APPENDIX - XVI

LABORATORY EQUIPMENT DETAILS

Item Description (Make & Model)	Location (Department)	Value (Rs)	Present condition	Date of Purchase
Connection and measurement of power consumption of a fluorescent lamp Fluorescent tube 7 Wattmeter 7 Voltmeter 7 Ammeter 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**	
Measurement of armature and field resistances of a DC compound machine DC compound motor 4 Multimeter 7 Ammeter 7 Field Regulator 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**	
Starting and speed control of a DC shunt motor by (a) field flux control method, and (b) armature voltage control method. DC shunt motor 4 Rheostart 7 Field Regulator 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**	
V-I characteristics of incandescent lamps and time-fusing current characteristics of a fuse	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**	

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V-I characteristics trainer kit: 7 Incandescent lamp: 7 Load Box: 7					
Connection and testing of a single-phase energy meter Energy meter trainer kit: 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**		
Starting of three-phase induction motor by star-delta starter Three-phase induction motor: 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**		
Determination of open circuit characteristics (OCC) of DC shunt generator DC shunt generator set: 4	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**		
Calculation of current, voltage and power in series R-L-C circuit excited by single-phase AC supply and calculation of power factor Kit: 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**		
Calculation of no load losses of a single-phase transformer. Single-phase transformer: 7 Wattmeter: 7 Ammeter: 7 Voltmeter: 7	**KU School of Engineering & Technology (Basic Electrical Lab)**		**Working**		
Familiarization of electronic components and devices (Testing of semiconductor diodes and	**KU School of Engineering & Technology (Basic**		**Working**		

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transistors using digital multimeter) Digital Multimeter 7 Analog Multimeter 7 Resistor 7 Capacitor 7 Transistor 7	**Electronics Lab)**			
Study and use of Oscilloscope, signal generator to view waveforms and measure amplitude and frequency of a given waveform CRO 7 Function Generator 7	**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	
V-I characteristics of semiconductor diode and determining its DC and AC resistance Multimeter 7 Diode 7 Bread Board 7	**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	
Studies on half-wave and full-wave rectifier circuits without and with capacitor filter; recording of the waveforms and measurement of average and rms values of the rectifier output	**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	

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CRO	Can be adjusted with similar equipment ordered for earlier experiment				
Bread Board	7				
Diode	7				
Resistor	7				
V-I characteristic of an n-p-n or p-n-p transistor, DC biasing the transistor in common-emitter configuration and determination of its operating point (i.e., various voltages and currents)		**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	
Transistor	7				
Digital Multimeter	7				
Resistor	7				
Capacitor	7				
Studies on Op-Amp applications (Inverting, non-inverting integrating and differentiating configurations); recording of the input-output waveforms		**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	

CRO	Can be adjusted with similar equipment ordered for earlier experiment				
Bread Board	7				
OPAM	7				
Function Generator	Can be adjusted with similar equipment ordered for earlier experiment				
Studies on Logic gates (Truth table verification of various gates)		**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	
Bread Board	7				
LED	7				
Digital IC	7				
Gain-frequency response studies of a BJT common-emitter RC coupled amplifier.		**KU School of Engineering & Technology (Basic Electronics Lab)**		**Working**	
Transistor	7				
Digital Multimeter	7				
Resistor	7				

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Capacitor 7					
Studies and experiments using MUX-DEMUX ICs MUX-DEMUX ICs 7		KU School of Engineering & Technology (Basic Electronics Lab)		Working	
Study on CMOS logic inverter CMOS IC Bread board 7		KU School of Engineering & Technology (Basic Electronics Lab)		Working	
Digital Balance – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Distilled water Plant – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Hot air Oven – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Heating mentel – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
pH meter – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Electrode – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Thermostat – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Spectrophotometer – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Distilled Oxygen meter – 4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Red wood viscometer -4		KU School of Engineering & Technology (Chemistry Lab)		Working	
Pensky Marten's flash point apparatus – 3		KU School of Engineering & Technology (Chemistry Lab)		Working	
Screw gauge – 4		KU School of Engineering & Technology (Physics Lab)		Working	
Searles apparatus – 4		KU School of Engineering & Technology (Physics Lab)		Working	

