

Faculty of Civil Engineering

B.E. Geo Informatics

(R2021) Semester: II

Course Code: BE3272

Course Title: Basic Electrical, Electronics and Instrumentation Engineering Laboratory

Sl. No.	Description of Equipment	Required numbers (for batch of 30 students)
1.	Verification of ohms and Kirchoff's Laws 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.	Three Phase Power Measurement 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.	Load test on DC Shunt Motor. 1. Ammeter MC (0-20A) 2. Voltmeter MC (0-300)V 3. Rheostat 7.5 Ω, 10 A 4. Tachometer 5. Field Rheostat 175 Ω, 1.5 A 6. Connecting wires 7. DC Shunt Motor	1 1 1 1 1 As Required 1
4.	Load test on Self Excited DC Generator 1. Voltmeter(0- 300V) 2. Ammeter (0-30 A), (0-2A) 3. Voltmeter (0-30V) 4. Rheostat 175Ω, 250 Ω 5. Tachometer 6. Connecting Wires 7. DC Shunt Motor coupled with DC shunt Generator	1 1 1 1 1 As Required 1
5.	Load test on Single phase Transformer 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.	Load Test on Induction Motor 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.	Characteristics of PN and Zener Diodes	

	1. PN Diode (BY127, OA79), Zener diode (6.8V, 1A) 2. Resistor 1 K Ω , 100 Ω 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.	<p>Characteristics of BJT</p> 1. Transistor (No-BC548) 2. Resistors- 1k Ω , 470K Ω , 1M Ω 3. Bread Board DC Regulated Power supply (0 - 30 V variable) 5. Multimeter 6. Connecting wires	1 1 1 1 1 As Required
	<p>Characteristics of SCR</p> 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 Ω , 1K Ω 7. Bread board 8. Connecting Wires	1 1 1 1 1 1 As Required
	<p>Characteristics of MOSFET</p> 1. MOSFET (2N7000) 2. Bread board 3. resistor (1K Ω , 100K Ω) 4. DC power supply (0-30V) 5. Multimeter 6. Connecting Wires	1 1 1 1 1 As Required
9.	<p>Design and analysis of Half wave and Full Wave rectifiers</p> 1. Diodes (Si-1N4007) – 4 2. Resistor 1K Ω 3. Capacitor 100 μ 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.	<p>Measurement of displacement of LVDT</p> 1. LVDT Kit 2. Multimeter	1 1

Degree: UG		Name of the Course: B. E. GEOINFORMATICS ENGINEERING	
Course Code: GI3311		Course Title: SURVEYING LABORATORY I	
		Semester: III	
Sl. No.	Description of Equipment	Required numbers	
1.	Chain	10	
2.	Cross Staff	10	
3.	Metallic Tape (30m)	10	
4.	Ranging Rod	50	
5.	Steel Arrows	100	
6.	Prismatic Compass	10	
7.	Plane Table	10	
8.	Dumpy Level	5	
9.	Tilting Level	5	
10.	Levelling Staff	10	
11.	Theodolite	10	

Degree: UG		Name of the Course: B. E. GEOINFORMATICS ENGINEERING	
Course Code: GI3312		Course Title: REMOTE SENSING AND PHOTOGRAMMETRY LABORATORY	
		Semester: III	
Sl. No.	Description of Equipment	Required numbers	
1.	Handheld Spectroradiometer (ASD Field Spec 4Hi-Res): Spectral Range 350 nm – 2500 nm	1 No	
2.	Light Table (A0 Size)	6 Nos	
3.	Packet Mirror Stereoscope	6 Nos	
4.	Mirror Stereoscope with Parallax Bar	3 Nos	
5.	Digital Photogrammetry Software ((Suitable to handle the experiments in syllabus)	6 Nos	
6.	Computer with suitable to specification to the install the Photogrammetry software	6 Nos	

Degree: UG		Name of the Course: B. E. GEOINFORMATICS ENGINEERING	
Course Code: GI3411		Course Title: TOTAL STATION AND GPS SURVEYING LABORATORY	
		Semester: IV	
Sl. No.	Description of Equipment	Required numbers	
1.	Total Station with Downloading and Mapping Software	3 Nos	
2.	Hand held GPS	5 Nos	
3.	Dual Frequency GNSS with GPS processing software	3 Nos	

Degree: UG			Name of the Course: B. E. GEOINFORMATICS ENGINEERING		
Course Code: GI3412			Course Title: CARTOGRAPHY AND GIS LABORATORY		
			Semester: IV		
Sl. No.	Description of Equipment	Required numbers			
1.	Light Table (A0 Size for Cartography Laboratory)	6 Nos			
2.	GIS Software(Suitable to handle the experiments in syllabus)	30			
3.	Computer –17 Processor 16/8GB RAM 2 TB Hard Disk Windows 10/11 Monitor 21” LCD				

Degree: UG			Name of the Course: B. E. GEOINFORMATICS ENGINEERING		
Course Code: GI3413			Course Title: DIGITAL IMAGE PROCESSING LABORATORY		
			Semester: IV		
Sl. No.	Description of Equipment	Required numbers			
1.	ERDAS Imagine 2014 - Software	30			
2.	PCI-Geometica 2018 – Software	30			
3.	ENVI Software	30			
4.	Computer - 17 processor 16/8GB RAM 2TB Hard Disk Windows 10/11 Monitor 21” (LCD)	30			