

S D M COLLEGE OF ENGINEERING & TECHNOLOGY DHAVALAGIRI,  
DHARWAD-580002

ELECTRICAL & ELECTRONICS ENGINEERING DEPARTMENT

**LABORATORIES IN THE DEPARTMENT:**

Sl No	Semester	Name of the Laboratory
01	III	Digital Electronics lab
02	III	Analog Electronics lab
03	IV	Measurements & Control System lab
04	IV	Microcontroller lab
05	V	Electrical Machines – I lab
06	V	Power Electronics lab
07	VI	Electrical Machines – II lab
08	VII	Power System Simulation & RHV lab
09	P.G.Course	P.G. Computer Lab 1. Power System Laboratory-I 2. Power System Laboratory-II

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

**TOTAL SPACE AREA**

Sl No	SPACE DETAILS	Carpet Area in Sq Meters	Investment In lakh
01	Analog Electronics Lab	474.58	7.05
02	Digital Electronics Lab		2.78
03	Electrical Machines –I & II Lab		11.57
04	Electrical & Electronics Measurement Lab		5.85
05	Power Electronics Lab		3.56
06	Control Systems Lab		2.97
07	U. G. Simulation Lab (Power System Lab)	50.75	38.10
08	Microcontrollers Lab		6.22
09	Relay & High Voltage Lab	102.78	4.39
10	P.G. Computer Lab (Cellar)	67.09	30.01
11	Electrical Research Lab	34.04	--
12	Store area	32.55	--
13	Lab Circulation area	34.50	--
14	H O D Room	47.94	--
15	Department Office	26.52	--
16	Faculty Area	249.00	--
17	P.G. Class Room	50.75	--
18	Class room No-23	138.7	--
19	Class room No-24	138.7	--
20	Seminar Hall	102.78	--
21	Female staff toilet	10.34	--
22	Male staff toilet	16.42	--
23	Male student toilet	16.42	--
<b>Total Area</b>		<b>1581.34</b>	<b>110.52</b>

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**LABORATORY SPACE AREA**

Sl No	SPACE DETAILS	Carpet Area in Sq Meters	Investment In lakh
01	Analog Electronics Lab	474.58	5.07
02	Digital Electronics Lab		2.78
03	Electrical Machines –I & II Lab		11.57
04	Electrical & Electronics Measurement Lab		5.85
05	Power Electronics Lab		3.56
06	Control Systems Lab		2.97
07	U. G. Simulation Lab (Power System Lab)	50.75	38.10
08	Microcontrollers Lab		6.22
09	Relay & High Voltage Lab	102.78	4.39
10	Electrical Research Lab	34.04	--
11	Seminar Hall	102.78	--
12	Store area	32.55	--
13	Lab Circulation area	34.50	--
<b>Total Area</b>		<b>831.98</b>	<b>110.52</b>

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

**Program: M.Tech (Power System Engg)**

**Infrastructure Details**

Sl No	Name of the Laboratory	Carpet Area in Sq Meter	Major Equipments available	Amount
01	P.G.Computer Lab	67.90	Mi Power 6.0 version	4,14,700=00
02	P.G.Class Room-01	50.75	KEIL Software	1,75,000=00
03	P.G.Class Room-02	44.73	Cyme Dist Power System soft ware	15,18,000=00
04	Seminar Hall Shred with U G	102.78	Desk Tops , Lenova make with TFT Monitor, Model: Lenova E-48 3464 Processor: Intel ® Core(TM) i3-2350M CPU @ 2.3 GH Ram: 2GB, 32 Bit Operating system HDD:320 GB	5,50,710=00
Total Area		<b>266.16</b>	Total Rs	<b>26,58,410=00</b>

## Adequate and well equipped laboratories and technical manpower

The following table shows the adequacy of laboratories which are well equipped and the man power available in the department.

Sl. No	Name of the Laboratory	No of students per batch (Batch size)	Name of the important equipment	Weekly utilization status (all The courses for which the lab is utilized)	Technical Manpower Support		
					Name of the technical staff	Designation	Qualification
1	Analog Electronics Lab	17-19	Digital Storage Oscilloscope, Power-scope, Digital micro-Ammeter, Hand-held Oscilloscope	3 Hrs, 4 Batches	M R Pawar	Instructor	Diploma
2	Digital Electronics Lab	17-19	Trainer kits, Digital Storage Oscilloscope, CPLD/FPGA trainer kits	3 Hrs, 4 Batches	M R Pawar, Praveen B	Instructor Jr. Technician	Diploma ITI
3	Electrical & Electronics Measurement & Control Systems Lab	17-19	AFO with frequency display, Kelvin, Wheatstone Bridges, Digital Energy meter, Phase shifting transformer,	3 Hrs, 4 Batches	M R Pawar and G B Koppad	Instructors	Diploma
4	Electrical Machines Lab	17-19	Meters, stroboscope, All AC & DC machines, MG-set for DC supply	3 Hrs, 4 Batches	G B Koppad	Instructor	Diploma

