



Govt. of Bihar
MUZAFFARPUR INSTITUTE OF TECHNOLOGY,
MUZAFFARPUR, BIHAR – 842003
(Under the Department of Science & Technology, Govt. of Bihar, Patna)

Notice. No.: 54/TEQIP-III

Dated: 25/09/2018

Rebid for PE Lab

M.I.T. Muzaffarpur is in the process of procuring equipment of Electrical Engineering Department under TEQIP-III Scheme. Detail specification are as follows.

Package Name: MITM/EE/PE Lab

Package Code: TEQIP-III/BH/mitm/90

Interested supplier/bidders are required to give the following information/documents on principal@mitmuzaffarpur.org latest by 30.09.2018 so that invitation for bidding process can be initiated through PMSS.

1. Supplier Name :
2. Address(With Pin Code):
3. Contact Person Name :
4. E-Mail-ID:
5. Mobile No.:
6. TIN/GST No.
7. PAN No.

Sl. No.	Item Name	Quantity
1	<p>1- Phase and 3- phase Inverter, Rectifier, Semi-converter and corresponding firing circuit including Digital Oscilloscope.</p> <p>30MHz Digital Readout Oscilloscope with Component Tester</p> <p>1. 30 MHz Bandwidth, Microcontroller based Time Base with 18 calibrated steps, 0.5 μs/div. -0. 2s/div. Time base speed 20ns approx. X10 Magnification, 20 ns max sweep speed, Stable Triggering upto 40 MHz, Sensitivity Int 0.5 div., Ext 0.8 V approximately, Built-in-Component and continuity Tester, display of V/div, T/Div, Auto focus. 2 No's.(Isolated Inputs) channel for Power Scop, X100 & X10 Attenuation, AC - DC & Gnd Coupling, Max. 1500 V (DC + Peak AC) For X100 and Max. 150 V (DC + Peak AC) For X10 input voltage. PC Interface for remote control settings of Volt/div. & Time/div.</p> <p>Workbench have following module:</p> <p>Power Circuit Module</p> <ol style="list-style-type: none">1. Diode Assembly: Diode: 6A10, Voltage: 1000 V, Current: 6 A,2. SCR Assembly: SCR: TYN 616, Voltage: 600 V, Current: 16 A, Snubber: RC Snubber Protected.3. IGBT Assembly: IGBT : G4BC20S, Voltage: 600 V, Current: 10 A,	3

