

AICRP on Energy in Agriculture & Agro- Based Industries
Department of Unconventional Energy Sources and Electrical Engineering
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola

No. RE/EAAI/Quot. Notice/ 119 /2023

Date: 14/02/2023

Quotation Notice

To,

- 1) _____
- 2) _____
- 3) _____

Subject: Supply of quotation for purchase of scientific equipment

Dear sir,

You are requested to supply quotation for following scientific equipment on or before dated 28/02/2023 till 5.00 pm.

S N	Name of Equipment	Specifications	Unit/ Quantity	Unit price in Rs.												
1	Combustion Analyzer	Range/Accuracy 1. Primary/Ambient Air Temperature: -4 to 999 °F 2. Stack Temperature: -4 to 2192 °F 3. Oxygen: 0.1 to 20.9% 4. Carbon Monoxide: 0 to 4,000 ppm 5. Carbon Monoxide (High Range): 4,001 to 20,000 ppm 6. Nitric Oxide: 0 to 5000 ppm 7. Sulphur oxides: 0 to 5000 ppm	1													
2	Anemometer	1. Airflow Range: 0.6 to 20 m/s, 120 - 4000 ft/min 2. Measurement Accuracy - +/-0.5% 3. Temperature measurement Range: 20 to 60 deg C 4. Airflow Accuracy: +/-2.5% rdg; +0.2 m/s 5. Temperature Accuracy: (+/-) 0.8 degC 6. Material - Metal 7. Power Source Type - Battery Powered	1													
3	Portable Flue Gas Analyser	<table border="1"> <thead> <tr> <th>Actual Parameters</th> <th>Resolution</th> <th>Accuracy</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>Flue Temperature with probe with suitable probe</td> <td>0.10 C</td> <td>±2.00 C</td> <td>0 – 1200 C</td> </tr> <tr> <td>Inlet</td> <td>0.10 C</td> <td>±0.10 C</td> <td>0 – 500 C</td> </tr> </tbody> </table>	Actual Parameters	Resolution	Accuracy	Range	Flue Temperature with probe with suitable probe	0.10 C	±2.00 C	0 – 1200 C	Inlet	0.10 C	±0.10 C	0 – 500 C	1	
Actual Parameters	Resolution	Accuracy	Range													
Flue Temperature with probe with suitable probe	0.10 C	±2.00 C	0 – 1200 C													
Inlet	0.10 C	±0.10 C	0 – 500 C													

Handwritten signature and date: 14/2/23

		Temperature					
		Oxygen	0.1%	±0.2%	0 – 21%		
		Carbon Monoxide (Standard)	1 ppm	±20 ppm<500 ppm	0 - 10000 ppm±5%>50 0 ppm		
		Derived Parameters					
		Carbon Dioxide	0.1%	±0.3% of reading	0 – 20%		
		Efficiency	0.1%	±1.0% of reading	0 – 120%		
		Losses	0.1%	±1.0% of reading	0 – 99.99%		
		Excess air	0.1%	±0.2%	0 – 2885.0%		
		Temp (Net) Standard	10 C	±20 C	0 – 600 C		
		CO/CO Ratio	0.0001	±0.0001	0 – 0.9999		
		Poison Index	0.01%	0.01%	0 – 99.99%		
		Power Supply: USB charger Features: Rotary dial & 6 line display Wireless option					
4	Digital Lux Meter	1. Range : 0 ~ 200,000 lux 0 ~ 20,000 fc 2. Accuracy : ± 5% rdg + 10 dgt (< 10.000 lux / fc) ± 10% rdg + 10 dgt (>10.000 lux / fc) 3. Resolution : 0.1 lux or 0.1 fc				1	
5	Tachometer	1. Type: non-contact 2. Measuring range: up to 99,999 rpm 3. Accuracy: ± 0.03% / ± 2 digits 4. Sampling time: 0.5 sec (more than 120 RPM) 5. Measuring distance range 50 mm-600 mm. 6. Output parameters: Rotation speed (RPM), counter rotation (REV), frequency (Hz), surface velocity (m/min, inch/min, feet/min, code/min) and length (meters, inches, feet, yards) 7. Data storage range: 30 = 10 for max measurement, 10 for min measurement and 10 for instantaneous value.				1	
6	Digital Temperature & Humidity Monitor	1. Range: Humidity: 0 to 100% RH, Temperature: -22°F to 199°F, Dewpoint Temperature: -22°F to 199°F, Wet Bulb Temperature: 32°F - 176°F 2. Response time: 10s or less 3. Power Source Battery Powered				1	
7	Surface Temperature Meter	1. Range: -50 to 400 degree Celsius 2. Display: 3-digit, + degree Celsius (degree Fahrenheit) display in 0.1 degree increment, 3. Alert: beeps when measurement is completed. 4. Measurement Accuracy : ±0.1				1	

