Electronic Devices and Circuits Lab

Course Code	23EC3351	Year	II	Semester	I
Course Category	PC	Branch	ECE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Network Analysis
ContinuousInternal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		BL
CO1	Measure voltage, time period and frequency of any waveform using CRO.	L3
CO2	Analyze the characteristics of diodes and transistors.	L4
CO3	Observe the input and output waveforms of clippers, clampers, rectifiers and amplifiers.	L3
CO4	Calculate the parameters of rectifiers and transistor circuits.	L5

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3- High, 2- Medium, 1- Low)

CO/PO /PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1	3							3	3			3	
CO2	3				3			3	3			3	
CO3		2			3			3	3			2	
CO4	3							3	3			2	
Avg.,	3	2			3			3	3			3	

Note: The students are required to design the circuit and perform the simulation using Multisim/ Equivalent Industrial Standard Licensed simulation software tool**.** The students are required to verify the result using necessary hardware equipment.

List of Experiments: (Minimum of Ten Experiments has to be performed)

Syllabus		
Expt. No.	Contents	Mapped CO
I	Demonstration of operation of laboratory measuring instruments (DSO, function generator, multimeter, power supplies).	CO1, CO5
II	Determination of PN junction diode characteristics and for finding the device parameters.	CO2, CO5
III	Analysis of diode circuits for observing the input& output waveforms and for finding the circuit parameters (Clipper, Clamper and Rectifiers).	CO1, CO3, CO4, CO5
IV	Determination of characteristics of transistors and for finding the device parameters (BJT, FET and UJT).	CO1, CO4, CO5
V	Design and analysis of biasing circuits (BJT and FET).	CO4, CO5
VI	Determination of characteristics of transistor amplifiers for different configurations (BJT and FET).	CO1, CO3, CO4, CO5

Learning Resources
Text Books
1. J. Millman, C. C. Halkias and Satyabrata Jit, Millman's Electronic Devices and Circuits, Mc-Graw Hill Education, 4th Ed., 2015. 2. J. Millman, C. Halkias, and Ch. D. Parikh, Millman's Integrated Electronics, Mc-Graw Hill Education, 2nd Ed., 2009.
e-Resources & other Digital Material
1. https://onlinecourses.swayam2.ac.in/nou23_ec06/preview 2. https://onlinecourses.nptel.ac.in/noc21_ee80/preview 3. https://onlinecourses.nptel.ac.in/noc21_ee80/preview 4. https://ocw.mit.edu/courses/6-002-circuits-and-electronics-spring-2007/