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Modulus apparatus – 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Travelling microscope – 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Capillary tube with stand -4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Bar Pendulum with stop watch – 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Heater – 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Lee's apparatus- 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Thermometer-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Stop watch-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Sodium Vapour lamp transformer-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Newton's Rin apparatus-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Sodium Vapour lamp transformer- 4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Spectrometer-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Diode characteristic Kit-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
BJT Kit-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Sonometer box-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Tuning fork set-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Spectrometer-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	

Laser Light source-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Hall effect machine-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
RC Circuit Kit -4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Stop watch-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Training Kit-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Training Kit-4	**KU School of Engineering & Technology (Physics Lab)**		**Working**	
Surface plate 24"x24"	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	
Surface plate 18"x18"	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	
Angle plate- slotted	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	
Working Table 8'x3' for bench vice	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	
Bench grinder with 1 hp motor, 2800 rpm, fitted with two grinding wheels of 8" fitted on both sides, one rough and one fine	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	
Pillar drilling machine geared type, 20-25 mm capacity having 8 speeds by means of Step pulley and Idle double gear, Spindle travel 250 mm, having 2 ball and 1 taper bearing for accuracy, main spindle hardened and ground, complete with standard accessories, consisting of 1 No. motor pulley ,lifting handle, Drift Key and Instruction & Spare manual. 1 HP, 440 volt, 1500 RPM ISI marked motor with R/F switch and V-belts and wiring, making the lathe on ready-to-use basis. Drill Chuck, Arbour & MT-2-	**KU School of Engineering & Technology (Fitting Shop)**		**Working**	

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3 Sleeve , MT 3-4 Sleeve				
Universal Milling Machine, having table size 30¢¢ x 6 ¾ ¢¢, equipped with 6 speed gear box, having 2 nos. Longitudinal auto feed to the table, complete with vertical Attachment.	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
1 H.P. 440 v 1500 RPM 50 Hz electric motor complete with DOL Starter, v Belts and wring making the machine on ready to use basis.	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
4 ½¢¢ Universal Dividing Head	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
4¢¢ Milling Vice Swivel base	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
Coolant pump with tank & fittings	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
Light duty lathe machine having length or bed 4 ½¢, gap bed and hardened lathe, equipped with 6 speed semi-Norton Gear head, having 2 bearings in the spindle (one Taper Roller in front and one Tapper Roller bearing at the back) having height of center 6 ½¢, width of bed 8¢¢, spindle hollow 1 ½¢ complete with standard accessories	**KU School of Engineering & Technology (Machine Shop)**		**Working**	
Gas welding setup- oxygen and acetylene cylinders, cylinder key gas regulators with other standard accessories.	**KU School of Engineering & Technology (Welding Shop)**		**Working**	
Acetylene gas generator	**KU School of Engineering & Technology (Welding Shop)**		**Working**	
Copper Wound Arc Welding Transformers - Air Cooled/Oil Cooled, Welding Current Range (Amps): 75-100, Welding Voltage Range (Volts): 20-30, Open Circuit Voltage (Volts): 40, electrode sizes (continuous) (Gauge): 12 – 14, Rated KVA: 4, Input Supply: 2-230/440 of 1/3 phase, 50 Hz A.C. with standard accessories.	**KU School of Engineering & Technology (Welding Shop)**		**Working**	

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DC inverter welding machine- Copper Wound, Welding Current Range (Amps): 20-100, Welding Voltage Range (Volts): 20-40, Open Circuit Voltage (Volts): 40-50,, duty cycle -60-80, electrode diameter 1.6-4 mm and all related accessories.	**KU School of Engineering & Technology (Welding Shop)**		**Working**	
Drawing Boards	**KU School of Engineering & Technology (Drawing Hall)**		**Working**	
Computers – 60	**KU School of Engineering & Technology (Programming Lab)**		**Working**	
Computers – 60	**KU School of Engineering & Technology (Computer Centre)**		**Working**	
Language Lab set up for 60 students	**KU School of Business (Language Lab)**		**Working**	
	Total	**4420480**		

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