Ch. Devi Lal State Institute of Engineering & Technology, Panniwala Mota (Sirsa)

Sr. No.	Nomenclature of Laboratory established in Electrical Engg. department, CDLSIET, Panniwala Mota (Sirsa)	Class & Semester
1.	Basics of Electrical Engineering Lab	1st / 2nd Sem. (Common to all Branches)
2.	Electronic Devices and Circuits Lab.	3rd Sem. EE
3.	Electrical Machines-I Lab	3rd Sem. EE
4.	Electrical Workshop Lab	3rd Sem. EE
5.	Power Electronics Lab	4th Sem EE
6.	Electrical Machines-II Lab	4th Sem. EE
7.	Power Systems-I Lab	4th Sem. EE.
8.	Advanced Power Electronics and Drives Lab	5th. Sem. EE.
9.	Control Systems-I Lab	5th Sem. EE
10.	Microprocessors & Microcontrollers Lab	5th Sem. EE
11.	Power Systems-II Lab	6th Sem. EE
12.	Electrical Measurements & Instrumentation Lab	6th Sem. EE
13.	Control Systems-II Lab	6th Sem. EE
14.	Minor Project Lab	7th Sem. EE
15.	Power System Operation and Control Lab	7th Sem. EE
16.	Computer Methods in Power Systems Lab	8th Sem. EE
17.	Major Project Lab	8th Sem. EE
18.	Departmental Library	-

Head (EE Department)
CDL State Inst. of Engg. & Tech., Panniwala Mota

List of Lab Equipments available in Electrical Engg. Department

1st Semester & 2nd Semester (Common to All Branches)

Basic Electrical Engineering Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Verification of Theorems Kit (Norton's, Thevenin's & Superposition, Maximum Power Transfer, Reciprocity)	02 kits
2.	Verification of Theorems (Norton's, Thevenin's & Superposition) Kit	03 kits
3.	Verifications of Kirchhoff's Law Kit (KCL & KVL)	04 kits
4.	Verification of LCR Resonance Kit (Series Resonance & Parallel Resonance)	03 kits
5.	Transformer 1-phase 1KVA, 50Hz, 230V/115V	03
6.	AC Ammeter, MI, 1/2A	03
7.	AC Ammeter, MI, 2.5/5A	04
8.	Wattmeter Dynamometer Type 0/5/10A 0/250/500V or 0/125/250V	02
9.	Wattmeter1-Phase 5/10A, 150/300/600V	08
10.	AC Voltmeter, MI, 300/600V	05
11.	AC Voltmeter, MI, 75/150/300V	04
12.	Auto Transformer 1 phase, 50 Hz,8A,0-270 V	06
13	Variable Lamp Load, 1 phase,2KW,230V	02
14.	DC Shunt Motor (Direct Test) 3KW,220V,1500rpm with 3-point starter	01
15.	Induction Motor 1phase ,1 HP,250V, Capacitor start	02
16.	Variable Lamp Load, 3phase, 2KW, 440V	02

3rd Semester (Electrical Engg.)

Electrical Machines Lab- I

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Transformers 1- phase 2 KVA, 230 V, 9A,50Hz	02
2.	Transformer 1-phase 1KVA,230V,50Hz	02
3.	Transformer 1-Phasse, 2KVA,50Hz,230v/115V	02
4.	Three –phase Transformer 4KVA,50Hz,440V/215V	01

5.	Three-phase Transformers 2KVA,5Hz,440V/215V	02
6.	AC Ammeter, MI. , 0.5/1A	3 +3 = 6
7.	AC Ammeter, MI, 5/10 A	04
8.	AC Ammeter, MI, 15/30A	02
9.	AC Ammeter, MI, 1/3/10A	04
10.	Wattmeter, 50mm, Dynamometer	02
11.	Wattmeter 1-Phase, 1/2A, 75/150/300V, Dynamometer	04
12.	Wattmeter1-Phase 5/10A, 150/300/600V, Dynamometer	08
13.	AC Voltmeter, MI, 150/300V	05
14.	AC Voltmeter 125/250/500 V, MI	04
15.	AC Voltmeter- 15/30/75 V, MI	04
16.	Auto Transformer 1 phase, 50 Hz,15A, 0-270 V	04
17.	Auto Transformer 1 phase, 50 Hz,8A, 0-270 V	06
18.	DC Shunt Motor 3HP,1500rpm,230V with Control Panel	01
19.	DC Shunt Generator 2 Kw,230V	01
20.	Speed Control of DC Shunt Motor 1HP with control panel with control	01
21.	Variable Lamp Load, 3phase, 2KW, 440V	02
22.	DC Shunt Motor (Direct Test) 3Kw,220V,1500rpm with 3-point starter	01
23	Study of Scott Connection (3-phase to 2-phase) of Transformer (Teaser and Main Transformer)	01
24	Study of Parallel Operation of Two Single Phase Transformers	01
25.	Cut Section of 1-Phase Transformer 1KVA, 230/115V, 50Hz	01
26	Cut Section of DC Motor 1HP with 3-Point Starter	01
27	DC Supply for DC Motor 1HP	01

