

INSTITUTE OF TECHNOLOGY, KORBA (C.G.)
Department of Electrical & Electronics Engineering
Tender Document for year 2017-18

S. No	Sem	Name of Lab	Total Approx Amount (IN Rs)	EMD (IN Rs)
1	I and II	Elements of Electrical Engineering Lab	10000	500
2	III	Basic Electronics Lab	50000	2500
3	III	Electrical Machine I Lab	270000	13500
4	V	Electrical Machine II	800000	40000
5	VII	Switchgear protection Lab	260000	13000
6	VIII	Installation Main. Testing Lab	200000	10000
7	All	Trainer Kits for Various Lab	1124000	56200
8	VIII	Miscellaneous (Machine Foundation & Partition Works)	200000	10000
9	-	Vocational Training & Prog Tools	100000	5000
TOTAL(IN Rs)			3014000	150700

Checked By:

1. Mr. P. K. Rahi

2. Ms. A. Sharma

3. Mr. N. Yadav

4. Mr. Jeevesh Rathore


12/05/18




Prepared By:

1. Ms. L. Jaiswal

2. Mr. G. K. Rathore




DOD
(EEE)

INSTITUTE OF TECHNOLOGY, KORBA (C.G.)
Department of Electrical & Electronics Engineering
Tender for year 2017-18

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
1	I and II	Elements of Electrical Engineering Lab	R & L Choke coil	1. Single Phase Auto transformer. (0—270 v), 10 A. 2. Purely Resistance or Rheostat. 90 , 2 A. 3. Purely inductive coil or choke. 2A, 1 No. 4. Purely capacitor. (10 μ F, 230 V) 1 No. 5. MI type voltmeter (0—250 V)—4 Nos. 6. MI type ammeter (0—5 A)—1 No. 7. Connecting leads.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
2	III	Basic Electronics Lab	Function Generator	1. The complete circuit is printed on a single P.C.B. with parts on tags. 2. Explanation, Observation, Alignment and adjustment of Internal and external controls should be possible due to Single P.C.B. 3. Easy identification of different parts due to single PCB. 4. Easy measurement of voltages and observation of waveforms at any point. Test Points should be provided on P.C.B. 5. A manual should have practical details 1. Waveforms : Sine, Square, Triangle 2. Frequency Range : 20 Hz to 200 KHz in 4 decade steps 3. Accuracy : 3 % 4. Amplitude : 0-15 Vpp 5. Signal Output : Short-circuit proof 6. Supply : 230V AC, + 10% 50Hz	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Qauntity	Quoted Price (In Rs.)	Remark
3	III	Electrical Machine I	3 Phase Transformer	3 KVA , 4.5% Impendace voltage, Delta_ Star Connection.	2		
			D.C Series Motor with control panel including starter, Ammeter, Voltmeter, Wattmeter	2 HP, 220 Volts, 19 Amps,	1		
			Analog Tachometer	Speed Range- 0-3000 rpm with manual	2		
			D.C.PowerSupplySource(Rectifier)	Input Volyage 230V, Output Voltage 230V Variable (Adjustable)	1		

