

TENDER SCHEDULE NO:- AB/1

Bill of Quantities/ Schedule of Requirements for TRADE : "ELECTRICIAN "

LIST OF SHORTFALL MACHINERY

DELEVERY POINTS:- Satish Chandra ITC, Kalanabagram, Burdwan, PIN :- 713124

Sl.No.	Description of Item with Specification	QtyRequired	UNIT	RATE (Rs)	TOTAL AMOUNT (Rs)	
					In figures	In words
1	Starters for 3 phase , 400v , 50 cycles , 2 to HP AC motor a) Auto Transformer type starter b) Star delta starter with manual , semi auto and automatic c) Direct on line starter	1No.	each			
2	Electrical Machine Trainer (Basic Unit) with flat Demo panel table top rack with set of panels. Essential accessories and following 300W chasis mounted machines (7Nos.) DC machine with swinging stator has torque speed sensor mounted to measure shaft power. a) Integrated DC m/c mounted as Dynamometer & with speed/torque sensor. b) Integrated 3 phase AC 300W m/c chasis mounted c) Integrated 1 phase AC 300W motor chasis mounted d) Integrated 1 phase AC generator & Sync.300W M e) Universal Motor AC/DC, 300W, Chasis mounted f) Repulsion motor chasis mounted g) Squirrel cage 3 phase AC 300W, 2 speed chasis mounted motor.	1Set.	set			
3	DC Shunt Motor 3HP 250V with 3 point starter and speed regulator Laboratory type Motor should be mounted on a base plate. The Panel Board Consist of : <ul style="list-style-type: none">• 3 Point DC Starter.• Speed Regulator.• Suitable Analog Voltmeter.• Suitable Analog Ammeter.	2Nos.	each			

	Accessories: • Tachometer for Speed Measurement. • The circuit diagram will be supplied with the Motor. • Instruction Manual					
4	<p>Universal Motor 750W AC/DC 250V Laboratory type Motor should be mounted on a base plate. The Panel Board Consist of :</p> <ul style="list-style-type: none"> • Suitable Analog Voltmeter. • Suitable Analog Ammeter. <p>Accessories: • Tachometer for Speed Measurement. • The circuit diagram will be supplied with the Motor. • Instruction Manual</p> <p>DC Shunt Motor 3HP 250V with 3 point starter and speed regulator Laboratory type Motor should be mounted on a base plate. The Panel Board Consist of :</p> <ul style="list-style-type: none"> • 3 Point DC Starter. • Speed Regulator. • Suitable Analog Voltmeter. • Suitable Analog Ammeter. <p>Accessories: • Tachometer for Speed Measurement. • The circuit diagram will be supplied with the Motor. • Instruction Manual</p>	1No.	each			
5	<p>Oscilloscope Dual Trace /Double beam 20 MHz Vertical Deflection System Deflection Factor Range: 5mV per Division to 10V per Division in a 1 - 2 -</p> <p>5 sequence of 11 steps Accuracy: (+) 3% Approx. Variable Control Range: Continuously variable and uncalibrated between step setting. Increases deflection factor by at least 2.5 to 1 Bandwidth (-3 db): 20 MHz or more Rise Time: 17.5 nS or less AC Coupled Cut Off Frequency: 10 Hz or less Common Mode Rejection Ratio: At least 10 to 1 at 20 MHz Input Characteristics Direct Input Via 10 : 1 probe Resistance 1 M.Ohms + 2% 10 M.Ohms + 5% Capacitance 30 pF + 5 pF 20 pF + 5 pF Max. Safe Input Voltage (DC or AC Coupled) 400 V (DC + AC) Peak</p>	2Nos.	each			

