

Department: Electrical & Electronics Engineering (EEE)

S.No	Name of the Laboratory	Year	Semester
1	Electrical Science Lab	1 st	II
2	Electro Mechanical Energy Conversion Lab - I	2 nd	III
3	Circuits & Systems Lab		III
4	Power Systems Lab - I & II	2 nd & 3 rd	IV & VI
5	Electro Mechanical Energy Conversion Lab –II	2 nd	IV
6	Control System Lab	2 nd & 3 rd	IV & V
7	Measurement & Instrumentation Lab	3 rd	V
8	Power Electronics Lab	3 rd	VI
9	Electrical Energy Lab	3 rd	VI

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ELECTRO-MECHANICAL ENERGY CONVERSION LAB-I

List of Equipments

Sl. No.	Name of Equipments	
1.	AC/DC Ammeter 0 – 1/2 A	
2.	AC/DC Ammeter 0 - 5/10 A	
3.	AC/DC Ammeter 15/30 A	
4.	3 phase Auto Transformer 7.5 KVA	
5.	1 phase Auto Transformer 15 A	
6.	1 phase Resistive Load 0.5 KW 220 V	
7.	3 phase Resistive Load 7.5 KW 440 V	
8.	DC Shunt Motor / Generator Set 1.5 KW with its panel. (220 V. 2.2 KW with Starter)	
9.	D.C. Shunt Motor With Brake load. (Arrangement with Starter)	
10.	D.C. Series Motor 1.5 KW. (With power brake load with starter)	
11.	Synchronous Motor with D.C. Shunt. Generator with Starter	
12.	Slip-ring Motor 7.5 KW with 5 KW DC shunt. compound generator with starter	
13.	AC Motor trainer Kit.	
14.	Voltmeter MI Type AC/DC 0/75/150/300 V	
15.	Voltmeter MI Type AC/DC 150/300/600 V	
16.	Voltmeter MI Type AC/DC 0/15/30 /V	

Sl. No.	Name of Equipments	
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17. Torque-speed, Torque-Armature Current Characteristics of D.C. Shunt Motor using its panel.(break load test on DC shunt motor)
18. Swinburne's test on a DC Shunt Motor using its panel.
19. Load and No-Load Characteristics of D.C. shunt generator with 1-Phase resistive Load of 3 KW with the help of control panel.
20. Speed Control of DC shunt motor using thyristor panel.
21. Determination of equivalent Circuit Parameters, calculation, its efficiency and regulation of a 1-phase transformer using its control panel
22. To perform parallel operation of two single phase transformer (complete set up of analog meter) using its control panel.
23. To make Scott connection & measure the phase difference of secondary voltage by voltmeter method using control panel.
24. To study the performance of 3 \emptyset transformer for its various connection. ($\Delta - y$, $y - \Delta$, $\Delta - \Delta$, $Y - Y$) using its control panel DC source supply for conducting above experiment SCR-DC
25. Drive (with AC input 415V, 34 –250V, DC 50A output supply)
26. Digital Tachometer.
27. Rheostat [360 Ω , 1.5A]
28. D.C. Shunt motor [3 hp/ 220V].
29. D.C. Shunt motor with brake-load [3hp/ 220V].
30. D.C. Shunt motor [3hp/ 220V] with generator [1.5KVA, 220V]
31. 3-phase transformer [3-KVA, 440V/ 440V]
32. 1-phase transformer [2-KVA, 220V/ 220V]
33. 3-phase variable auto transformer [0-470V]
34. Wattmeter [0/150/300/600V, 10/20A] UPF
35. Wattmeter [0/150/300/600V, 5/10A] FLPF
36. Wattmeter [0/75/150/300V, 5/10A] UPF

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CIRCUITS & SYSTEMS LAB

List of Equipments

Sl. No.	Name of Equipments	
1.	Integrating, Differentiating and Clamping Circuits. [ETB – 54] kit.	01
2.	Study of Diode Clipping Circuits. [ETB–116] kit.	
3.	Square and Triangular wave generator [ETB-165] kit.	
4.	Hybrid parameters of Transistor [ETB-91] kit.	
5.	Verification of Laws and Network theorems in D.C.Ckt. [ETB-64]	
6.	Verification of Superposition, Thevenin's and reciprocity theorems. [ETB-201] kit.	
7.	Audio Frequency Generator Kit.	
8.	VTVM Kit. (VIV-10).	
9.	Decade Resistance Box – [DRBC 115] Kit.	
10.	Patch cords (Banana type).	
11.	Bread Board.	
12.	Stripper.	
13.	Soldering Iron.	
14.	Ammeter DC (Analog type) [0-75 mA].	
15.	Digital Multimeter.	
16.	Ammeter DC (Analog Type) [0-100 mA].	
17.	Ammeter DC (Analog type) [0-20mA]	

18.	Ammeter DC (Analog type) [0-15mA]	
19.	Ammeter DC (Analog type) [0-30mA]	
20.	Function Generator [FG-321]	
21.	Resistances	
22.	Wires	
23.	Cutter	
24.	Fuse	
25.	Screw	
26.	C.R.O. (Analog type)	
27.	DC Voltmeter [0-20V]	
28.	DC Voltmeter [0-50V]	
29.	DC Voltmeter [0-60V]	