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12/06/10

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
4	VI	Electrical Machine II	To determine the voltage regulation of 3 phase alternator by Direct Loading.	1 KVA Alternator Rating & Other Instruments accordingly in the panel.	1		
			To plot the V and inverted V-curve of synchronous Motor at No Load, and Full Load.	1 HP Motor Rating & Other Instruments accordingly in the panel.	1		
			To perform synchronization of alternator with infinite bus by bright lamp method..	1 KVA Alternator Rating & Other Instruments accordingly in the panel.	1		
			To determine X_d & X_q of a salient pole rotor type synchronous machine by slip test.	1 KVA Alternator Rating & Other Instruments accordingly in the panel.	1		
			To Study DOL starter and provide connection to 3-phase Induction motor.	1 KVA Alternator Rating & Other Instruments accordingly in the panel.	1		
			To study Contactor type starter for Forward/ Reverse operation of Induction motor	1 KVA Alternator Rating & Other Instruments accordingly in the panel.	1		
			To study the speed control of a three phase slip ring I.M by adding external resistance to the rotor circuit.	1 HP Motor Rating & Other Instruments accordingly in the panel.	1		
			To find Full load Efficiency of Induction Motor by drawing Circle Diagram.	1 HP Motor Rating & Other Instruments accordingly in the panel.	1		
			To Study the starting methods of single phase Induction motor.	1 HP Motor Rating & Other Instruments accordingly in the panel.	1		
			Measurement of Speed of Induction Motor by Measuring Rotor Frequency.	1 HP Motor Rating & Other Instruments accordingly in the panel.	1		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
5	VII	Switchgear and Protection Lab	over current relay training system	Mains Supply : 230V $\pm 10\%$, 50Hz, Single Phase Variac, Input : 230V, Output: 0-270V, Current : 0 - 5A, Over Current Relay Type : Inverse Time, Normal Voltage : 110V AC, 50Hz, Current Setting : 0.5A, 0.75A, 1A, 1.25A, 1.50A, 1.75A and 2A, CT Secondary : 1A, Measurement, Voltmeter : 25 - 300V, Ammeter : 200mA - 5A, Timer : 10mSec - 30min	1		
			buchholz relay setup	Relay size: GOR-1, Surge Test (Trip) cm/sec: 70-130, Gas Volume (Alarm) cc: 90-165, Relay Weight (Kg.): 5.5 (Approx)	1		
			earth fault relay training system	Input Supply: 230 $\pm 10\%$ VAC, 50 Hz Single Phase Variac Input: 230V Output: 0-270V Current: 0-5 Amps. Earth Fault Relay Type: Inverse Time Normal Voltage: 110V AC, 50Hz	1		
			differential relay training system	Mains Supply : 230 $\pm 10\%$, 50Hz, Single Phase Variac Input : 230V AC Output : 0 - 270V AC Single Phase transformer, Input : 230V AC Output : 24V AC Current : 3A Dimensions (mm) : W 830 x D 350 x H 645 Weight (kg) : 62 (approx.)	1		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
6	VIII	Installation Maintenance Testing Lab	To study the installation and routine test required for commissioning of 3phase Induction motor	Power Rating 30KW 440 volts .85 pf	1		
			Testing of wiring installation using analog megger of 1000V.	Power Rating 3kw	1		

Checked By:

1. Mr. P. K. Rahi

2. Ms. A. Sharma

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4. Ms. Deepika Vishwakarma

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Shilpa Mehto

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.A	I and II	Elements of Electrical Engineering Lab	B-H Curve Circuit	<p>A step down transformer (15 V AC), capacitor (8μF), Resistor (50 KΩ potentiometer), A.C Voltmeter (0-15 V), A.C milliammeter (0-500 mA), rheostat (10 ohm).</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			RLC Series circuit Kit for measuring current, power, voltage & Power factor	<p>1. Single Phase Auto transformer. (0—270 v), 10 A. 2. Purely Resistance or Rheostat. 90 , 2 A. 3. Purely inductive coil or choke 2A, 1 No. 4. Purely capacitor. (10 μF, 230 V) 1 No. 5. MI type voltmeter (0—250 V)—4 Nos. 6. MI type ammeter (0—5 A)—1 No. 7. Connecting leads.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			RLC Parallel circuit Kit for measuring current, power, voltage & Power factor	<p>1. Single Phase Auto transformer. (0—270 v), 10 A. 2. Purely Resistance or Rheostat. 90 , 2 A. 3. Purely inductive coil or choke 2A, 1 No. 4. Purely capacitor. (10 μF, 230 V) 1 No. 5. MI type voltmeter (0—250 V)—4 Nos. 6. MI type ammeter (0—5 A)—1 No. 7. Connecting leads.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.A	I and II	Elements of Electrical Engineering Lab	RLC Series-Parallel circuit Kit for measuring current, power, voltage & Power factor	1. Phase Auto transformer. (0—270 v), 10 A. 2. Purely Resistance or Rheostat. 90 , 2 A. 3. Purely inductive coil or choke 2A, 1 No. 4. Purely capacitor. (10 μ F, 230 V) 1 No. 5. MI type voltmeter (0—250 V)—4 Nos. 6. MI type ammeter (0—5 A)—1 No. 7. Connecting leads. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			SC & OC test of Single phase transformer trainer kit	Complete Board included power supply, wattmeter, ammeter, voltmeter with manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

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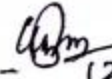
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 12/02