Channel Isolation: Greater than 100 : 1 at 10 MHz
Visual Delay Time: 40 ns or more
Invert Mode: In Channel 2 only
Trigger System
Trigger Sensitivity (For Auto & Norm. Mode)
Internal Signal: 0.1 Div
External Signal: 0.2 V p-p
TV Field Mode (Composite Sync.)
Internal: 2 Div
External: 0.3 Div
Horizontal Deflection System
Sweep Rate: 0.2s per Div to 0.1 Micro Sec per Div in a 1 - 2 - 5
sequence of 20 steps. Magnification extends Max. usable
sweep speed to 20ns per Div.
Accuracy: (+) 3 % Approx.
Variable Control: > or = 2.5 : 1
Sweep Linearity: (+) 10 %
X-Y Operation
Deflector Factor: 0.2V/div ~0.5V/div
Frequency Bandwith (-3dB): DC:0~1MHz; AC: 10Hz ~ 1MHz
Calibration Signal
Deflection Factor: 5mV per Division to 10V per Division in a 1 - 2 - 5
sequence of 11 steps
Accuracy: (+) 3% Approx.
Bandwidth: DC to at least 1 MHz
Phase Difference Between X and Y Axis Amplifiers: < 'OR' = 3° from
DC to 50 kHz
Z Modulation
Sensitivity: 5V cause noticeable modulation positive going input
decreases intensity
Usable Frequency Range: DC - 1 MHz
Max. Safe Input Voltage: 50 V (DC + AC)pk
Input Resistance: 10 K.Ohms
Trace Rotation: Possible
Probe Adjustment Signal Output
Voltage into 1M.Ohms load: 0.5V + 2%

	<p>Repetition Rate: 1 KHz + 2%</p> <p>Wave Form: Square Wave</p> <p>Cathode Ray Tube</p> <p>Display Area: 8 Div x 10 Div (1 Div = 1 cm)</p> <p>Nominal Accelerating Voltage: 2 KV</p> <p>Power Requirement</p> <p>Line Voltage Range: 220V + 10%</p> <p>Line Frequency: 50 Hz + 2 Hz</p> <p>Max. Power Consumption: 40W</p> <p>Mechanical Characteristics</p> <p>Weight: 7.2kg</p> <p>Dimensions: 320mm (L) x 124mm (W) x 380mm (D)</p>					
6	<p>Oil Testing Kit</p> <p>Confirms to IS 6792, IEC 156</p> <p>Tests insulating oils to IS, IEC, ASTM, etc.</p> <p>Test voltage to 0 – 60 kV.</p> <p>One piece construction with safety interlock</p> <p>Test voltage can be held at any level up to maximum kV meter continues to indicate 'bdv' even after breakdown</p> <p>Light weight, portable, rugged and reliable</p> <p>Specifications</p> <p>Input : 240 V \pm10%, AC, 1Phase, 50/60Hz.</p> <p>Display : Analog models: 96mm square</p> <p>Accuracy : \pm4% of full scale deflection/range</p> <p>Shut down sensitivity in HV circuit : 20mA approx.</p> <p>Rate of rise of voltage : Motorized sets only: 2kV/second approx. (\pm20% max.)</p> <p>Dimension : 50x55x48</p>	2Nos.	each			
7	<p>Stepper Motor Demonstrator</p> <p>Features :</p> <p>Single stepping and free running modes of operation with speed variation</p> <p>and direction reversal – internal TTL circuit. 360 °C motion servo – potentiometer position – pickup for motor dynamics operation through microprocessor kit –</p>	2Nos.	each			

sample control programs provided. Stepper Motor Specification Torque : 2.8 kg – cm Step Angle : 1.8° Power : 12 , 1A / Phase 220±10% , 50 Hz mains operation Complete in all respects , except a measuring CRO High Performance 8085A CPU operating at 3 MHz 4K Powerful monitor firmware in 2732 . includes all standard commands , codes , functions and utility sub – routines 4K user RAM 6116 Versatile keyboard / display controller using 8279 Serial I/O lines , 22 parallel lines from 8155 and 24 from 8255 Built in audio cassette interface 6 digit seven segment LED display.					
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We agree to supply the above goods in accordance with the technical specification as per terms and conditions specified in Tender Notice.

We also confirm that the normal commercial Warrantee/Gurantee of 12 months shall apply to all the offered goods.

We also confirm that we have taken steps to ensure that no person acting for us or on our behalf will engage in corrupt, fraudulent, collusive, coercive or obstructive practice.

We agree to make necessary arrangements of Inspection and Testing of all the above items at places within Kolkata Metropolitan area before dispatch to the consignee.

Signature of Supplier