



## DEPARTMENT OF ELECTRICAL ENGINEERING

### LIST OF MAJOR EQUIPMENTS

#### List of Major Equipments in Electrical Machine's Lab

Sr. No.	Machine / Specification	Machine / Specification
1.	DC Motor – 230 V, 3 HP, 1000RPM	-
2.	DC Motor – 230 V, 3 HP, 1000RPM + Belt pulley	-
3.	DC Generator – 3 HP, 220V, 11A, 1500 RPM	DC Motor – 3 HP, 220V, 11A, 1500 RPM
4.	DC Generator – 3 kW, 220V, 13A, 1000 RPM	DC Motor – 5 HP, 220V, 21A, 1000 RPM
5.	DC comp. Generator – 3 kW, 220V, 13A, 1500 RPM	DC Motor comp. – 5 HP, 220V, 21A, 1500 RPM
6.	DC Generator – 3 HP, 220V, 11A, 1500 RPM	DC Motor – 3kW, 220V, 11A, 1500 RPM
7.	3 Ph. Induction Motor ( $\Delta$ ) – 5 HP, 415V, 7.3A 1440 RPM	DC Generator – Self Excited 3 kW, 220V, 13 A, 1500 RPM
8.	DC Motor – 7.5 HP, 220V, 22A, 1500 RPM	3 Ph. Alternator – 5kVA, 415 V, 7 A, 1500RPM
9.	3 Ph. Induction Motor (Star)– 3 HP, 415 V, 4.8A 1440RPM + Belt pulley	-
10.	DC Motor – 5 HP, 220V, 28A, 1500 RPM	3 Ph. Alternator – 3 HP, 415 V, 2.5 A, Sep. Excited
11.	DC Motor – 5 HP 220V, 28A, 1500 RPM	3 Ph. Alternator – 3 HP, 415 V, 6.5 A, Sep. Excited
12.	DC Motor/Generator – 3 HP, 230V, 13A, 1500 RPM	Synchronous IM – 5 HP, 415 V, 7.5 A, 1500 RPM
13.	AC Series Motor – 1Ph, 0.75kW, 4 / 7A, 1500 RPM + Belt Pulley	-
14.	Repulsion Motor – 1Ph, 50 Hz, 1kW, 1 HP, 2900 RPM, 8A.	-
15.	DC Generator – 3 Kw, 230V, 13A, 1500 RPM	Synchronous IM - Y / $\Delta$ 9.2 A, 3 kW, 230V, 1500 RPM Exciter – 0.15kW, 15V, 12A, 1500 RPM
16.	DC shunt Generator – 3 kW, 230V, 13A, 1500 RPM	Synchronous IM - Y / Y 9.2 A, 3 kW, 230V, 1500 RPM
17.	DC Generator – 3 kW, 220V, 13A, 1500 RPM	Synchronous IM – Y, 9.2 A, 3 kW, 230V, 1500 RPM Exciter – 0.15kW 15V, 12A, 1500 RPM



		Compound.
18.	DC Generator – 3 kW, 220V, 13A, 1500 RPM	Synchronous IM - Y / $\Delta$ 9.2 A, 3 kW, 230V, 1500 RPM Exciter – 0.15kW, 15V, 12A, 1500 RPM (compound)
19.	Synchronous IM – 7.5A, 5 kW, 400V, 1500 RPM	-
20.	Synchronous IM - $\Delta$ 9.2 A, 3 kW, 230V, 1500 RPM	-
21.	Split phase Induction Motor – 230 V, 50 Hz, 1 kW, 8A, 1500RPM + Belt Pulley.	-
22.	3 Ph. Series Motor – 3 Ph, 50 Hz, 415V, 1kW, 4.7A	-
23.	Reluctance Motor – 0.75 kW, 440 V, 3 Ph. 50Hz.	-
24.	DC series Generator – 3 HP, 220V, 11A, 1500 RPM	DC series Motor – 3 kW, 220V, 11 A, 1500 RPM
25.	Capacitor Motor – 1 kW, 230 V, 50 Hz, 8A, 1500 RPM	-
26.	Supply of power system control panel for the power flow measurement from the existing two generating system acting as grid systems can be connected through remote cloud monitoring control	-
27.	3 ph induction machine 4/12 pole motor 0.75/2 kw 500/15000 RPM 415/415 Volte AC. Insulation class F foot mounted frame 132 TEFC construction	-
28.	Date acquisition system control system with HMI + VFD 5 Hp + programming + electrification with switch gears	-
29.	1 Ph Auto Transformer 1.5 KVA, 15 A	-
30.	1 Ph Auto Transformer 3 KVA, 10 A	-
31.	3 Ph Auto Transformer 7 KVA, 15 A	-