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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.B	III	Electric circuits Lab	Thevenin's & Norton's Theorem Kit for AC Circuit	<ul style="list-style-type: none"> •Current source •Voltage source •A step down transformer to feed AC input for AC network study •One potentiometer to vary the DC current •One potentiometer to vary the DC voltage •One potentiometer to set the Rth externally •Two 'T' type network for AC & DC circuits •Thevenin's & Norton equivalent circuit to verify the result •Patch connectors for flexible wiring and perform experiments <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Superposition Theorem Kit for AC circuit	<ul style="list-style-type: none"> •Current source & •Voltage source (AC) of their respective range •Superposition equivalent circuit to verify the result •Patch connectors for flexible wiring and perform experiments <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.B	III	Electric circuits Lab	Reciprocity theorem Kit for AC Circuits	<ul style="list-style-type: none"> •Current source & •Voltage source (AC) of their respective range •Reciprocity equivalent circuit to verify the result •Patch connectors for flexible wiring and perform experiments <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Millman's theorem Kit for AC Circuits	<ul style="list-style-type: none"> •Current source & •Voltage source (AC) of their respective range •Millman's equivalent circuit to verify the result •Patch connectors for flexible wiring and perform experiments <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.B	III	Electric circuits Lab	Series RLC Circuit Kit for measuring Q Factor	<p>Phase Auto transformer. (0—270 v), 10 A.</p> <p>2.Purely Resistance or Rheostat. 90 , 2 A.</p> <p>3.Purely inductive coil or choke 2A, 1 No.</p> <p>4.Purely capacitor. (10 μF, 230 V) 1 No.</p> <p>5.MI type voltmeter (0—250 V)—4 Nos.</p> <p>6.MI type ammeter (0—5 A)—1 No.</p> <p>7.Connecting leads.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.</p> <p>The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Parallel RLC Circuit Kit for measuring Q Factor	<p>Phase Auto transformer. (0—270 v), 10 A.</p> <p>2.Purely Resistance or Rheostat. 90 , 2 A.</p> <p>3.Purely inductive coil or choke 2A, 1 No.</p> <p>4.Purely capacitor. (10 μF, 230 V) 1 No.</p> <p>5.MI type voltmeter (0—250 V)—4 Nos.</p> <p>6.MI type ammeter (0—5 A)—1 No.</p> <p>7.Connecting leads.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.</p> <p>The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.C	III	Basic Electronics Lab	Trainer board to design a-full wave rectifier and determine the ripple factor and efficiency with & without filter.	inbuilt With power supply of their respective range. Multimeters (Voltmeter & Ammeter) & Potentiometers, provide connecting Wires The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to design and analysis of biased and unbiased Clamper circuit.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to design and analyze biased and unbiased series Clipper.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.C	III	Basic Electronics Lab	Trainer board to design and analyze biased and unbiased parallel Clipper.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to draw the characteristics of CB configuration of a transistor amplifier.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to draw the characteristics of CC configuration of a transistor amplifier.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.C	III	Basic Electronics Lab	Trainer board to design a Zener regulator circuit and to find the regulation characteristics.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to draw the load line of a transistor amplifier under CE configuration.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to draw the characteristics of FET	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

