Practical Classes: 45			Total Classes: 45			
Contact Classes: Nil	Tutorial Classes: Nil	Academic Year: 2023-24			Regulation: BT23			
II Semester: CSE / CSE(DS) / CSE(CS)								
Course overview: This course serves as a foundation course on electrical engineering. It covers a broad range of fundamental electrical circuits and devices. The concepts of current, voltage, power, basic circuit elements, electrical and electronic devices and their application in more complex electrical systems are to be imparted to the students.								
Course objectives: The students will try to learn: <ol style="list-style-type: none"> I. The basic laws for different circuits. II. The elementary experimental and modeling skills for handling problems with electrical circuits in the industries and domestic applications to excel in professional career. III. The intuitive knowledge needed to analyze the various circuit theorems to calculate the performance parameters. IV. The characteristics of semiconductor devices like diode and transistor. 								
Course outcomes: At the end of the course students should be able to: <ol style="list-style-type: none"> CO1 : Understand the electric circuits by providing laws CO2 : Verify the Superposition and Thevenin's theorems. CO3 : Verify the Norton's, Maximum power transfer and Reciprocity theorems. CO4 : Acquire basic knowledge on the working of diodes to plot their characteristics CO5 : Determine the efficiency, regulation of half and full wave rectifier circuits. CO6 : Identify transistor configurations and their modes of operation. 								
WEEK NO	EXPERIMENT NAME							CO
WEEK – I	OHM'S LAW							CO1
	Verification of Ohm's law.							
WEEK – II	KIRCHHOFF'S CURRENT LAW AND VOLTAGE LAW							CO1
	Verification of Kirchhoff's current and voltage laws.							
WEEK – III	SUPERPOSITION THEOREM							CO2
	Verification of superposition theorem.							
WEEK – IV	THEVENIN'S THEOREM							CO2
	Determine load or unknown current using Thevenin's equivalent circuit.							
WEEK – V	NORTON'S THEOREM							

	Determine load or unknown current using Norton's equivalent circuit.	CO2
WEEK - VI	MAXIMUM POWER TRANSFER THEOREM	CO2
	Verify of maximum power transfer theorem.	
WEEK - VII	RECIPROCITY THEOREM	CO4
	Verification of reciprocity theorem.	
WEEK -VIII	PN JUNCTION DIODE	CO4
	Study the characteristics of PN junction diode.	
WEEK - IX	ZENER DIODE	CO4
	Study the characteristics of Zener diode and breakdown mechanism.	
WEEK - X	HALF WAVE RECTIFIER WITH AND WITHOUT FILTER	CO5
	Determine the efficiency of, regulation of half wave rectifier circuit.	
WEEK - XI	FULL WAVE RECTIFIER WITH AND WITHOUT FILTER	CO5
	Determine the efficiency of, regulation of full wave rectifier circuit.	
WEEK - XII	TRANSISTOR	CO6
	Study the characteristics of Transistor with common emitter (CE) configuration.	
WEEK - XIII	TRANSISTOR	CO6
	Study the characteristics of Transistor with common base (CB) configuration.	
WEEK - XIV	COMMON EMITTER AMPLIFIER	CO6
	Frequency response of common emitter amplifier and calculate the bandwidth of output response.	