Electrical Workshop Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Plier 8”	06
2.	Plier	02
3.	Screw Driver Set-	06
4.	Screw Driver	03
5.	Spanner Set	06
6.	Wire Cutter	03
7.	Wire Cutter	03
8.	Hammer Set (500,400,800mg)	10
9.	Tube Set	02

10.	Tester Kit	06
11.	Tester	04
12.	Drilling Machine	01
13.	Sodium Vapour Lamp 150Watt	01 set
14.	High Pressure Mercury Vapour Lamp 250 Watt	01 set
15.	Stair Case Wiring Set	01 set
16	House Wiring Conduit & Batten arrangement	02 sets
17.	Heater 150W	01
18.	Iron 750 W	01

Electronic Devices and Circuits Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	P-N Diode Characteristics Kit	01 kit
2.	BJT (Transistor) Characteristics Kit	01 kit
3.	JFET/ MOSFET Characteristics Kit	01 kit
4.	Function Generators	01 kit
5.	Oscillators (Hartey's, Colpitts's, Wein's Bridge)	03 kit
6.	Shift Register Kit	01 kit
7.	De Morgan's Theorem Kit	01 kit
8.	4 Bit Multiplexer Kit	01 kit
9.	4 Bit De multiplexer Kit	01 kit
10.	BCD to Decimal Kit	01 kit
11.	BCD to 7 Segment Kit	01 kit
12.	Half & Full Adder Kit	01 kit
13.	Johnson's Counter Kit	01 kit
14.	Study of Counters Kit	01 kit
15.	BCD to Grey & vice versa Kit	01 kit
16.	Excess 3 to BCD & Vice Versa Kit	01 kit
17.	Study of Synchronous & Asynchronous Counter Kit	01 kit
18.	Decimal to BCD Encoder Kit	01 kit
19.	Half & full Subtractor Kit	01 kit
20.	Study of Up/ Down Counter Kit	01 kit
21.	Study of S-R, J-K, D & T type Flip Flops	02 kits
22.	Logic Gates Kit	03 kits

4th Semester (Electrical Engg.)

Power Electronics Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Light Intensity using SCR & TRIAC Kit	01 kit
2.	SCR Commutation Techniques Kit	01 kit
3.	SCR Single Phase Half wave & full wave Converter Kit	01 kit
4.	Phase control using TRIAC Kit	01 kit
5.	Thyristor Firing circuits Kit	01 kit
6.	P-N Diode Characteristics Kit	01 kit
7.	Study of Thyristor Kit	01 kit
8.	TRIAC Characteristics Kit	01 kit
9.	Transistor Characteristics Kit	01 kit
10.	MOSFET Characteristics Kit	01 kit
11.	TRIAC Phase Control Kit	01 kit
12.	Bridge Inverter Application Kit	01 kit
13.	Single-Phase Cycloconverter Kit	01 kit
14.	Switched Mode Regulator Kit	01 kit
15.	Series Inverter using SCRs Kit	01 kit
16.	Single phase parallel Inverter Kit	01 kit
17.	Single phase Dual Converter Kit	01 kit
18.	IGBT Based PWM Inverter Kit	01 kit
19.	Study of Buck, Boost and Cuk Regulator Kit	01 kit

Power System - I Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	**Transmission Line Trainer** ➢ Short Transmission Line Set ➢ Medium Transmission Line Set (π Set up) ➢ Medium Transmission Line Set (T-Set up) ➢ Long Transmission Line Set ➢ Long Transmission Set with Ferranti Effect ➢ Long Transmission Set with Loading Arrangement (R, L, C and RLC)	01 Set
2.	Transformer oil Testing Kit	01 Set

