

## PSG CT- SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK

COIMBATORE - 641 004

### GENERAL CONDITIONS

1. Sealed Tenders in duplicates are invited by the Executive Director, PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK, Coimbatore-4 for the supply of Machineries/Equipments as specified in the schedule attached.
2. Tender documents can be downloaded from our website should be accompanied by demand draft of ₹ 1180/- ( Rupees One thousand one hundred and eighty only) for each item drawn **in favour of "PSG STEP" payable at Coimbatore** towards the cost of tender fee and Service Tax. **(Not Refundable)**
3. Only DGS & D suppliers / Government e-Marketplace (GeM) users / actual manufacturers, or their authorized agents and stockiest may tender. Sub-letting and assigning of contracts, except with the prior permission of the Executive Director, PSG SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK, Coimbatore is prohibited.
4. The quotations should be sent separately for each item when there is more than one item, in the schedule in a sealed envelope superscribed as Tender No.....(for the supply of.....) to PSG STEP, due on **23.03.2020**. The sealed cover should be addressed to the Executive Director, PSG STEP , Coimbatore - 4 and sent by Speed Post/Courier so as to reach this office before 4.00 PM on **23.03.2020**.
5. Tenders will be opened by the the Executive Director, PSG STEP, Coimbatore or by an Officer of the College authorized by him, on his behalf at 10.00 AM on **24.03.2020** in Board Room, PSG College of Technology, Coimbatore - 641 004.
6. All the tenders must be submitted in the prescribed form, they may be copied, if so desired, but even in that case the original forms should be returned with the quotation.
7. Prices: The prices should be quoted in Rupees for Indigenous items & in Foreign Currency (CIF Chennai) for imports. Sales Tax, if extra should be charged.
8. GST : Percentage of CGST/SGST/IGST should be clearly specified. GST Identification Number (GSTIN) should be furnished. Copy of the GST Registration Certificate also should be enclosed. **No GST / Customs Duty Exemption Certificate**, full tax may be Quoted.
9. Port of Destination : Chennai, India for imports. Customs clearance will be made through our clearing agent from Chennai Airport.
10. Payment: 100% of the cost of stores will be paid within a reasonable time after the receipt of the stores in good condition and in accordance with the specifications 100% payment against LC or Telegraphic Transfer for imports of equipments

11. Validity: The quotation should be valid at least for 90 days from the date of opening the tender and the term "the prices ruling at the time of delivery" will not be accepted.
12. The Loss or Damage: External damages or shortages that are prima facie the results of rough handling in transit or due to defective packing will be intimated within a fortnight from the receipt of the material. Internal defects, damages of any internal parts which cannot ordinarily be exhibited on a superficial inspection though due to bad handling and transit or defective packing would be intimated within two months from the date of receipt of the stores. In either case the damaged or defective stores should be replaced by you free of cost and the defective stores may be taken back at your cost and risk.
13. Guarantee: The supplier shall undertake to repair free of charge or replace any defective part of the equipment supplied due to defective materials or faulty design or bad workmanship during a period of one year following the date of commissioning of the equipment.
14. Leaflets and Descriptive Literature: Full descriptive particulars and drawings of the equipment offered should accompany the tender. Information regarding the country of manufacture or origin of materials used in the manufacture of the articles should be furnished.
15. Tests: Manufacturers certificate for the routine tests specified in the B.I.S. of latest issue or as per manufacturer's standard practice should be forwarded in duplicate. The materials will be rejected, if the test results are not satisfactory.
16. Acceptance: The College reserves the right to reject any Tender in full or in part without assigning any reasons there for.
17. Delivery: The delivery period should be specified.
18. **Earnest Money Deposit:**  
Tender must be accompanied by Earnest Money Deposit (EMD) at the rate of 2% of total cost separately for each item that is being quoted for, in the form of Demand Draft in favour of "**PSG STEP**" payable at Coimbatore. EMD shall be paid in Indian currency only.

The EMD of unsuccessful bidders will be returned on or before the 30<sup>th</sup> day after the award of the contract.

The EMD of 2% for successful bidders will be returned after receiving the security / performance deposit.

**19. Security deposit and performance security :**

A security deposit at the rate of 5% of the total cost in the form of DD shall be collected from the successful bidder and shall be held back as security deposit till successful installation, trial and training and subsequently as performance security deposit till the end of warranty period. The amount shall be returned after 60 days after the completion of all contractual obligations including warranty obligations.

