JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE STRUCTURE-R19

		L	T	P	C
III Year –II SEMESTER		**0**	**0**	**3**	**1.5**
POWER ELECTRONICS LABORATORY					

Learning objectives:

- To study the characteristics of various power electronic devices and analyze firing circuits and commutation circuits of SCR.
- To analyze the performance of single–phase and three–phase full–wave bridge converters with both resistive and inductive loads.
- To understand the operation of AC voltage regulator with resistive and inductive loads.
- To understand the working of Buck converter, Boost converter and inverters.

Any 10 of the Following Experiments are to be conducted

1. Characteristics of Thyristor, MOSFET & IGBT.
2. R, RC & UJT firing circuits for SCR.
3. Single -Phase semi converter with R & RL loads.
4. Single -Phase full converter with R & RL loads.
5. Three- Phase full converter with R &RL loads.
6. Single Phase dual converter in circulating current & non circulating current mode of operation.
7. Single -Phase AC Voltage Regulator with R & RL Loads.
8. Single Phase step down Cycloconverter with R & RL Loads.
9. Boost converter in Continuous Conduction Mode operation.
10. Buck converter in Continuous Conduction Mode operation.
11. Single -Phase square wave bridge inverter with R & RL Loads.
12. Single - Phase PWM inverter.

Learning outcomes:

After the completion of the course the student should be able to:

- study the characteristics of various power electronic devices.
- analyze the performance of single–phase and three–phase full–wave bridge converters with both resistive and inductive loads.
- understand the operation of single phase AC voltage regulator with resistive and inductive loads.
- understand the working of Buck converter, Boost converter, single–phase square wave inverter and PWM inverter.