



## Faculty of Civil Engineering

### B.Tech. AGRICULTURAL ENGINEERING

#### (R2021) Semester: II

#### Basic Electrical, Electronics and Instrumentation Engineering Laboratory

Sl. No.	Description of Equipment	Quantity available
1.	<b>Verification of ohms and Kirchhoff's Laws</b> 1. DC Regulated Power supply (0 - 30 V variable) 2. Bread Board 3. Resistors 4. Multimeter 5. Connecting wires	1 1 As per Circuit diagram 1 As Required
2.	<b>Three Phase Power Measurement</b> 1. Three Phase Variable Load, 2. Ammeters 0-10 A, MI, 3. Wattmeters 0-5 A, 300V, 4. Voltmeter 0-300v,MI 5. Connecting wires	1 2 2 1 As Required
3.	<b>Load test on DC Shunt Motor.</b> 1. Ammeter MC (0-20A) 2. Voltmeter MC (0-300)V 3. Rheostat 7.5 $\Omega$ , 10 A 4. Tachometer 5. Field Rheostat 175 $\Omega$ , 1.5 A 6. Connecting wires 7. DC Shunt Motor	1 1 1 1 1 As Required 1
4.	<b>Load test on Self Excited DC Generator</b> 1. Voltmeter(0- 300V) 2. Ammeter (0-30 A), (0-2A) 3. Voltmeter (0-30V) 4. Rheostat 175 $\Omega$ , 250 $\Omega$ 5. Tachometer 6. Connecting Wires 7. DC Shunt Motor coupled with DC shunt Generator	1 1 1 1 1 As Required 1
5.	<b>Load test on Single phase Transformer</b> 1. Ammeter (0-30) A, (0-5 ) A 2. Voltmeter (0-150)V, (0-300)V 3. Wattmeter – 300V, 5A, UPF 4. Autotransformer 5. Single phase Transformer 6. Connecting Wires	1 1 1 1 1 As Required

6.	<b>Load Test on Induction Motor</b> 1. Ammeter MI (0-20A) 2. Voltmeter MI (0-300)V 3. Wattmeter – 300V, 30 A 4. Tachometer – Digital 5. Connecting Wires 6. Single phase Induction motor	1 1 1 1 As Required 1
7.	<b>Characteristics of PN and Zener Diodes</b> 1. PN Diode (BY127, OA79), Zener diode (6.8V, 1A) 2. Resistor 1 K $\Omega$ , 100 $\Omega$ 3. Bread Board 4. DC Regulated Power supply (0 - 30 V variable) 5. Multimeter 6. Connecting wires	1 1 1 1 1 As Required
8.	<b>Characteristics of BJT</b> 1. Transistor (No-BC548) 2. Resistors- 1k $\Omega$ , 470K $\Omega$ , 1M $\Omega$ 3. Bread Board DC Regulated Power supply (0 - 30 V variable) 5. Multimeter 6. Connecting wires  <b>Characteristics of SCR</b> 1. D C Power Supply (0-128 V), (0-32V ), 2. Voltmeter (0-100V) 3. SCR TYN604 4. Digital multimeter 5. Ammeters (0-100mA, 0-25mA, 0-1mA) 6. Resistors 1K $\Omega$ , 1K $\Omega$ 7. Bread board 8. Connecting Wires  <b>Characteristics of MOSFET</b> 1. MOSFET (2N7000) 2. Bread board 3. resistor (1K $\Omega$ , 100K $\Omega$ ) 4. DC power supply (0-30V) 5. Multimeter 6. Connecting Wires	1 1 1 1 1 As Required  1 1 1 1 1 As Required  1 1 1 1 1 As Required
9.	<b>Design and analysis of Half wave and Full Wave rectifiers</b> 1. Diodes (Si-1N4007) – 4 2. Resistor 1K $\Omega$ 3. Capacitor 100 $\mu$ F 4. Digital Multimeter 5. CRO 6. Transformer (6-0-6)V 7. Bread Board 8. Connecting Wires	1 1 1 1 1 1 1 As Required
10.	<b>Measurement of displacement of LVDT</b> 1. LVDT Kit 2. Multimeter	1 1