The EMD shall be forfeited if the tenderer withdraws his offer after the tender opening during the bid validity period or after the award of contract. PSG STEP shall not be liable for payment of any interest on EMD and security / performance deposit or any depreciation thereof. Any offer not accompanied with the EMD shall be rejected summarily as non-responsive

**20. Penalty clause:** The delivery should be guaranteed by you under our penalty clause mentioned hereunder.

Should delivery be delayed by strike, lockouts, fire accidents or any case whatsoever, beyond the reasonable control of the contractor and whether such delay or impediment occurs before or after the time or extended time for despatch or completion, a reasonable extension of time shall be granted.

If the contractor fails in due performance of his contract, within the time fixed by the contract or any extension thereof the contractor is liable at the discretion of the purchaser to a penalty up to 4% per month of the contract value of such portion only of the materials as cannot in consequence of the delay be used during each month between the appointed or extended time as the case may be and the actual time of acceptance, but such penalty/liability for the delay shall not in any case exceed 25% of the contract value of such portion of the materials.

**21. Quotations without complete particulars will not be considered.**

**EXECUTIVE DIRECTOR**

**PSG CT - SCIENCE & TECHNOLOGY ENTREPRENEURIAL PARK  
COIMBATORE - 641 004**

- i) Item : See schedule  
ii) Name of the Tenderer :  
iii) Specification : Specification of the equipment offered.

See schedule of items for item details.

- | Item  | Price | :   |
|---|-------|-----|
| iv) Amount of Excise duty/customs duty<br>(% age should be clearly mentioned) |       | ₹   |
| Amount of CGST/SGST/IGST<br>(% age should be clearly specified)               |       | ₹   |
| Freight charges (F.O.R.)  |       | ₹   |
| Discount if any   |       | ₹   |
| Details of maintenance  |       | ₹   |
| v) Warranty period  |       | ... |
| vi) Delivery time   |       | ... |
| vii) <u>Payment terms</u>   |       |     |
- 100% value of the stores will be paid after receipt in good condition and satisfactory installation.

**(FIRM SEAL)**

**SIGNATURE OF REPRESENTATIVE  
OF THE FIRM**

**NOTE:**

- 1) Packing, forwarding and freight charges may be clearly mentioned for delivery of the stores at the institutional premises. Rate for F.O.R. Coimbatore may also be mentioned separately.
- 2) The tenders should be accompanied by the following declaration:  
I/We hereby quote for the supply of stores of the rates specified in the underwritten in the manner and within the time as set forth in the terms and conditions attached thereto. The quotations furnished in the schedule below are subject to conditions set forth in the tender notice and tender forms and instructions to tender received by me/us.

**Tender No. STEP/COE/ 01/2020****ELECTRIC FIELD PROBE**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
1.1	Frequency Range	10 kHz - 6 GHz
1.2	Level Range	1 V/m to 1 kV/m
1.3	Linearity Error	<0.1 dB
1.4	Isotropy @ 1 GHz	<1 GHz
1.5	PC interface	USB, Ethernet, GPIB
1.6	Power Supply for probe	Laser
1.7	Power Supply for mainframe	220Vac
1.8	Fibre Optic Cable Set	5/20m duplex fiber optic cable with ST/FC connectors
1.9	Field Probe Positioner	Compatible Non-metallic Field Probe Positioner with adjustable height
1.10	Software	Compatible with all current and popular third-party test system automation softwares

**Tender No. STEP/COE/ 02/2020****MAGNETIC FIELD PROBE**

<b>S. No.</b>	<b>Parameters</b>	<b>Specifications</b>
2.1	Magnetic flux density	10 Hz to 400 kHz
2.2	Indicated axes	X, Y, Z/ R (measured axes: X, Y, Z)
2.3	Measurement method	True RMS
2.4	Function	Switching magnetic flux density (T, A/m, G)
2.5	Battery Power Supply for transmitter and receiver	Rechargeable (minimum 6 hours life cycle)
2.6	Sensor	Single sensor or multiple sensors such as 100cm <sup>2</sup> , 3cm <sup>2</sup>
2.7	Measurement Level	As per IEC/EN 62233 (compliant with the ICNIRP 2010 guidelines)

**Tender No. STEP/COE/ 03/2020****MIXED SIGNAL OSCILLOSCOPE WITH HV DIFFERENTIAL PROBE**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
3.1.1	Minimum Analog channels	2
3.1.2	Minimum Digital channels	8
3.1.3	Bandwidth	2.5 GHz (upgradable preferred)
3.1.4	Display	<10-inch, touchscreen
3.1.5	Mask/limit test, Multi-domain analysis, Jitter analysis	Shall be quoted as optional features
3.1.6	Spectrum analysis	Standard enhanced FFT
3.1.7	Remote Control	Ethernet, USB
<b>HV DIFFERENTIAL PROBE</b>		
3.2.1	Bandwidth	DC - 75 GHz
3.2.2	High Voltage	> 10 kV AC / DC peak
3.2.3	Typical Peak Pulse Duration	100 ms
3.2.4	Protection Feature	Banana Plug, Hook Probe Tip, Crocodile Clip, Ground Lead
3.2.5	Attenuation	1000X