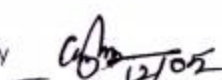
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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.C	III	Basic Electronics Lab	Trainer board to study Wein Bridge Oscillator & R-C phase shift oscillator.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection , Detector & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to design the voltage regulator.	Include inbuilt With power supply, built in meters (Voltmeter & Ammeter) , Potentiometers of their suitable range. fuse protection, connecting Wires & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.D	IV	Digital Electronics Lab	1. Multiplexer / Demultiplexer - code/Decoder Trainer	<p>1. Power supply requirement : 230V AC, 50 Hz.</p> <p>2. Built in Power supply : +5V DC/200mA, IC regulated</p> <p>3. Following parts provided on Single PCB with connecting terminals. Multiplexer IC 74151 : 1 No. Demultiplexer IC 74138 : 1 No. 8:1 Line Encoder IC 74138 : 1 No. Seven segment Decoder IC 7447 : 1No.</p> <p>4. High /Low switches : 8Nos provided to apply 0 and 1 level</p> <p>5. Logic output Indicators : 8 LEDs provided for output level indication.</p> <p>6. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe, All Trainers are operated on 230V AC mains and must be self-contained unit.</p> <p>7. Standard Accessories : A Training Manual Connecting Patch cords.</p>	2		
			2. Counters Trainer (Asynchronous & Decode Counter)	<p>1. Power supply requirement : 230V AC, 50 Hz.</p> <p>2. Built in IC based regulated Power supply: +5V DC/200 mA.</p> <p>3. Following parts provided on Single PCB with connecting terminals. Decade Counter - IC 7490 -1 No. Binary Counter - IC 7493 -1 No.</p> <p>4. Logic output Indicators : 4 LEDs provided for output level indication.</p> <p>5. Seven segment output Indicator : 1 No.</p> <p>6. Pulsar Switches : 1Nos provided.</p> <p>7. Clock generator : 1 No with variable frequency from 1 Hz to 10 Hz.</p> <p>8. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230VAC mains and must be self-contained unit.</p> <p>9. Standard Accessories : User Manual with practical and circuit diagrams. Connecting patch cords</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p>	2		
			3. Trainer board to Construct a Full Subtractor Circuit by using Basic Gates And Verify its truth table.	<ul style="list-style-type: none"> * Built in DC power supply * Digital logical input 1&0 data given as SPTD Switch. * Digital output Indicator as LED's * Inter connective point's & test point's * Experimental Manual * Interconnection Cords. * built in meter <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.D	IV	Digital Electronics Lab	4. Trainer board to Construct a Circuit of 4 - Bit Parity Checker & Verify its truth table.	<ul style="list-style-type: none"> * Built in DC power supply * Digital logical input 1&0 data given as SPTD Switch. * Digital output Indicator as LED's * Inter connective point's & test point's * Experimental Manual * Interconnection Cords. * built in meter. <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			5. Trainer board to Construct a Programmable Inverter Using X-OR Gates & Verify its truth table.	<p>Include & inbuilt With power supply, Multimeters (Voltmeter & Ammeter) , Potentiometers of their suitable range, provide connecting Wires, fuse protection & manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			6. Trainer board to Design a Comparator Circuit & Verify its truth table.	<ul style="list-style-type: none"> * Input Power Supply of 230 V AC, 50Hz, * Built in fixed power supply * Digital logical input 1&0 data given as SPTD Switch. * Digital output Indicator as LED's * Inter connective point's & test point's * Experimental Manual * Interconnection Cords. Built in meter. <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			7. Trainer board to Construct A RS Flip Flop Using Basic & Universal Gates (NOT, NOR & NAND)	<p>Trainer Board include & inbuilt power supply of their respective range along with connecting wires & manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.D	IV	Digital Electronics Lab	8. Trainer board to Construct a J.K. Master Slave Flip Flop & Verify its truth table	<ul style="list-style-type: none"> * Built in fixed power supply * Digital logical input I&O data given as SPTD Switch. * Digital output Indicator as LED's one mono pulse for singles pulse. generator's. * Inter connective point's & test point. * Experimental manual. * Interconnection cord's. *built in meters <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			9. Trainer board to Verify the Operation of a Clocked S-R Flip Flop and J. K. Flip Flop	<p>Completely self contained stand - alone unit.</p> <p>Demonstrates the characteristics of a basic RS & JK flip - flop using digital IC</p> <p>Verification of truth table of RS & JK flip - flop.</p> <p>Set of required number of patch cords, Built - in DC regulated power supply with short circuit protection & LED indication for supply "ON" to work on 230V AC Mains.The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			10. Trainer board to Construct a T & D Flip Flop Using J. K. Flip Flop and Verify Its Operations & truth table.	<p>Completely self contained stand - alone unit.</p> <p>Demonstrates the characteristics of a basic JK flip - flop using digital IC.</p> <p>Verification of truth table of D flip - flop.</p> <p>Set of required number of patch cords, Built - in DC regulated power supply with short circuit protection & LED indication for supply "ON" to work on 230V AC Mains.The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			11. Trainer board to Verify the Operation of Asynchronous Decade Counter	<p>Inbuilt power supply of their suitable range, provide connecting Wires built in meters & manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
			12. Trainer board to verify the operation of various decoding and driving devices	Inbuilt power supply of their suitable range, provide connecting Wires built in meters fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
7.D	IV	Digital Electronics Lab	13. Trainer board to perform the operation of BCD Counter Using 7490	* Built in fixed power supply * Digital logical input 1&0 data given as SPTD Switch. * Digital output Indicator as LED's one mono pulse for singles pulse. generator's. * Inter connective point's & test point. * Experimental manual. * Interconnection cord's. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.E	IV	Electrical Measurement & measuring Instrument Lab	3. Trainer board to calibrate a given single phase induction type Energy Meter	<p>Complete trainer kit with as minimum rating as possible</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			4. Trainer board to find the phase sequence of the supply by the rotating type phase sequence meter	<p>Complete trainer kit with as minimum rating as possible.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			5. Trainer board to find the phase sequence of the supply by the Static type phase sequence meter	<p>inbuilt power supply of their suitable range, provide connecting Wires built in meters fuse protection & manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.E	IV	Electrical Measurement & measuring Instrument Lab	6. Trainer board to determine the unknown resistance R by Voltmeter-Ammeter Method	<p>inbuilt power supply of their suitable range, provide connecting Wires built in meters (Ammeter & Voltmeter) fuse protection & manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			7. Trainer board to observe the B-H curve and hysteresis loop of a given transformer core on CRO	<p>A step down transformer capacitor (8μF), Resistor, potentiometer), A.C Voltmeter (0-15 V), A.C milliammeter (0-500 mA), rheostat (10 ohm).</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			8. Measurement of high resistance by using Meggar (digital)	Low Tension Megger 0-1000V.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.F	IV	Analogy Electronics Lab	Amplifier's Trainer	<p>(1)-Semiconductors-- 1.-Rectifying Diodes (Silicon) :-4 Nos. 2.-Signal Diodes :-2 Nos. 3.-ZenerDiodes :-2Nos. 4.-Transistors :-7 Nos. 5.-FET:-1 No. 6.-LED :-1 No. 7.-Push Switch:-1 No. (2)-Resistors/POTS/Capacitors :- 1.-1/2 Watts Resistors :-32 Nos. (different values). 2.-Potentiometers :-3 Nos. 3.-Capacitors :-24 Nos. (different values). 4.-Coils :-2 Nos. (3)-Built-in Power Supplies- + 9V/250mA, +12V/250mA, +15V/250mA, -15V/250mA. (4) The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC.</p>	2		
			Trainer board to perform Static input characteristics curves of CE transistor.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.F	IV	Analog Electronics Lab	Trainer board to perform Static output characteristic curve CE transistor.	Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to perform Static input characteristic curve of CB transistor.	Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to perform Static output characteristic curve of CB transistor.	Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
		Analog Electronics Lab	Trainer board to design and study the frequency response of single stage CE transistor amplifier.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Trainer board to study the frequency response of RC coupled double stage CE transistor amplifier.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Trainer board to study the frequency response of RC coupled double stage CE transistor amplifier with voltage feedback.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
			Trainer board to study the frequency response of RC coupled double stage CE transistor amplifier with current feedback.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		
7 F	IV	Analog Electronics Lab	Trainer board to plot the voltage gain vs. load characteristics of common collector (emitter follower) n-p-n transistor.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Trainer board to Experiment with emitter follower a voltage series feed back amplifier.	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		


