



# K.RAMAKRISHNAN COLLEGE OF TECHNOLOGY



ISO 9001:2015 Certified Institution, Accredited with 'A+' grade by NAAC

Samayapuram, Tiruchirappalli – 621 112, Tamilnadu, India.

## DEPARTMENT OF EEE

### **Power Electronics Lab:**

This laboratory is utilized to simulate and practical implementation of the power switching circuits, power converters such as single and three phase half, semi and full converters, single phase and three phase inverter, chopper circuits and ac voltage controller circuits. Students can investigate practically the power switching devices SCR, TRIAC, MOSFET and IGBT characteristics.



Lab In-charges : Mr. A.Anton Amala Praveen (UG) & Mrs.C.Kalavalli (PG)

Lab Instructor : Mr R. Ariyaranjan

Area in Sq.mts : 127.88

Batch size : 30

**Equipment Details:****For Under Graduate (UG)**

S.NO	NAME OF EQUIPMENT	QTY
1	30 MHZ Dual channel oscilloscope	3
2	50 MHZ Digital storage oscilloscope	2
3	SCR VI Characteristics Study Trainer	2
4	TRIAC VI Characteristics Study Trainer	2
5	IGBT and MOSFET Static characteristics module	2
6	Dynamic characteristics of SCR and MOSFET	2
7	Single phase half control converter	2
8	Single phase fully controlled converter	2
9	DC-DC Buck Boost Converter Trainer	1
10	IGBT based single phase PWM inverter	2
11	IGBT based Three phase PWM inverter	2
12	Resonant Converter Trainer	2
13	Single phase AC Voltage Controller using SCR and TRIAC	4
14	Volts/Hz Control of VSI fed Three phase induction motor drive	1
15	High frequency IGBT based DC chopper	2
16	Switched mode power converter Module/ Discrete component	2
17	cyclo converter Kit with Firing Module	2
18	Isolation Transformer	2
19	Single Phase Auto Transformer	3

**For Post Graduate (PG)**

S.NO	NAME OF EQUIPMENT	QTY
1	Microcontroller based speed control of DC motor using SCR converter	1
2	Microcontroller based speed control of DC motor using Chopper	1
3	Microprocessor based speed control of VSI based speed control of three phase induction motor	1

4	Microcontroller based speed control of Stepper motor	1
5	DSP based speed control of BLDC motor	1
6	DSP based speed control of SRM motor	1
7	Self control operation of Synchronous motor	1
8	Condition motoring of three phase induction motor under fault condition	1
9	RE-Programmable Logic device and programming	1
10	Design of Switched mode power supply kit	1
11	Power quality analyser – three phase	1
12	Design of UPS trainer Kit	1
13	Voltage regulation of three phase synchronous generator	1
14	Isolation Transformer	3
15	Three phase auto transformer	3