**Tender No. STEP/COE/ 04/2020****VECTOR NETWORK ANALYZER**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
4.1	Frequency Range	9 kHz - 6 GHz (upgradable preferred); 9 - 18 GHz (quote this alternative configuration as OPTIONAL)
4.2	Minimum Dynamic Range	> 80 dB
4.3	Accuracy of transmission measurements	< 0.3 dB
4.4	Accuracy of reflection measurements	< 3 dB
4.5	Impedance	50 ohm
4.6	No. of test ports	2
4.7	Remote Control	Ethernet, USB
4.8	In-built Spectrum analysis Feature	TO BE QUOTED AS OPTIONAL
4.9	Manual Calibration Kit	DC - 6 GHz. N (type), TOSM
4.10	Cable Set	Pair of compatible N(m) shielded phase stable cables
4.11	Drivers	Shall have readily available device drivers for NI-LabVIEW; Keysight VEE etc

**Tender No. STEP/COE/ 05/2020****RF POWER AMPLIFIER**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
5.1	Frequency Sub-ranges	80 MHz - 1 GHz, 1 GHz - 6 GHz (single amplifier preferred)
5.2	Typical Gain	>57 dB, >46 dB
5.3	Typical Saturated Power Level	>45 dBm, >45 dBm
5.4	Maximum Input Level	>-15 dBm
5.5	2 <sup>nd</sup> Harmonics / 3 <sup>rd</sup> Harmonics	< -15 dBc
5.6	External Dual Directional Coupler(s)	Coupling 40 dB (typ.), 300 Watts, DC- 6 GHz
5.7	Load Termination	DC-6 GHz, 300 Watts
5.8	Input / Output Impedance	50 Ohm
5.9	Power Supply	1 phase 220Vac
5.10	Cooling	Air-cooled

**Tender No. STEP/COE/ 06/2020****ON-SITE ELECTRO-MAGNETIC VALIDATION WORK-BENCH**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
	<b>Test Automation Software</b>	
6.1.1	Test Functions	NSA, SVSWR, validation according to CISPR 16-1-4
6.1.2	Site VSWR Measurement	validation according to CISPR 16-1-4
6.1.3	Normalized Site Attenuation (NSA) Measurement	for semi anechoic / fully anechoic chambers according to CISPR 16- 1-4 (9 kHz - 1 GHz), ANSI C63.4, Site Reference Method
6.1.4	Optional Experimental Measurement	Ambient Noise Measurement, ALSE validation, Table Influence, Cable Loss; quote as OPTIONAL
6.1.5	Operating System Compatibility	Windows 10 with compatible rugged portable system controller shall be provided
6.1.6	Test Equipment Compatibility	Shall be compatible with common models of current signal generators, spectrum analysers, test receivers, vector network analysers, positioners, antennas etc. from reputed OEMs

<b>Tuned Dipole Set</b>		
6.2.1	Frequency Range	30 MHz - 1 GHz
6.2.2	Isotropic Gain	1.6 dBi
6.2.3	Nominal Impedance	50 Ohm
6.2.4	Tripod	Quote as OPTIONAL
<b>Microwave Biconical</b>		
6.3.1	Frequency Range	1 GHz - 18 GHz
6.3.2	Isotropic Gain	upto 3 dBi
6.3.3	Nominal Impedance	50 Ohm
6.3.4	Tripod	Quote as OPTIONAL
<b>Magnetic Loop Set</b>		
		(Quantity:2)
6.4.1	Frequency Range	9 kHz - 30 MHz
6.4.2	Loop Dimension	30 cm
6.4.3	Noimnal Impedance	50 Ohm
6.4.4	Tripod	Quote as OPTIONAL

