K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

DEPARTMENT OF EEE

SHORT DESCRIPTION OF LABORATORIES:

1. Electrical Machines Laboratory:

Laboratory in-charge   :   Dr.R.Manivasagam, M.E., Ph.D.,

List of major equipments:

- Induction Generator set 5HP, 220V DC Shunt Motor BENN Make coupled with 3HP AC Kirloskar Motor
- 60KV Transformer BDV Oil test kit
- Auto synchronous motor (5HP)
- 5 HP Auto synchronous motor
- 3 KW DC shunt generator
- 3 KW DC series generator
- 5 HP DC shunt motor coupled with DC compound generator
- 5 HP DC shunt motor coupled with 3 KW DC shunt generator
- 5 HP DC shunt motor coupled with 3 KVA alternator

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

2. Control & Instrumentation Laboratory:

Laboratory in-charge　　　　:　　　　Mrs. A.Durgadevi, M.E.,(Ph.D)

List of major equipments:

- AC and DC position control system
- PLC Real time application trainer (Level Control System)
- PLC SIE 1 with demo panel training kit(VPLCT-01SL)
- 60 MHz Digital Storage Oscilloscope
- AC Synchro transmitter and receiver
- Flow measurement kit
- Optical Sensor
- Pressure Measurement With Pressure Generator
- 3 MHz Function Generator
- Water level indicator

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

3. Power Electronics & Drives/ Electronics Laboratory:

Laboratory in-charge   : Mr.G.Gabriel Santhosh Kumar M.E.,(Ph.D) /
                          Mr.V.Ashokkumar   M.E.,(Ph.D)

List of major equipments:

- VISIM software
- IGBT based three phase PWM inverter
- Circuit Module kit of commutation chopper
- Firing module cyclo-converter kit
- 30 MHz Cathode Ray Oscilloscope
- LCR meter
- High Frequency IGBT based DC Chopper kit

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

4. Engineering Practices Laboratory

Laboratory In-charge   :   Mr.P.Vigneshwaran, M.E., (Ph.D)

List of major equipments:

- Single phase loading inductor (0-10A)

- Single phase loading rheostat (3 KW)

- Single phase loading capacitor (10A)

- Range finder kit

- Single Phase Autotransformer

- 1phase Loading Capacitor (10A)

- 1phase Loading Rheostat (3KW)

- 1phase Loading Inductor (1-10A)

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

5. Linear & Digital Integrated Circuits / Electric Circuits Laboratory

Laboratory In-charge   :   Mr.A.Prabhu, M.E.,/ Mr.P.Karthikeyan M.E.,(Ph.D)

List of major equipments:

- Digital Trainer Kit (DTK02)
- IC Tester (Digital)
- Step Down Transformer (230V/12V)
- IC7476
- ICSG 3524 / SG 352
- Analog to Digital converter
- Digital to Analog Converter
- LM317 Voltage regulator

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

6. Power System Simulation Laboratory:

Laboratory In-charge   :   Mr.A.Subramaniya Siva, M.E.,(Ph.D)

List of major equipments:

- ETAP software package – 7.5.2
- MI power software package version 9.1
- MATLAB Software 2015a
- Labview Software (Myrio, Mydaq)
- 75 Nos. = HP & Dell desktop system (HP 280G1)
- EM-Type Over current Relay testing kit
- Projector

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

7. Research & Development Laboratory:

Laboratory In-charge   :   Dr.R.Ilango, M.E., Ph.D.,

List of major equipments:

- Fluke 438- II / INTLI - Power Quality& Motor Analyzer.
- AC Drives Training kit G120 with Sinamics 3 phase IM (Siemens)
- DC Drives Training kit Sinamics DC Master 6RA80(Siemens)
- Speed control of DC motor using Chopper
- Re-programmable logic devices & programming (V/F Control)
- Automatics voltage regulation of three phase Synchronous generator
- Fuel cell

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

8. Renewable Energy Systems Laboratory:

Laboratory In-charge   :   Dr.S.Titus, M.E., Ph.D.,

List of major equipments:

- 250KW Roof Top Solar power Plant with Grid Connected facility

- Wind speed sensor DWT 8102

- Air Temperature sensor DWT 8103

- Relative humidity sensor DTH 8103

- Module(Surface temperature model DWMT 8104)

- Pyrometer Sensor DWR 8101

- 4 Channel data logger DWL 1002

- Hand held Anemometer DHA 111
- Solar PV Module kit

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

Project Laboratories:

S.No	Name Of The Laboratory	Facilities	Utilization
1	Electrical Machines Laboratory	Induction Generator set 5HP, 220v DC Shunt Motor BENN Make coupled with 3HP AC Kirloskar Motor	Electrical Machines lab is utilized to learn about AC Machines & DC Machines. The students can able to know about the static & dynamic magnetic circuits & Concept of rotating machines & loading methodologies & able to understand about the characteristics of Motor, Generator & Transformer. They are encouraged to develop innovative ideas about the machines. Also students effectively utilized the lab for their project works. 100 % Well utilized
		60KV Transformer BDV Oil test kit	
		DC shunt motor (5HP)	
		DC series motor (5HP)	
		DC Compound motor (5HP)	
		Auto synchronous motor (5HP)	
		Slip ring induction motor (5HP)	
		DC Shunt motor/ Shunt Generator (5HP/3KW)	
		DC Shunt motor /Series Generator(5HP/3KW)	
		(5HP) Shunt motor coupled with compound generator	
		(5HP) Shunt motor coupled with 3KW Shunt generator	
		(5HP) Shunt motor coupled with 3KVA Alternator	
		Alternator coupled with DC shunt motor (3KVA)	
		Slip ring induction motor 5HP	
		3Ph Squirrel Cage induction motor 5HP	
		Transformer Scrap (11KV/440V)	
2	Control & Instrumentation Laboratory	DC Servo Motor Trainer Kit	This lab is utilized to provide good knowledge in representation of systems, transfer function models, frequency response, time response, control system design & stability analysis. 100 % Well utilized
		AC Servomotor	
		Analog Simulation Of Type-1 And Type-0 System	
		DC & AC Position Control System	
		Stepper Motor Control System	
		30 MHz 2-Channel Oscilloscope	
		60 MHz Digital Storage Oscilloscope	
		50 MHz Digital Storage Oscilloscope	
		AC Synchro Transmitter & Receiver	
		Displacement Measurement Using LVDT Trainer	
		Flow Measurement	