S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7 F	IV	Analog Electronics Lab	Trainer board to Study of various topologies of feedback amplifier	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Trainer board to Experiment with Darlington pair amplifier	<p>Inbuilt power supply of their respective range, built in Voltmeter & Ammeter & Potentiometers, connecting Wires, fuse protection & manuals.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.E	IV	Electrical Measurement & measuring Instrument Lab	1. Trainer board to determine capacitance of a given capacitor by Schering Bridge Method	<p>Supply required 230V, 50 Hz AC, Built - in IC based DC regulated power supply with short circuit protection and LED indication for supply "ON", oscillator, imbalance amplifier, Head - phone set for sensitive detection, Set of patch cords.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			2. Trainer board to determine unknown inductance by Hay Bridge Method.	<p>Supply required 230V, 50 Hz AC, Built - in IC based DC regulated power supply with short circuit protection and LED indication for supply "ON", oscillator, Head - phone set for sensitive detection, Built - in imbalance amplifier.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.G	v	Microprocessor Lab	8085 Training kit with LCD Display & 101 PC keyboard (with in built supply)	<p>with monitor programme, Hex keypad for programming, On Board 8255,8253,DAC and ROM and RAM, Battery backup for RAM , Facility of downloading and uploading the files from PC using USB.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.H	V	Linear Control Systems Lab	1. To Study the Effect of Disturbance on an Open loop and Closed Loop System.	Complete trainer kit with as minimum rating as possible. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			2. Simulation of Transfer Function using OP-AMP (Analog Computer Trainer)	Complete trainer kit with as minimum rating as possible. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			3. To determine Transfer Function of an AC Servomotor.	Complete trainer kit with as minimum rating as possible. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		