**Electrical Measurement and Switchgear & Protection Laboratory**

Sr. No.	Major Equipments
1.	Yokogawa Power Analyzer Kit – 1 No.
2.	Power Monitoring Kit – 2 No.
3.	Single Phase Induction Type Energy Meter (230V, 10A) – 1 No.
4.	Digital Storage Oscilloscope C.R.O – Aplab Make 1 No.
5.	Schering Bridge Kit
6.	Kelvin's Double Bridge
7.	Anderson's Bridge
8.	Linear Variable Differential Transformer (LVDT) Kit
9.	Strain Gauge Measurement Kit
10.	3 Phase Resistive Lamp Bank (230V , 10A) – 2 Nos.
11.	3 Phase Capacitive Lamp Bank (2 KVAR, 415V, 10A) – 1 No.
12.	Ammeters (0-5-10A) – 5 Nos.
13.	Voltmeters (0.150-300V) – 5 Nos.
14.	Stroboscope – 1 No.
15.	Clamp-on Meter – 1 No.
16.	Digital Tachometer Contact Type – 1 No.
17.	Digital Multimeter – 1No.
18.	1 phase Autotransformer (270V, 10A) – 1 No.
19.	Function Generator Counter – Aplab Make 1 No.
20.	Over current Induction type relay with Source – 1No.
21.	Under Voltage Induction type relay with Source – 1No.
22.	Over current Numerical relay test kit with Source – 1No.
23.	Under Voltage Numerical relay test kit with Source – 1No.
24.	DC Regulated Power Supply (0-30V, 0-2A) – 1No.
25.	Simulation model for Alternator Protection – 1 No.
26.	Dynamometer Type Wattmeter (0-600V, 0-5-10A, 1500FSD) – 2 Nos.



### Industrial Drives and Control & Basic Electrical Laboratory

Sr. No.	Equipment
1	IGBT characteristic study kit with power supply
2	SCR characteristic study kit with power supply
3	1 Phase SCR inverter kit
4	Jones chopper thyristorised kit
5	DC chopper kit for universal motor
6	SCR converter kit for DC shunt motor
7	3 Phase thyristorized bridge inverter
8	3 Phase back to back inverter
9	3 Phase chopper using SCR
10	3 Phase inverter using SCR
11	1 HP DC shunt motor with DC drive
12	Superposition theorem study kit
13	Thevenin's theorem study kit
14	Maximum Power Transfer theorem study kit
15	KVL kit
16	KCL kit
17	Star-Delta conversion kit
18	R-L-C series kit

### List of Major Equipment's in Computer Lab

Sr. No.	Name of the Equipment
1	ETAP simulation software (12.6.5 50-bus 5-User LAN educational)
2	ANSYS Maxwell academic teaching EM Package
3	MATLAB software (12.1 Version)
4	ELIPSE SCADA software
5	UPS 1 Phase 220/210/240V 50-60Hz 3 Phase 380/400/415 50-60Hz
6	Desktop Computers (26 No's) with 2 GB RAM, Windows 7, 32 bit.



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### List of major Equipment's in Control System Lab

<b>1</b>	<b>Common emitter transistor characteristics.</b>
<b>2</b>	Frequency response of CE amplifier two stage
<b>3</b>	FET characteristics
<b>4</b>	Photodiode characteristics
<b>5</b>	Earth tester kit
<b>6</b>	Megger
<b>7</b>	Zener diode regulator 12V, 500milliamp maximum Zener current, variable load
<b>8</b>	Half wave and full wave centre tap, bridge rectifier with filter with load. Facility to observe waveforms at input output
<b>9</b>	Circuit board for two port network with ac component ( combination of R,L,C)
<b>10</b>	Voltage series feedback amplifier
<b>11</b>	Voltage shunt feedback amplifier
<b>12</b>	Current series feedback amplifier
<b>13</b>	Current shunt feedback amplifier
<b>14</b>	Class B push -pull amplifier
<b>15</b>	Single phase half controlled bridge convertor with resistive load , R-L load
<b>16</b>	Three phase full converter with resistive load , R-L load, R-L-E load



### List of major equipments in Microcontroller and Network analysis lab

1	8051 Microcontroller Kit with LCD display, PC keyboard, Power supply and RS 232 cable.
2	16F877 PIC Microcontroller with LCD display, PC keyboard, Power supply and RS 232 interfacing.
3	ARM (LPC 2138) Embedded Trainer, Power supply and IDE- PN model
4	Stepper motor & 12 V DC stepper motor interface card.
5	Scanning technique illustrating 8 * 8 LED matrix, 4 * 4 Keypad, 7 segment 8 digit red LED display application board
6	Temperature controller with mini oven 8 bit DAC cum instrumentation Op amp study card
7	Opto isolated 24 V dc, 12 input and 12 output IO card with additional 2 relays study card
8	Traffic light of 2 intersections logic study card.
9	25 Mhz colour Digital Oscilloscope.
10	Circuit board for two port network
11	Circuit board for two port network
12	Kit for RLC series resonance circuit
13	Kit for RLC series resonance circuit
14	Kit for RLC series circuit
15	Kit for RLC parallel Resonance circuit
16	Kit for R.C. time response
17	Kit for Maximum power theorem
18	Kit for Super position theorem
19	Kit for Thevinens theorem
20	Kit for Reciprocity theorem