

उष्णकटिबंधीय वन अनुसंधान संस्थान

TROPICAL FOREST RESEARCH INSTITUTE

Indian Council of Forestry Research & Education

(An autonomous Council under the Ministry of Environment & Forests, Govt. of India)

P.O. – R.F.R.C., Mandla Road, Jabalpur – 482 021.

TENDER FOR SCIENTIFIC EQUIPMENTS

Tender No.15- 4/2013-14/Tender-II/Sci.Equi(A)/TFRI/JBP/ Dated of the issue: /2013

ENCLOSURES

1. Tender Notice
2. Tender Form
3. Specifications for Scientific Equipments
4. Conditions of Tendering for supply & Scientific Equipments of material

Tender document Sl.No.....issued to M/s.....
.....
.....
.....

Cost of Tender documents Rs.....received in cash/vide D.D./ Bankers
Cheque No.....dated.....drawn
on

Signature and seal of the issuing Officer



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**TENDER NOTICE FOR PROCUREMENT OF SCIENTIFIC
EQUIPMENT**

Advertisement No. 15-4/13-14/Tender-II/Scient.Equip(A)/TFRI/JBP.....

Sealed tenders are invited from reputed firms for the supply of

1. GAS CHROMATOGRAPHY MASS SPECTROMETRY
2. HOT AIR OVEN WITH STABILIZER
3. BOD INCUBATOR WITH STABILIZER
4. ROTARY VACUUM EVAPORATOR (ROTAVATOR) BUCHI TYPE
5. DEEP FREEZER (-40⁰ CAP.)
6. INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER
7. UV-VIS SPECTROPHOTOMETER
8. HIGH SPEED SCANNER
9. SUPPLY OF LAPTOP

Tender Fee	:	Rs.250.00 (Non Refundable)
		Cash/DD/Banker's Cheque Favour of
		Director, Tropical Forest Research Institute,
		Jabalpur
Issue of Tender starts from	:	14/10 /2013
Issue of Tender ends on	:	26/ 10 /2013
Last date of submission of tender	:	1.00PM 01 /11 /2013
Opening of tender	:	3.15PM 01 / 11 /2013

Note: Tender document is also available on our website <http://tfri.icfre.gov.in>

Director
Tropical Forest Research Institute
Jabalpur

To,

The Director
Tropical Forest Research Institute
P.O. R.F.R.C., Mandla Road
Jabalpur

Sub: Tender for Scientific equipments

Ref: Your Advertisement Published In the Dainik Bhasker
& Hindustan Times on.....

The undersigned hereby tenders and offers (subject to Institute's conditions of tendering) to the Tropical Forest Research Institute, Jabalpur to supply the Scientific equipments as described in the enclosures with details of specifications in good condition.

It is certified that the specifications of Scientific equipments and all other conditions wherever described in the tender document, have been replied in full, giving clear details. The decision given by the institute in this regard will be final. It is also understood that the tenderer (in case of interpretation) will have no right to furnish any technical or commercial clarification after opening of the tender.

Date.....

Tenderer's signature with date

Name of the Tenderer

Address

SUBMIT THE FORM DULY FILLED IN SEALED COVER MENTIONING DATE OF OPENING OF THE TENDER

TENDER FORM

1. Name and full address of the tenderer with
telephone/fax number (if any)
.....

2. (a) If the tenderer is an authorized dealer of a
company give detailed information of authorization
(Dealer certificate should be enclosed)

- (b) Sales tax/Commercial tax Registration

- © If registered as Contractor/Supplier of specific
equipment with any Central/State Govt. department
give details

- (d) Income tax clearance certificate (copy to
be enclosed)

- (e) Whether registered with
(f) D.G.S. & D
(g) Small Scale Industries Corporation
(h) National Small Scale Industries Corp.,
Etc. If any, copy of the same should be
Submitted to claim exemption from EMD(

3. Validity Period (not less than 120 days)

4. Delivery Period to be specifically mentioned.

5. Whether Proprietary Item? If yes, enclose the certificate

YES	NO
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Tender for SE/13-14/rkd/doc/28

1. Details of offer

S.No	Name of Item	Specificati on with make	Unit Price	Taxes & Duties (mention)	Other charges if any (mention)	Total unit cost (for TFRI, Jabalpur)

Tender for SE/13-14/rkd/doc/29

Signature of Tenderer

2. Accessories if any (To be mentioned clearly)

3. Gaurantee/Warrantee of the item
4. Enclosures
 - (i) EMD
 - (ii) Catalogues
 - (iii) Registration Certificate
 - (iv) Income Tax Clearance Certificate
 - (v) Sales Tax / Professional Tax Certificate
 - (vi) Octroi etc. if paid (proof required)
5. Any other relevant information.....