SAFA/2/2023

		degree Celsius (32.0 to 42.0 degree Celsius), ± 0.2 degree		
8	Thermo-hygrometer	<ol style="list-style-type: none"> 1. Measure temperature and humidity, wet bulb and dew point temperature 2. Maximum Storage Temperature: 60 deg Celsius 3. Response Time: 500 Milliseconds 4. Immersion Depth: 5 Centimetres 5. Accuracy Temperature: ± 1 °C. 6. Measuring range humidity: 10 – 90 % 7. Resolution humidity: 1 % 8. Accuracy humidity: ± 5 % 9. Power Source: Battery Powered 10. LCD display with backlight 11. High accuracy and fast response time. 	1	
9	Digital Multi-meter	<ol style="list-style-type: none"> 1. DC voltage range is 200 mV - 600V 2. AC voltage range is 200V - 500V 3. Measurement Accuracy Voltage: DC: $\pm 0.8\% + 4$; AC: $\pm 1.5\% + 4$; Current: DC: $\pm 1.5\% + 4$; AC: $\pm 2\% + 4$ 4. Power Source Type: Battery Powered 	1	
10	Digital Ultrasonic Flow meter	<ol style="list-style-type: none"> 1. Application Media: Water, waste water, oil, alcohol, chemicals, industry water or any other liquid 2. Display: Digital, Local 3. Line Size: 15-100 mm, 50-700 mm, 300-6000 mm 4. Meter Type: Portable 5. Accuracy: $\pm 1\%$ of reading at rates $> (0.2\text{m/s})$ 0.6 ft/s 6. Repeatability: 0.2% 7. Linearity: 0.5% 8. Response Time: 0 to 999 seconds (user configured) 9. Velocity: (± 32 m/s) 10. Media Temperature Range: <ol style="list-style-type: none"> a). Standard Transducers: 0 to 90°C (32 to 194°F) b). With High Temp Transducers: 0 to 160°C (32 to 320°F) 11. Operating Temperature: Meter, -20 to 60 C (- 8 to 140F) 12. Operating Humidity: Meter, 85% RH 13. Pipe Size: DN 15 to 100 mm (0.75 to 4") standard [up to DN 6000 mm (236") with optional transducers] 	1	
11	Temperature Indicator	<ol style="list-style-type: none"> 1. Type of Product: Digital Temperature 2. Ranges: - 30°C to 250°C 3. Accuracy: $\pm 1\%$ FSD 4. Resolution: 0.1/1° for TC/RTD (fixed 1° for R 	1	

[Signature]
17/12/2023

		and STC) 5. Display: Dual Display, 3 digit, 7 segment LED 6. Input Type: Thermocouple (J,K,T,R,S) / RTD (PT100) 7. Input Channel: 12 Nos 8. Mounting Type: Panel mount 9. Voltage: 270V AC		
12	Digital Pressure Meter	1. Scale Ranges: 0 to 1000 m Bar 2. Accuracy: 0.05% 3. Power Source: 230 volts 24 vdc	1	
13	Digital TDS Meter	1. Tds Resolution: 0.1ppt 2. Cond. Range: 0 to 1000 m Mhos/cm 3. Tds Range: 0 to 1000 ppt 4. Tds Cell: Platinum Dip 5. Accuracy: +/-1%	1	
14	Precision Balance of Various Capacity (Upto 200 G)	1. Capacity: 200gms 2. Range: 24mg-200g 3. Accuracy: +/-1%	1	
	Precision Balance (5gm-100kg)	1. Capacity: 5gm-100kg 2. Material: Mild Steel 3. Display Type: LED Display Range (5gm-100kg) 4. Accuracy: +/-1%	1	
	Precision Balance (5 Mg – 1 Kg)	1. Range: 5 Mg – 1 Kg 2. Accuracy: +/-1%	1	
15	Ph Meter	1. pH Range: -2pH to 14pH 2. Accuracy: ±0.1 pH to ±0.001 pH 3. Cable Length: 5m	1	
16	Sunshine Recorder	1. Material: SS 2. Graduation of Degree: - 50 through 00 to +/- 450 3. Depth: 1 mm 4. Automation Grade: Manual 5. Thickness: 0.43 mm to 0.48 mm	1	
17	Precision Pyranometer	1. Range: 0 - 1200 W/m ² 2. Accuracy: better than 3% 3. Material: Anodised Aluminium 4. Spectral Range: 285 to 3000 nm	1	
18	Shading Ring	1. Material: Anodised Aluminium 2. Ring inner diameter: 476 x 10 power-3 m 3. Diffusometer measurand: Diffuse solar radiation in W/sq. m 4. Ring height/radius ratio: 0.185	1	