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

3	Power Electronics & Drives Laboratory	Characteristics of PMBLDC Motor	This lab is utilized to know about the various power electronic devices & its operation as well as AC & DC Drives By using this lab students done their power electronics related projects. 100 % Well utilized
		Single phase semi converter with R-L-E load	
		Single phase full converter with R-L-E load	
		Three phase full converter with R-L-E load	
		MOSFET ,IGBT based chopper	
		IGBT based single phase inverter	
		Volts /Hz control of VSI fed 3 phase induction motor	
		IGBT based single phase PWM inverter (pec16m4#1,pec16m3,rl load)	
		IGBT based three phase PWM inverter (PEC 16hv2b,VPET 106a)	
		Resonant converter trainer kit (VPET 315)	
		Single phase AC voltage controller using SCR ,TRAIC (PEC 14m14ac#2)	
		High frequency IGBT based DC chopper (VPET 208 b)	
		Commutation (chopper) circuit module (pec14m14ch#1)	
		Switch mode power converter (MOSFET- IRF 250,15-17KHz, 6-25DC)	
		Cycloconverter kit with firing module (24-0-24v AC, 50Hz,2A	
		LCR Meter	
4	Power System Simulation Laboratory	HP Desktop System(HP 280G1)	This lab is utilized to know about the simulation modelling of the system by simulation diagrams using softwares. So students can able to know the practical knowledge about the electrical systems. 100 % Well utilized
		Dell Desktop System with i5 Processor	
		ETAP Software 7.5.2	
		Mi Power Sofware Version 9.1	
		Matlab R2015a Software	
		pSPICE Software	
		Labview Software (Myrio, Mydaq)	
		Proteus Software, C,C++,Java,	

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

5	Research & Development Lab	Power Quality & Motor Analyzer- Fluke (438-II)	Energy management & Auditing can be done in the industries & institutions. So that we can reduce the power consumption
		AC Drives Training kit G120 with Sinamics 3 phase IM (Siemens)	
		DC Drives Training kit Sinamics DC Master 6RA80(Siemens)	
		Speed control of DC motor using Chopper	100 % Well utilized
		Re-programmable logic devices & programming (V/F Control)	

The above mentioned labs are fully utilized by our students for doing their projects. The sample projects done in our project lab for the past three years are listed below

2017-2021			
S.No	**Name Of The Students**	**Project Title**	**Lab Utilization**
1	Ashwin Kumar C Gokulram S Hariram E Karthikeyan G	Automatic Fault Detection in Transmission & Location of Complex Circuits	1) Power System Simulation Laboratory 2) Research & Development Lab
2	Harimurugan R Keerthivasan B Logesh K Logesh R	Design of Booster Converter for Electric Vehicles using Fuel Cell	1) Renewable Energy Systems Lab 2) Power Electronics & Drives Lab
3	Arunmozhi S Hariharan M Jakirsherif A	Performance Improvement of BLDC Motor using Various Converter topology	1) Electrical Machines Laboratory 2) Power Electronics & Drives Laboratory
2016-2020			
S.NO	**NAME OF THE STUDENTS**	**PROJECT TITLE**	**LAB UTILIZATION**
1	Elakkiya G Leli Vaishaly A Libiya Nisha I	Forecasting of Power generation in Hybrid PV-Wind System	1) Renewable Energy Systems Lab 2) Power System Simulation Laboratory

K.RAMAKRISHNANCOLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to Anna University)Tiruchirappalli – 621 112
Accredited by NBA and NAAC with 'A' Grade- ISO 9001: 2015 Certified Institution

S.NO	NAME OF THE STUDENTS	PROJECT TITLE	LAB UTILIZATION
2	Abdul Rahman K S H Arockia Dass S Hari Krishnan K Kumareshwaran K	Robotic Manipulator Design and Control using Lab View	1) Research & Development Lab 2) Power Electronics & Drives Laboratory
3	Balaji M Karthikeyan P Sivabalan T	Efficient Digital Control & output voltage regulation of PV module using SEPIC Converter	1) Control & Instrumentation Laboratory 2) Renewable Energy Systems Lab

2015-2019

S.NO	NAME OF THE STUDENTS	PROJECT TITLE	LAB UTILIZATION
1	Bavatharani R Jeyasucithra I L Leema Roslien J Meenatchi A	Analysis of Power Quality issues in Grid Connected Inverter	1) Power System Simulation Laboratory 2) Power Electronics & Drives Laboratory
2	Anand R Divakar M Karaiyadi Selvan M Marieshwaran S	Automatic Conversion of High Beam to Low Beam using PIE software & Microcontroller	1) Power System Simulation Laboratory 2)Research & Development Lab
3	Archana P Aswathy K Ezhil K Mohana Priya S	Soldier Health Care monitoring, Tracking & Controlling system Using L:ab View	1) Power System Simulation Laboratory 2)Research & Development Lab