7.H	V	Linear Control Systems Lab	4. Study of a basic electrically controlled hydraulic system.	<p>Complete trainer kit with as minimum rating as possible.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		
			5. Study of a basic electrically controlled pneumatic system	<p>Complete trainer kit with as minimum rating as possible.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		
			6. To Study the time response of a first and second order system.	<p>Complete trainer kit with as minimum rating as possible.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.J	VI	Advance Microprocessor Lab	8086 Training kit with LCD Display & 101 PC keyboard (with in built supply)	<p>Programming Facility with MASM, TASM assembler, On board 8155, 8255, 8253, ADC and DAC . Ability of Programming with PC using USB.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	5		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.I	V	Integrated Circuit & Application Lab	Trainer board to design an inverting amplifier using OP-AMP (741) and study its frequency response.	inbuilt power supply, MultiMeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires Perform to Study the Frequency response its. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	Nil		
			Trainer board to design a non-inverting amplifier using OP-AMP (741) and to study its frequency response.	inbuilt power supply, Multimeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires. Perform to Study the Frequency response its. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	Nil		
			Trainer board to determine Slew Rate of an OP-AMP(741)	Inbuilt power supply, Multimeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires. To Study its CMRR, SVRR, and slew rate of an OPAMP(741). The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to design zero crossing detector circuit using OP-AMP(741)	1. Power supply requirement : 230V AC, 50 Hz. 2. Built in IC based regulated Power supply : +15V and -15V DC/200 mA. 3. Following parts provided on Single PCB with connecting terminals IC 741 - 1 No. 5. Protective Clamp Diodes 6. Standard Accessories : 1. User Manual with practical and circuit diagrams. 2. Connecting patch cords - 4 nos The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.1	V	Integrated Circuit & Application Lab	Trainer board to design a differentiator circuit using OP-AMP and Draw input & output waveform	<p>1. Power requirement : 230V, 50Hz AC</p> <p>2. Built-in Power supply : $\pm 15V$ at 200mA IC Regulated & short circuit protected</p> <p>3. Op-amp IC 741 provided as Differentiator</p> <p>4. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p> <p>5. Standard Accessories : 1. A manual having practical details. 2. Patch Cords.</p>	2		
			Trainer board to design a integrator circuit using OP-AMP and Draw input & output waveform	<p>1. Power requirement : 230V, 50Hz AC</p> <p>2. Built-in Power supply : $\pm 15V/250mA$ and $-15V/250mA$ IC Regulated & short circuit protected</p> <p>3. Following Parts provided on single PCB with connecting terminals. Op-amp IC 741 used as Integrator</p> <p>4. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p> <p>5. Standard Accessories : 1. A manual having practical details.</p>	2		
			Trainer board to design Two Level diode Clipper Circuit and draw its output waveform	<p>Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		
			Trainer board to design active clipper and clamper circuit using OP-AMP	<p>Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual</p> <p>The PCB with components on front side is fitted in elegant box of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.</p>	2		

Prepared By: 

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COD
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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.1	V	Integrated Circuit & Application Lab	OP/AMP as Voltage Regulator	<p>1. Power supply requirement : 230V AC, 50 Hz.</p> <p>2. Built in IC based regulated Power supply : +5V and -5V DC/200 mA.</p> <p>DC Unregulated Voltages 10-0-10V/1A.</p> <p>3. Following parts provided on Single PCB with connecting terminals</p> <p>IC 741 - 1 No.</p> <p>IC 723 - 1 No.</p> <p>Positive regulator IC - 7805 - 1 No.</p> <p>Negative regulator IC - 7905 - 1 No.</p> <p>Variable Resistor and Capacitors</p> <p>4. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and</p> <p>Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC</p> <p>mains and must be self-contained unit.</p> <p>5. Standard Accessories : 1. User Manual with practical</p> <p>2. Connecting patch cords.</p>	2		
			Multivibrator Trainer	<p>1. Built-in Power supply : +9V at 200mA IC Regulated & short circuit protected</p> <p>2. Power requirement : 230V, 50Hz AC.</p> <p>3. Multivibrators : Astable Multivibrator using Transistor</p> <p>Bistable Multivibrator using Transistor</p> <p>Monostable Multivibrator using Transistor</p> <p>4. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and</p> <p>Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC</p> <p>mains and must be self-contained unit.</p> <p>5. Standard Accessories : A manual having practical details.</p> <p>Patch Cards.</p>	2		