Electrical Machines – II Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	AC Ammeter, MI, 1/2A	03
2.	AC Ammeter , MI, 2.5/5A	04
3.	AC Ammeter, MI, 5/10 A	04
4.	Wattmeter 1-Phase, 1/2A, 75/150/300V, Dynamometer	04
5.	AC Voltmeter, MI, 300/600V	05
6.	Cut Section of 3-Phase Induction Motor with DOL Starter	01
7.	Trainer for speed control of 3-phase squirrel cage induction motor with Pulley belt load arrangements 3- phase,440 V, 3HP	02
8.	3-phase star- Delta Starter	02
9.	Trainer for speed control of 3 phase slip ring induction motor 3phase ,440v, 3 HP with suitable panel arrangement	02
10.	Vacuum Filtration Pumps 1- phase squirrel cage induction motor	04
11.	Induction Motor 1phase ,1 HP,250V, Capacitor start	02
12.	Auto Transformer 3 phase, 0-400 V, 15 A	02
13.	Auto Transformer 3 phase, 0-400 V, 25 A	02

5th Semester (Electrical Engg.)

Advanced Power Electronics & Electric Drives Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Step up chopper Kit	01 kit
2.	Jone's Chopper Kit	01 kit
3.	Morgan's Chopper Kit	01 kit
4.	Switched Mode Regulator Kit	01 kit
5.	Various Industrial Drives Applications (Lathe Machines)	01 set
6.	Different Types of Loading on electrical machines ➢ Continuous Loading ➢ Intermediate Loading	 01 set 01 set
7.	Chopper Control of DC Series Motor (1 HP) for N-T Characteristics	01 set
8.	3-phase fully controlled Rectifier fed separately excited DC Motor (1HP) Kit	01 set
9.	3 Phase VSI Inverter Controlled squirrel cage induction motor drive	01 set

Control System-I Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Linear System Simulator	01 kit
2.	Stepper motor controller Trainer	01 kit
3.	Characteristics of potentiometer trainer	01 kit
4.	Digital Storage Oscilloscope (DSO)0-50MHz, 2 Channel, Memory Depth 200K points, Wfrm Update Rate ≥ 100,000, Vertical Senstivity 500μV/Div to 10V/Div. In-built array of training signals,. DVM Standard I^2C UART/RD-32, USB and LAN Interface with compatible software to connect and control the instrument and to build custom test. sequence with the integrated test flow app to autimate the visualize test reults without need for instrument programming.	02

Microprocessor & Microcontroller Applications Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	8085 microprocessor kit with inbuilt power supply	10 kits
2.	8086 microprocessor kit with inbuilt power supply	10 kits
3.	8031/8051 microcontroller Kit with inbuilt power supply	05 kits

6th Semester (Electrical Engg.)

Electrical Measurement & Measuring Instrument Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	AC Ammeter, MI, 1/2A	03
2.	AC Ammeter , MI, 2.5/5A	04
3.	AC Ammeter, MI, 5/10 A	04
4.	Wattmeter 1-Phase, 1/2A, 75/150/300V, Dynamometer	04
5.	AC Voltmeter, MI, 300/600V	05
6.	Energy Meter, 1 phase, 250V, 5-10A, 250V	02
7.	Energy Meter, 3 phase, 4 wire,50Hz,10A,440V	02
8.	D'Arsonnal Type Galvanometers 30/0/30V, 2 μA/div	02
9.	Anderson's bridge Kit	01
10.	Dr Sauty's bridge Kit	01
11.	Kelvin's Double bridge Kit	01
12.	Maxwell's Inductance bridge Kit	01

13.	DC Source 0-12V, 10A	01
14.	Schering bridge Kit	01
15.	Wheat Stone's bridge Kit	02
16.	Instrumentation Trainer using Transducers ➢ LVDT ➢ RTD ➢ Thermistors ➢ Thermocouple ➢ LDR	01 set
17.	Pressure Measurement by strain Gauge Kit	01 set
18.	Oscilloscope Dual Channel 0-30MHz (CRO)	02

Control Systems-II Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	PID Controller Trainer	01 kit
2.	DC Position Control Trainer	01 kit
3.	Relay Control System	01 kit
4.	Microcontroller Kit	01 kit
5.	ADC interfacing Card	01 kit
6.	Stepper Motor Control Card	01 kit

Power Systems-II Lab

7th Semester (Electrical Engg.)