**Tender No. STEP/COE/ 07/2020**

**UPGRADE OPTIONS FOR EXISTING TEST EQUIPMENT**

<b>S.No.</b>	<b>Parameters</b>	<b>Specifications</b>
<b>Surge Module Upgrade</b>		<b>Should be compatible with existing test system</b>
7.1.1	Standard	IEC61000-4-5
7.1.2	Open -circuit voltage	10/700 $\mu$ s
7.1.3	Short-circuit current	5/320 $\mu$ s
7.1.4	Max. peak voltage	$\pm$ 6kV
7.1.5	Output polarity	Positive / Negative
<b>Pre-amplifier Module Upgrade</b>		<b>Should be compatible with existing test system</b>
7.2.1	Frequency Range	1 MHz - 18 GHz
7.2.2	Typical Gain	30 dB
7.2.3	Typical Noise Figure	< 5 dB
7.2.4	Typical Battery Operation	more than 8 hours
7.2.5	Impedance	50 Ohm
7.2.6	Cable Set	Pair of 5m low loss N(m) - N(m), shielded and phase stable cables
<b>Rogowski Coil Meter</b>		<b>Should be compatible with existing test system</b>
7.3.1	AC Current	up to 2.5 kA or more
7.3.2	DC Current	up to 1 kA or more
7.3.3	AC Voltage	1 kV
7.3.4	DC Voltage	1 kV
7.3.5	AC / DC Current Resolution	0.1 A
7.3.6	AC / DC Voltage Resolution	0.1 V



7.3.7	Current Accuracy	3 % ± 5 digits
7.3.8	Voltage Accuracy	1.5 % ± 5 digits
7.3.9	Resistance	60 kOhm
7.3.10	Frequency	500 Hz
7.3.11	Safety rating	CAT III 1000V, CAT IV 600V
7.3.12	Features	True-rms,Continuity,Hold, Backlight, Min/Max,Inrush, Low pass filter
	<b>High Frequency Voltage Probe</b>	<b>Should be compatible with existing test system</b>
7.4.1	Input Impedance	1.5 koHm    4 pF
7.4.2	Frequency Range	9 kHz - 30 MHz
7.4.3	Voltage range	HF < 30 V, AC 50 / 60 Hz < 2.5 kV, DC < 4.4 kV
7.4.4	Freq. Range	30 kHz-30 MHz
7.4.5	Internal Coupling Capacitor	10 nF
7.4.6	Typical Correction Factor	30 dB
7.4.7	Design Compliance	As per CISPR 16-2
	<b>Accessories</b>	<b>Should be compatible with existing test system</b>
7.5.1	DC Block	up to 26 GHz
7.5.2	Phase stable Cable Set	DC-18 GHz (2 nos.) phase stable shielded N(m) - N(m), length 6m
7.5.3	Environment Meter	Digital Temperature, Humidity, Atmospheric Pressure, Time based on actual measurements, Recalibration Support shall be provided in India (quote for annual recalibration charges)
7.5.4	Ferrite Chokes	Set of 20 each (9 mm, 7mm)
7.5.5	EMI filter	9 kHz - 30 MHz, >30 dB attenuation, 32 amp 1 phase (3 nos.), 32 amp 3 phase 5 wire (3 nos.) 32-amp 400 V DC (3 nos.)
7.5.6	Earth Resistance Meter	Rechargeable Battery Operated, Range 0.1 ohm to 1k ohm

**GENERAL TERMS & CONDITIONS**

<b>S. No.</b>	<b>Parameters</b>	<b>Specifications</b>
1.	Currency	INR
2.	Delivery Schedule	Not later than twelve weeks
3.	Delivery Terms	DDP Coimbatore-TN-India
4.	Warranty	Three Years
5.	Installation	On-site Installation and Operational Training by Authorized Engineer
6.	Accessories	All adapters, cables, software and accessories for testing and calibration of equipment shall be supplied; no short supply will be accepted
7.	Calibration Certificate	Accredited ISO 17025 calibration certificate where applicable shall be supplied and softcopy shared prior to despatch
8.	Documentation	All technical documents such as Datasheets, Operational Manual, Service Manual, Schematics as applicable shall be provided along with supplied material
9.	Notes on Format of Technical Proposal	<ol style="list-style-type: none"> <li>(1) Statement of Compliance as per specifications shall be provided along with the technical proposal</li> <li>(2) Bill of Material shall be provided for complete requirement as per respective tender document; shall not be accepted</li> <li>(3) Authorization Letter from OEM where applicable shall be attached along with the technical bid</li> <li>(4) Reference list of similar supplies in India shall be provided</li> <li>(5) Support plan for supplied products along with details of support hierarchy shall be provided</li> </ol>
10.	Notes on Format of Commercial Proposal	<ol style="list-style-type: none"> <li>(1) Itemized Commercial proposal shall be provided; non-itemized quotes shall not be accepted</li> <li>(2) Freight, Warranty, Calibration, Support and all additional charges shall be separately and clearly highlighted in the commercial proposal</li> <li>(3) Optional items prices shall be highlighted separately as marked as OPTIONAL</li> <li>(4) No refurbished, reused item shall be supplied</li> </ol>