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DOD
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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.1	V	Integrated Circuit & Application Lab	Trainer board to design the square wave & triangular wave generator.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to study collector coupled mono-stable multi-vibrator using transistors.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to Study Fixed bias binary (Bi-stable Multi-vibrator) using transistors.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to study collector coupled astable multi-vibrator using transistors.	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to design and study the mono-stable multi-vibrator using IC 555.	Kit Include & inbuilt With power supply, Multimeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to Design and Study the Astable Multi-vibrator Using IC 555.	Kit Include & inbuilt With power supply, Multimeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		
			Trainer board to Study the voltage regulation of 78XX & 79XX series of voltage regulators.	Kit include & inbuilt With power supply, Multimeters (Voltmeter & Ammeter), Function Generator & Potentiometers, provide connecting Wires. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	2		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.K	VI	Digital Signal Processing	Trainer board to design LPF using recursive structures	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			Trainer board to design HPF using recursive structure	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			Trainer board to design BPF using recursive structure	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.K	VI	Digital Signal Processing	Trainer board to design BSF using recursive structure	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters. fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			Trainer board to design LPF using non-recursive structures	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters. fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			Trainer board to design HPF using non-recursive structure	Trainer Board Consist of inbuilt power supply of their respective range along with connecting wires, built in meters. fuse protection & manual. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegantbox of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		

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HOD
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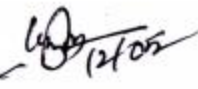
S.N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.1.	VI	Power Elec & Drives Lab	Characteristics of MOSFET	<p>1. Power supply requirement : 230V AC, 50 Hz.</p> <p>2. Built in IC based regulated Power supply : 0-10 V DC/200 mA continuously variable</p> <p>0-10 V DC/200 mA continuously variable</p> <p>3. Following parts provided on Single PCB with connecting terminals.</p> <p>MOSFET 3N200-1 No.</p> <p>Different Load Resistors</p> <p>4. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe. All Trainers are operated on 230V AC mains and must be self-contained unit.</p> <p>5. Standard Accessories : 1 User Manual with practical and circuit diagrams</p> <p>2 Connecting patch cords</p> <p>6. E-Books for Power Electronics :10 No's in pdfFormat</p> <p>7. Mp4 Video Class for Power Electronics:40 Classes in Mp4 on DVD /Pen Drive</p>	1		
			Characteristics of IGBT	<p>1. Power supply requirement : 230V AC, 50 Hz.</p> <p>2. Built in IC based regulated Power supply : 0 to 10V DC/100 mA continuously variable</p> <p>0 to 10V DC/100 mA continuously variable</p> <p>3. Following parts provided on Single PCB with connecting terminals.</p> <p>IGBT- IRG4PC40W -1 No</p> <p>Different Load Resistors</p> <p>4. The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side</p> <p>The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair.</p> <p>The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230VAC mains and must be self-contained unit.</p> <p>5. Standard Accessories : 1 User Manual with practical and circuit diagrams</p> <p>2 Connecting patch cords</p> <p>6. E-Books for Power Electronics :10 No's in pdfFormat</p> <p>7. Mp4 Video Class for Power Electronics:40 Classes in Mp4 on DVD /Pen Drive</p>	1		

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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.L	VI	Power Elec & Drives Lab	Characteristics of SCR	1. Power supply requirement : 230 VAC, 50 Hz 2. Built-in Regulated Power supply : +24VDC/100 mA 0-5VDC/100mA continuously variable 3. Following parts provide don Single PCB with connecting terminals. SCRBT151-1No 4700hm1WResistors-2 Nos 1K,1W Resistor Potentiometer-4K7 4. The complete circuit diagram should be is screen printed on components side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe, All Trainers are operated on 230VAC mains and must be self - contained unit. 5. Accessories : 1. Manual 2. Patch cords. 6. E-Books for Power Electronics :10 No's in pdfFormat 7. Mp4 Video Class for Power Electronics :40 Classes in Mp4 on DVD /Pen Drive	1		
			V-I Characteristics of SCR	1. Power supply requirement : 230V AC, 50 Hz. 2. Built in Regulated Power supply : +24 V DC/250mA. 0-5 V DC/100 mA continuously variable 3. Following parts provided on Single PCB with connecting terminals. SCR - Bt151 Different Load Resistors 4. All parts are soldered on single PCB of size 8" x 7" with complete circuit diagram screen-printed. 5. Standard Accessories : 1. A Training Manual. 2. Connecting Patch cords	1		
			Drain Characteristic of MOSFET	1. Power supply requirement : 230V AC, 50 Hz. 2. Built in IC based regulated Power supply : 0-10 V DC/200 mA continuously variable. 0-10 V DC/200 mA continuously variable 3. Following parts provided on Single PCB with connecting terminals. MOSFET 3N200-1 No. Different Load Resistors 4. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe, All Trainers are operated on 230V AC mains and are self-contained unit. 5. Standard Accessories : 1. User Manual with practical and circuit diagrams. 2. Connecting patch cords 6. E-Books for Power Electronics : 10 No's in pdf Format 7. Mp4 Video Class for Power Electronics : 40 Classes in Mp4 on DVD / Pen Drive	1		