[Signature]
14/12/2023

		<ul style="list-style-type: none"> 5. Average view angle: 10.6 Degree 6. Accuracy: +/-1% 7. Maximum diameter shaded area: 0.040 m 8. Pyranometer tilt angle range: -90 to 90 Degree 9. Sliding bar resolution: 0.001m 10. Sliding bar accuracy: +/- 0.0005 m 11. Sliding bar range: +/-0.110 m 		
19	Spectral response meter	<ul style="list-style-type: none"> 1. Light source: 50W Halogen lamp 2. Wavelength range: 400 nm to 1200 nm 3. Chopper frequency: 400 Hz 4. Bias light: 3W White LED 5. Sample size: Up to 50 mm 6. Main Mirrors: Enhanced Aluminium Coating 7. Focal Length: 300 mm 8. Dispersion Element: Holographic Grating 9. Grating Density: 1200 l/mm 10. Filter unit: Higher order cut off filter wheel 11. Mobility: Portable 12. Data Output Port: USB 13. Display: Digital 	1	
20	Water flow meter	<ul style="list-style-type: none"> 1. Flow range Water 2.5 l/h to 200 cubic m/h Air 0.07 to 4500 cubic m/h (201.013bar) 2. Flow span: 10:1 3. Accuracy Standard accuracy: 1.5% Max. Allow. pressure: 250 bar 4. Temperature range Fluid temperature -40 to +200 Standard type 6. Ambient temperature: -40 to +70 degree Celsius 7. Supply power: 12-28V DC two-wire system battery power 	1	
21	Fuel efficiency monitor	<ul style="list-style-type: none"> 1. Ranges: Oxygen 0 – 25.0 %, Carbon Monoxide 0 – 5000 ppm and Temperature: 0 – 600 °C 2. Display: 16 x 2 Alphanumeric LCD Display, backlit. 3. Sampling: In-built pump (200mm Hg suction, 1.5 LPM Air Flow) with Switch 4. Ambient Temperature: 5°C To 50°C 5. External Probe: Suitable for drawing, filtering, cooling and drying the sample gas 450mm for 600 °C and 1000mm for 1200 °C 6. Memory: 63 records stored in the memory 7. Output Indication: % CO₂, % Excess Air, Efficiency based on Gross and Net Calorific Value 8. A serial output for computer and serial printer 	1	


AW/2/2023

22	Portable power analyser	1. Parameters: 600v-80A 2. Display Type: Digital 3. Phase: 3 4. Accuracy: 0.1%	1	
23	Power quality Manager/ Three and Single Phase power analyser for balanced/ unbalanced loads	1. Display Type: Digital 2. Phase: Three Phase 3. Accuracy: 0.2 Class 4. Frequency: 60 Hz 5. Range of Voltage: 10 V to 600 V 6. Range of Current: 80 mA to 80 A 7. Power Source: Electric	1	
24	Leak detectors	Detector Type: Portable Single Gas Name of Gases Detected: EX/ LEL GAS DETECTOR Power Source: Battery Display Type: Digital Measuring Range: 0-100% LEL	1	

Note:

1. Quotations should be given on the letterhead of supplier.
2. Along with the quotation the supplier should enclose company documents such as ownership certificate/dealer certificate, last three years of income-tax return and GST filling documents.
3. Calibration certificate should be for each of the equipment is necessary.
4. Quotation will be considered only for the given specification.
5. Mentioned equipment should be ISI marked.
6. User manual for each of the equipment should be provided separately.
7. Installation, demonstration and service should be provided for AICRP on EAAI, Dr. PDKV, Akola.
8. The quotation which will be received late will not be accepted.
9. The quotation should be sent in sealed envelope in the name of **Research Engineer, AICRP on EAAI, Dr. PDKV, Akola.**
10. Quotations should be given including all charges.
11. The charges should be for AICRP on EAAI, Dr. PDKV, Akola. And item should be provided within a week after providing supply order.
12. Under sign reserved right to accept or refused any quotation or part of quotation without assigning any reason thereof.

Yours Faithfully


RE, AICRP on EAAI,
Dr. PDKV, Akola