5	Power Electronics Lab	17-19	Thyristor modules, firing modules, Inverter & Converter modules Power scopes,	3 Hrs, 4 Batches	M R Pawar	Instructor	Diploma
6	Microcontrollers Lab	17-19	8051 Trainer kits, Computers & Keil, SPJ compiler, PIC, DSP kits, Logic analyzer	3 Hrs, 4 Batches	Praveen B	Jr. Technician	ITI
7	Relay & High Voltage Lab	18	All type of relays, 100KV HV transformer with accessories, Oil testing kit	3 Hrs, 4 Batches	G B Koppad	Instructor	Diploma
8	Power System Simulation Lab	18	MI power, Cymedist software and Desktops	3 Hrs, 4 Batches	Praveen B	Jr. Technician	ITI

## Laboratories maintenance and overall ambience

### Maintenance:

A maintenance schedule prepared to keep the lab facilities ready for use is shown in the following table.

Sl. No.	Components	Nature of maintenance	Periodicity
1	Terminals, indicators Transformers terminals	Checking for loose contacts	Daily
2	Patch cords, DCBs, DIBs, DRBs insulation of wires & phase sequence	Checking for loose contacts	Before start of each lab session
3	Brush & slip-ring of machines, AFOs, CROs, RPS, AC & DC TP, fuse & neutral terminals.	Checking for fitness	Monthly
4	Lubrication and overall inspection of all components and equipment	Checking for healthy condition	Half yearly

### Overall ambience

- 1) Each laboratory is provided with working table having supply points, furniture for faculty and students with enough lighting and ventilation.
- 2) Late Prof. R G Desai Memorial free access library is available for immediate reference & text books.
- 3) Maximum no. of students per experiment set up is four. Laboratories will run batch wise. Each batch has on an average of about 18 students.
- 5) Meters, supply points, RPS, oscilloscopes etc. are available for students to carryout hobby projects, mini projects and major projects.
- 6) Meters, supply points, RPS, oscilloscopes etc. are available for students of the other branches to carryout projects.
- 7) Overall ambience in the laboratories and surroundings is excellent.

## Safety measures in laboratories

Following safety measures are being practiced in the department to make sure that accident and hazard free atmosphere in the department is maintained.

S. No.	Name of the Laboratory	Safety measures
1	Common to all	<ul style="list-style-type: none"><li>• Electrical &amp; Electronic equipment and installations are checked in the beginning of semester</li><li>• Students are instructed not to wear any ornaments, metal watches and wear shoes while doing experiments</li><li>• Fire extinguishers are recharged as per schedule.</li><li>• Earthing of all laboratories are checked for conductivity on monthly basis</li></ul>
2	Power Electronics,	<ul style="list-style-type: none"><li>• The three phase supply is checked for its correctness</li><li>• The isolation transformers are provided wherever required.</li></ul>
3	Electrical Machines	<ul style="list-style-type: none"><li>• All electrical machines are inspected at the start and mid semester</li></ul>
4	Main panel Room	Insulation mat is provided.
5	High Voltage laboratory	<ul style="list-style-type: none"><li>(i) Protection fencing is provided.</li><li>(ii) Separate earthing is provided.</li></ul>



## Project laboratory

Department has established well equipped laboratories in Electrical and Electronics domain to cater not only to curricula but also beyond the syllabi to enhance technical skills of the students. To inculcate research skill among students, desktop with internet facility is also provided in the lab.

- 1) Students are encouraged to conduct hobby projects apart from curriculum. Technical and infrastructure support is extended by the department.
- 2) Students also carry out the mini project as a part of curriculum in the VI semester and the technical and equipment support is extended by the department.
- 3) Students also carry out the major project as a part of curriculum in the VII and VIII semester and the technical and equipment support is extended by the department.
- 4) Students also carry out the simulation projects with the available software.
- 5) Students of other departments also carry out the projects
- 6) Adequate lab facility and technical support is provided for staff, students during and beyond working hours for learning, carrying out projects as well as for practice.

Project laboratory		
Specification		Projects carried out
Carpet area	Facilities	The projects of the department
15 sq.m	<ul style="list-style-type: none"><li>• Computers</li><li>• Oscilloscopes</li><li>• Circuit making materials</li><li>• Meters</li></ul>	