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Checked By:  -  12/05


100
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S/N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.1.	VI	Power Elec & Drives Lab	Step down chopper circuit	<p>1. Power supply requirement : 230V AC, 1 phase 50 Hz.</p> <p>2. Following parts provided on Single PCB with connecting terminals SCR BT151 -1no.</p> <p>3. Built-in firing circuit for SCR.</p> <p>4. AC Mains Transformer with step down AC Voltage : 0-20V/250 mA with auxiliary 0-20V/250 mA.</p> <p>5. Standard Accessories : 1. A manual with practical details. 2. Patch cord.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe.</p> <p>All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		
			Step up chopper circuit	<p>1. Power supply requirement : 230V AC, 1 phase 50 Hz.</p> <p>2. Following parts provided on Single PCB with connecting terminals SCR BT151 -2 Nos.</p> <p>3. Built-in firing circuit for SCR.</p> <p>4. AC Mains Transformer with step down AC Voltage : 0-20V/250 mA with auxiliary 0-20V/250 mA.</p> <p>5. Standard Accessories : 1. A manual with practical details. 2. Patch cord.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe.</p> <p>All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		
			Class A/B/C forced commuted chopper circuit	<p>Trainer Board consists of inbuilt power supply of their respective range along with connecting wires, built in meters, fuse protection and manual.</p> <p>The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side.</p> <p>The PCB with components on front side is fitted in elegantbox of insulating material.</p> <p>The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe.</p> <p>All Trainers are operated on 230V AC mains and are self-contained unit.</p>	1		

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Checked By:  12/05


HOD (EEE)

S.N	Sem	Name of Lab	Name of Equipment	Technical Specification	Approx Quantity	Quoted Price (In Rs.)	Remark
7.L	VI	Power Elec & Drives Lab	Single Phase step down cycloconverter for R & RL Load	1. Power supply requirement : 230V AC, 1 Phase 50Hz 2. Following parts provided on Single PCB with connecting terminals SCR BT151 - 4 Nos 3. Load Resistors : 1K 10W 4. AC Mains Transformer with step down AC Voltages : 20-0-20V/250 mA 5. Variable Firing angle Load SCRs 6. All parts are soldered on single PCB of size 12" x 9" with complete circuit diagram Screen printed. 7. Standard Accessories : 1. A Training Manual 2. Connecting Patch cords The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit.	1		
			Single Phase AC Voltage control by using Triac for R & RL Load	1. Power supply requirement : 230V AC, 1 Phase 2. Following parts provided on Single PCB with connecting terminals SCR - 2 Nos 3. Built-in IC based phase control circuit. (IC TDA785) 4. Phase control : 0 to 180 degree 5. Loads : R Load - 1K, 10W 6. Accessories : 1. Training Manual 2. Patch cords	1		
			Single phase full wave rectifier trainer	1. Power supply requirement : 230V AC, 50 Hz. 2. Following parts provided on Single PCB with connecting terminals a. Mains transformer primary 230V A.C., Secondary centre tap 0-6V AC at 500 mA. b. Silicon Junction Diodes - 1N4002 - 2 No c. Filter Capacitors - 1000u/25V - 2 Nos. d. Load Resistors - 1 No. (1K 1/2W) 3. Built in IC based regulated Power Supply 4. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place. The true value of component is printed on component side. The PCB with components on front side is fitted in elegant box of insulating material having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It has holes for alignment and repair. The testing points are provided with 1.25" tags to connect CRO probe All Trainers are operated on 230V AC mains and are self-contained unit. 5. Standard Accessories : 1. User Manual with practical and circuit diagrams. 2. Connecting patch cords 6. E-Books for Power Electronics : 10 Nos in pdf Format 7. Mp4 Video Class for Power Electronics : 40 Classes in Mp4 on DVD / Pen Drive	1		

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