	<p>Snubber: RC Snubber Protected</p> <p>Firing Circuit Module</p> <ol style="list-style-type: none"> Ramp Comparator Firing Circuit: Power Supply: 15 V - 0 (AC Supply), +12V & Gnd (DC Supply), Firing Angle Control: 0 -180° variable, PWM Circuit: Power Supply: ±12 V & Gnd (DC Supply), PWM Pulse: PWM Pulse 1, 0 - 90 % duty cycle, PWM Pulse 2, 0 - 50 % duty cycle, Three Phase Firing Circuit: Power Supply: R, Y, B & N output1, Three Phase Low Voltage Power supply +12V & Gnd (DC Supply), Firing Angle Control: 0 -150° variable, Cycloconverter Firing Circuit: Power Supply: 18 V - 0 - 18 V (AC Supply), +12 V, +5 V & Gnd (DC Supply), Firing Angle Control 0 -180° variable, Ramp and Pedestal Firing Circuit: Power Supply: 15 V - 0 (AC Supply), Firing Angle Control: 30 -180° variable, Cosine Firing Circuit: Power Supply: 15V - 0 (AC Supply), +12V,±5V & Gnd (DC Supply). Firing Angle Control: 0 -180° variable, Microcontroller Based Firing Circuit: Power Supply:18V - 0 - 18V (AC Supply), +12V , +5V & Gnd (DC Supply), Firing Angle Control: 0 -180° variable, 	
2	<p>Power Electronics trainer kit for V-I characteristics of different semiconductor devices.</p> <p>Technical Specification:</p> <p>DC Power Supply : +5 V, -5 V 500 mA, +12V, -12 V 500 mA +15 V, 250 mA +35V, -35V, 250 mA</p> <p>AC Power Supply : 18V-0V-18V 0V-15V</p> <p>On board Firing Circuits Frequency range : 30Hz to 900Hz variable Amplitude : 12V</p> <p>PWM control of G1, G2, G3 and G4 Duty cycle control of "Gate" Signal is 0 to 100%</p> <p>SCR Assembly : 4 SCRs 2P4M, 400V/2A</p> <p>Power Devices : IGBT, MOSFET, UJT, DIAC, TRIAC, PUT2N6027</p> <p>Pulse transformer on board : 2 nos. of 1:1 and one is 1:1:1</p> <p>Circuit Components on board: Electrolytic Capacitor 1uF, 63V Metalized Capacitor 0.1uF, 63V Metalized Capacitor 0.33uF, 63V Diode 1N4007, Inductor 68mH, Inductor 68mH, Inductor 10mH</p> <p>Load selector : 6 load resistances- 47E/7W, 120E/5W, 270E/5W, 2K2/2W, 1K/1W, 1K/10W</p> <p>Power Supply (Mains) : 220V/110V, 50Hz</p>	3
3	<p>SCR Triggering Circuit (R and RC triggering Circuit):</p> <p>On board AC source : 0 V - 18 V</p> <p>On board firing circuits: R Triggering Circuit, RC Half Wave Triggering Circuit and RC Full Wave Triggering Circuit</p> <p>Firing angle variation : Gradually variation using firing control</p> <p>SCR : 1 SCRs 2P4M, 400 V/2A</p> <p>Power Supply (Mains) : 110V - 260V AC, 50Hz.</p> <p>Included Accessories: Patch cords and Mains cord</p>	2
4	<p>1-Phase Cyclo-Converter</p> <p>On board firing circuit: Ramp comparator firing scheme</p> <p>Firing angle variation: gradual variation from 0 to 180 degrees.</p> <p>SCR assembly: 4 SCR, 400V/2A</p> <p>Power Supply: 220V/110V, 50 Hz</p> <p>Resistive Load- 5W</p> <p>Included Accessories: Patch cords and Mains cord</p>	2

4	<p>Step Up Chopper On board firing circuit : Triangular wave comparator firing scheme Frequency variation : 27 Hz to 5 KHz (approx.) PWM variation : 0 - 50% SCR assembly : SCR TYN 616, 600 V, 16A Mains Supply : 220V/110V; 50 Hz / 60Hz Included Accessories : Patch cords and Main cord</p>	2
5	<p>Step Down Chopper On board firing circuit : Triangular wave comparator scheme Frequency variation : 27 Hz to 5 KHz (approx.) PWM variation : 0 - 90% DC motor : 24 V / 0.5 A, 100 SCR assembly : SCR 2P4M, 400V/2A Mains Supply : 220/110V, 50 Hz / 60Hz Included Accessories : Patch cords and Mains cord</p>	2
6	<p>DMM, Specification:</p> <ul style="list-style-type: none"> • 3 ¼ Digit • 4000 Counts • Large LCD Display with Auto/Manual Range • Data Hold, Max. / Min. Value Hold , Sampling rate is 3 times/second • Capacitance, Frequency / Duty Cycle, • Temperature and Transistor Test • DC Voltage: 0.1mV ~ 1000V • DC Current : 0.1uA ~ 20A • AC Voltage: 0.1mV ~ 750V • AC Current: 0.1uA ~ 20A • Resistance Range : .1 ohm to 40Mohm • Capacitance : 10pF to 200uF <p>Frequency : 0.1Hz to 30MHz</p>	1
7	<p>DSO Digital Oscilloscope :- 50MHz 4 analog channel Digital Storage oscilloscope should support 1GSa/s sampling for analog channel, Memory Depth should be minimum 24 Mpts, Up to 30,000 wfms/s wave form capture rate, DC, AC or GND input coupling, Rise time 3.5</p>	1

Note: Detailed specification of all items will be attached in the invitation letter.

Faiz
25/09/2018

[Signature]
Principal
MIT Muzaffarpur
25/09/18