Minor Project Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	DC- AC converter, 750 VA	02 sets
2.	DC- AC Converter, 1400 VA	01 set
3.	Voltage regulator, 1 KVA	02 sets
4.	Voltage Regulator , 0.5 KVA	02 sets
5.	Control Circuit Card , 750 VA	03 sets

8th Semester (Electrical Engg.)

Computer Methods in Power System Lab

Sr. No.	Name of Equipment	Quantity of Equipment
1.	C Language installed on Computers to write various programs.	

Supporting Equipments/ Accessories in Labs for performing Practicals

Sr. No.	Name of Equipment	Quantity of Equipment
1.	Rheostats 1089 ohms, 0.6A	03
2.	Rheostats 150 ohms,2A	03
3.	Rheostats 0-350 ohms, 1.5A	03
4.	Variable Capacitive load 3-phase, 440V, 15A,	01
5.	Variable Inductance load, 3-phase, 15A, 440V,	01
6.	Variable capacitor, 0-10MFD,	02
7.	DC regulated Multiple Output Power Supply 0-30Vdc out, 2A, & 3-15Vdc at 2A	02
8.	Digital Meter Multimeter 3.5digit, LCD display	02
9.	Inductance boxes. 0-200KHz, accuracy 0.5%	02
10.	Inductor, 0.8A Choke, 0.4A	02
11.	Earth Tester 500V, 0-10-100 ohms	02
12.	Stop Watch digital	04
13.	Digital Contact type Tachometer 0-9999rpm, 3.5 digit	02
14.	Wire 1mm2	03 roll
15	Wire 1.5mm2	02 roll
16	Wire 2.5mm2 (Make: Mayur)	05 roll
17	Wire 4mm2 (Make: Mayur)	05 roll
18	Cable 3 Core 23/76 (Make: Mayur)	02 roll
19	Cable 4 Core 23/76 (Make: Mayur)	02 roll
20	Lab tables of size 6'x3'x3' (Sheesham Wood)	08+ 08+ 08 =24
21	Loading Rheostat 2.5KW, 10Amp.	02
22	Rheostat 1080Ohm, 0.6Amp	01
23	Rheostat 250Ohm, 1Amp	01
24	Rheostat 250Ohm, 1.2Amp	01
25	Rheostat 350Ohm, 1.5Amp	01
26	Rheostat 150Ohm, 2Amp	01
27	Rheostat 100Ohm, 2.5Amp	01
28	Rheostat 150Ohm, 2.5Amp	01
29	Rheostat 50Ohm, 5Amp	01

Laboratory Charts and Scientist Charts

Sr. No.	Name of Chart	Size of Chart	Quantity of Equipment
1.	Safety precautions in electric laboratories	Big sized charts of size 30” x 40” laminated and attached with rollers	03

2.	Thyristor Family	Big sized charts of size 30” x 40” laminated and attached with rollers	02
3.	Chopper Circuits	Big sized charts of size 30” x 40” laminated and attached with rollers	01
4.	Inverter Circuits	Big sized charts of size 30” x 40” laminated and attached with rollers	01
5.	Non Conventional Sources of Energy	Big sized charts of size 30” x 40” laminated and attached with rollers	02
6.	Special Types of DC Machines	Big sized charts of size 30” x 40” laminated and attached with rollers	01
7.	Parts of Synchronous Machine	Big sized charts of size 30” x 40” laminated and attached with rollers	02
8.	Electric Traction System	Big sized charts of size 30” x 40” laminated and attached with rollers	01
9.	Components of a Power System	Big sized charts of size 30” x 40” laminated and attached with rollers	02
10	Scientist Chart of **William Shockley**	Big Scientist Chart of size 20” x 26” laminated and framed with board	01
11.	Scientist chart of **Nikola Tesla**	Big Scientist Chart of size 20” x 26” laminated and framed with board	01
12.	Scientist chart of **John Bardeen**	Big Scientist Chart of size 20” x 26” laminated and framed with board	01
13.	Scientist chart of **Charles Coulomb**	Big Scientist Chart of size 20” x 26” laminated and framed with board	02
14.	Scientist chart of **C.V. Raman**	Big Scientist Chart of size 20” x 26” laminated and framed with board	01
15.	Scientist chart of **Thomas Edison**	Big Scientist Chart of size 20” x 26” laminated and framed with board	01

Head (EE Department)
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