ELECTRICAL SCIENCE LAB

List of Equipments

Sl. No.	NAME OF EQUIPMENTS	
1.	DOL starter.	
2.	Alternator.	
3.	Star – delta.	
4.	3 phase Induction motor.	
5.	3-point D.C. starter.	
6.	D.C. shunt motor.	
7.	D.C. power supply (variable) with LED volt/Amp meter.	
8.	D.C. ammeter [0-10/20A].	
9.	Rheostat Double — point [100 Ω /5A].	
10.	Tachometer.	
11.	Rheostat [1000 Ω /1.4A].	
12.	AC Voltmeter [0-25V/50V].	
13.	Voltmeter [0-250 V DC].	
14.	1 - phase Dimmer stat.	
15.	1 - phase Inductive Load [220 V/10A] (variable).	
16.	Ammeter DC [0 — 1/2] A.	
17.	1 - phase transformer [220 V/110V, 1 KVA].	
18.	AC Voltmeter [0-150/300V].	
19.	AC Voltmeter [0-250 V].	
20.	Ammeter AC [0 — 2.5/5.0]A.	
21.	Loading Rheostat 1 - phase 3.5 KW, 250 V, 50 HZ.	
22.	AC Voltmeter [0-300/600V].	
23.	Wattmeter AC/DC 750 W [0-10A].	
24.	Wattmeter AC/DC 400 W [0-10A].	

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| 25. | Power factor meter 5A/250V. |
| 26. | AC Ammeter [0-5/10A]. |
| 27. | AC Voltmeter [0-300V]. |
| 28. | AC Ammeter [0-10/20A]. |
| 29. | Verification of laws network theorem kit [ETB-64]. |
| 30. | 1 - phase energy meter (Induction Type). |
| 31. | Screw drivers: 786, 303, 604, 353. |
| 32. | Line Tester. |
| 33. | Test Lamp 100 watt/230 V. |
| 34. | Misc Tapes, connecting leads with lugs. |
| 35. | Digital Multimeter. |
| 36. | 3 – phase bridge rectifier [0-40 A]. |
| 37. | Trainer kit[ETB-201] |

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Power System Lab I & II

List of Equipments

Sl. No.	Name of Equipments	
1.	Panel for finding A,B,C,D & different parameters of given transmission line.	
2.	Set up panel to determine the burden effect on the performance of C.T.	
3.	Panel meant to study line to ground fault	
4.	Panel meant to study line to line fault	
5.	Set up panel to study reactance of a synchronous machine. (associated with its required machine)	
6.	To study buchholz relay via its control panel	
7.	To study Bi-metallic relay via its control panel	
8.	Panel meant to find breakdown strength of transformer oil	
9.	To study MCB via its set up panel	
10.	Set up panel meant for studying I.D.M.T. over current relay	
11.	Panel for studying Instantaneous relay	

DEPARTMENT: ELECTRICAL AND ELECTRONICS ENGINEERING (EEE)			
ELECTRO-MECHANICAL ENERGY CONVERSION LAB - II			
LIST OF EQUIPMENTS			
S.NO.	Name of Equipments	Quantity	Folio No.
1	To plot the V-curve for a Synchronous motor at no-load ,Half and Full-load		
	Control Panel.	1	1
	Synchronous Motor 5 HP	1	
	DC Generator 3 KW	1	
	Single Phase resistive load 3 KW, 220V	1	
2	To Study parallel operation of 3-phase alternators		
	Control Panel	1	
	DC Shunt Motor 3 HP, 220V, 1500 RPM coupled to 3 phase alternator 1.5 KW		
	Separately excited with exciter.	2	1
	Load 3 phase Capacitive Load	1	
3	To determine X_d, X_q, X_2, X_o of Synchronous alternator		
	Control Panel	1	1
	DC Shunt Motor 5 HP with, 3 Phase alternator 3 KVA, separately excited	1	
4	To perform no load and short circuit test on 3-phase Alternator and to find voltage regulation by Synchronous Impedance method at power factor of unity,		
	0.8 lagging & leading.		
	Control Panel	1	2
	DC Shunt Motor 5 HP with 3 phase Alternator 3 KVA, Separately excited	1	
5	To perform no load and block rotor test on a 3 phase Induction Motor and to Determine its efficiency.		2
	Control Panel.	1	
	Squirrel Cage Induction Motor with 3 phase 3 HP, with Mechanical loading	1	
	Loading Rheostat 3 phase, 6 KVA	1	
6	To study speed control of 3 phase slip ring induction motor using static resistance control		
	Control Panel	1	2
	Slip ring Induction Motor 5 HP	1	
7	To find Voltage regulation of Synchronous Machine by MMF method		
	Control Panel	1	3
	DC Shunt Motor 5 HP with 3 phase alternator 3 KVA separately excited	1	
8	To find Voltage Regulation of Synchronous Machine by potier triangle method		
	Control Panel	1	
	DC Shunt Motor 5 HP with Generator 3 KVA	1	3
9	Rheostat	16	4

CONTROL SYSTEM LAB

List of Equipments

S. No.	Name of the Item	Quantity	Folio No.
1	AC Servo Mechanism Synchro Transmitter Kit	1	1
2	AC Servo Motor Kit	1	1
3	Compensation Design Kit	1	3
4	DC Position Kit	1	5
5	DC Speed Control Kit	1	5
6	Digital MultiMeter	3	5
7	Linear System Simulator Kit	1	7
8	PID Controller Kit	1	9
9	Strain Guage Trainer for Cantilever Beam Kit	1	11
10	Temperature Transducer Trainer Kit	1	11

Measurement & Instrumentation Lab

S. No.	Name of the Item	Quantity
1	Measurement of Capacitance by Schering Bridge Kit	1
2	Measurement of Capacitance/Frequency by Wein's Bridge Kit	1
3	Optical Transducer Trainer Kit	1
4	LVDT Trainer Kit	1
5	Insulation Tester	1
6	Pressure Measurement Kit	1
7	Wheat-Stone Bridge Kit	1
8	CRO-30 MHz 2 Channel 4 Trace	2
9	Digital Multimeter	3