

Scope of supply Sl. NO. in spec.	Technical specification			Bidder clarification	Technical specification corrigendum/clarification
Clause/ Item No. as per detailed technical specification of items: 13.01.11	Calibration Standards			This is not appearing in bill of material (item 1 to 45). Kindly confirm if this is to be quoted/supplied.	These four items are not in bidder scope. Refer scope of supply
	Three (3) nos. teak wooden work tables with thick laminated top of size 1x2 meters,				
	Eight (8) nos. high adjustable wheeled swivel chairs, Four (4) nos. vertical cabinets				
	1000 x 480 x 2000 mm made of sheet steel (Sheet thickness of 18 gauge) and equipped with				
2	Electronic Test Bench				
	Power cable with necessary sizing shall be supplied & laid by bidder from UPS ACDB1 and UPS			This should not be in scope of bidder	Not in bidder scope
	3 phase, 415 VAC power supply with proper distribution board for electric actuator motor			This should not be in scope of bidder	Bidder scope
	shall be offered by bidder with required regulated 24 VDC power supply socket for testing of			This should not be in scope of bidder	Bidder scope
	Complete cables required for power supply in lab shall be in bidder scope of supply.			This should not be in scope of bidder	Not in bidder scope
	All external power supply points shall be located at a centralised location in lab room.			This should not be in scope of bidder	Not in bidder scope
3	Digital Multimeter (Table Mounting Type)				
	Ranges and accuracy of the multimeters shall be as per the table below: -				
a	For 5 1/2 digit multimeter				
	Signal type	Ranges	Accuracy		
	Alternating current	1 mA to 10 A	+/-0.2%		Range: 10 mA to 10A
	Direct current	-do-	+/-0.01%		Accuracy: 0.05% reading + 0.015% of range
	Resistance	100 Ohms to 100 Mohms	+/-0.003%		Accuracy: 0.050% of reading + 0.008% of range
b	For 7 1/2 digit multimeter				
	Signal type	Ranges			
i	DC voltage	3mV to 1KV			Range: 100 mV to 1000 V
ii	AC voltage	3mV to 750V			Range: 100 mV to 750 V
iii	Alternating current	3 Micro Amps to 10 Amps			Range: 100 µA to 10 A
v	Resistance	30 mohms to 1 Gohms			Range: 100 Ω to 1000 MΩ,
11	Soldering Desoldering station				
	Vacuum pump with analog gauge meter having range of -1 bar to 0 bar.			Please note that analog gauges with a range of -1 bar to 0 bar are generally not provided with soldering/ desoldering stations. As such, we kindly request you to remove this requirement from your specifications. However, the equipment does have vacuum provision	Noted.Bidder to offer latest technology.
12	rheostats :			the qty. required is 2sets. In the specifications the qty. of each rating is specified as 2nos. Kindly confirm that in 1 set , 1 no. of each ratings of Rheostat is required?	Confirmed
15	mV Calibrator				
	This instrument shall provide an accurate and reliable measure of millivolt thermocouple signals and shall generate millivolt signals for calibration of receiver type instrumentation. The instrument will contain built in electronic null detector and standard cell. Manual/automatic reference junction compensation shall be provided for thermocouple measurements.			We have reviewed your request for a mV Calibrator with a built-in electronic null detector, standard cell, and manual/ automatic reference junction compensation for thermocouple measurements. Unfortunately, these specific features are not applicable (obsolete) for mV Calibrator so we request that you remove this line from specifications.	mV calibrator shall with at least be provided with manual/ automatic reference junction compensation for thermocouple measurements. Bidder to offer latest technology.
19	Multi Function Calibrator				
	Millivolts	-10-120 mV, Resolution 2 Microvolts			10mV to 100mV
	Current	-5-60m Amp Resolution 1 micro amp.			current source - 24mA only, Current Measurement - 100mA.
	Ohms	0-4000 Ohms			Ohms measurement: 50K Ohms, Ohms source: 3600Ohms,
	Frequency	120-50 KHZ			Frequency - upto 100KHz
19	Tong Tester				
				Specification not available	Specification of Tong tester is attached.
39	Sound Level Monitor				

				The resolution shall be in "dB", instead of 0.01inches/sec which is the Engg. unit of speed. Please confirm?	Confirmed
39	Portable Analogue & Digital Vibration Meter				
	Displacement Range :0 to 3000 microns peak to peak.			Please note that specs can only be complied with analogue vibration meter.	For digital meter: Displacement Range:0 to 2000 microns peak to peak. Velocity range: 0 to 2000 mm/sec
	Velocity range: 0 to 3000 mm/sec.			In view of the same please provide ranges for digital meter.	
	Acceleration range: 0 to 100 g's.				
42	240V AC Stabilized Power Supply			Amps rating is not available	Current: 0-12A for 0-230/240V
45	Lab Workstation with UPS, chair & table;-Color A3 laser printer cum copier with table, -Laptop				Scope of supply shall be read as per revised item description: Lab Workstation with chair & table;-B/W A3 laser printer cum copier with table, -Laptop
	QAP			The tests specified on these pages are not applicable for M&C instruments as these tests are related to Turbines, generators, Boilers etc or the machines which are running continuously.	Applicable OEM standards to be followed

Additional approved makes

Scope of supply Sl. NO. in spec.	LAB INSTRUMENT	CUSTOMER APPROVED MAKE	Additional approved makes
12	Potentiometer/Rheostat	Tinsley/ Scandura/ BEAMEX/ITPL	Toshniwal or TIPL
23	VIBRATION/ SHOCK PULSE ANALYSER cum Data Collector cum Balancer	IRD(Rockwell)/Vibrometer/ Shinkawa/Bently/Provibtech/ IMV	B&K Vibro
25	LAN/ Coaxial Cable Meter/ Tester	ITPL/Scandura/Beamex/RS components	Noyafa
26	EARTH/Ground RESISTANCE TESTER	ITPL/Cropico/Scandura/Beamex	Fluke -Amprobe
31	Test Temp Dedector -Test RTD, Test K Type Thermocouple & Test T Type Thermocouple	Isotech/Scandura/Beamex/Jofra	Isotech / Tempsens
35	Logic Probe	HP/Aicoset/Alfa/Tektronix/Elenco	B&K Precision
37	DC Regulated Power Supply	Siemens, Cosel, Phoenix, Weidmuller	Aplab
39	Frequency Counter	ITPL/WAYNEKERR/Goodwill/ Beamex	GW Instek
43	Continuity Tester	Scandura/ ITPL/	Fluke

50. Tong Tester

Electronic type tong tester shall be suitable for measuring the current range of 0-5/10-15/30 Amps AC and DC. Auto ranging and 3 ½ LCD facility shall be available. It shall have swiveling joint between tongs and meter to facilitate easy reading.