Signature of the tenderer with stamp

I. SUPPLY OF GAS CHROMATOGRAPHY-MASS SPECTROMETRY

(NWFP)

EMD - RS.1,75,000/-

Description and specification of the items

GAS CHROMATOGRAPHY- MASS SPECTROMETERY SYSTEM (GC-MS)

OVEN:

- ❖ Temperature range : Above ambient to 450⁰C with user selectable or better
- ❖ Ramp rate : Up to 45⁰ C/ min. or better
- ❖ Oven Cool Down : 250⁰ C to 50⁰ C within 5 minutes or better
- ❖ Ramps : minimum of 3 ramps or more
- ❖ Pneumatics Programmable Electronic control.

INJECTOR PORT: 2 No.

1. Programmable Temperature Inlet

- ❖ Electronic Flow Control (EFC)/ Pressure Pneumatic Control (PPC)/Automatic Pressure Control.
- ❖ Maximum temperature: 450⁰ C or better.
- ❖ Capable of Injecting Large-volume injection.

2. Split/Split less Capillary Inlet

- ❖ Split ratio up to 7500:1 to avoid column overload.
- ❖ Electronic septum purge flow control to eliminate “ghost” peaks.

DETECTOR FID : 1 No.

- ❖ Temperature range : up to 450⁰ C in 1⁰ C increments or better.
- ❖ Min. detectable Quantity : < 3 x 10⁻¹² g C/sec or better
- ❖ Electronic Flow Control (EFC)/ Electronic Pneumatic Control (EPC)
- ❖ Linearity : 10⁶ or better.

MASS SPECTROMETER:

LAN based quadruple MS system with Non-coated inert source conforming to international safety standards, designed and manufactured under a quality system registered to ISO 9001.

- 1 **Mass range** : 2-1050 amu or better
- 2 **Scan speed** : 12,000 u/sec or better
- 3 **Ion source temp**: up to 350⁰C for better sensitivity for active compounds and it should be programmable. Transfer line temp - 100-350⁰ C
- 4 **Quadruple temp**: 150 – 190⁰ C. Quadruple should be heated to keep quadruple clean for a longer period.
- 5 **EI scan sensitivity** : more than 800:1 S/N for 1 pg OFN or better System should have one turbo molecular pump with 250 L/sec capacity or more with EI and CI source.

6 Simultaneous SIM and SCAN mode

CHROMATOGRAPHIC DATA SOFTWARE:

Single point control of GC-MSD system and its modules, customizable reports, GLP features should also have software for data acquisition, control, chromatographic data evaluation, reporting sequencing. License copy of Software should be supplied along with pre-loaded on PC and GCMS system. Software should be capable of deconvoluting, coeluting peaks.

LIBRARIES:

NIST Latest Version with License, Wiley Library with original CD and documents should be quoted. Suitable database for the identification of fatty oils, essential oils constituents, mycotoxins and pesticides and RT Library/ Database. (User customizable library & automatically searching of multiple libraries).

COLUMN:

For the analysis of Fatty oils, Essential oils, Mycotoxins, Pesticide residue with all accessories required for installation with instruments.

- a. DB- Wax or Equivalent 30M x 0.25mm x 0.25u
- b. DB- 5 MS or Equivalent 30M x 0.25mm x 0.25u
- c. DB- 1 MS or Equivalent 30M x 0.25mm x 0.25u

PC & PRINTER: Branded PC (HP) with monitor 21 inch, Suitable Laser Jet Printer (HP make) with scanner and photocopier.

UPS: 7.5 KVA online UPS with minimum 2 hrs back up.

Gas Cylinders with regulators for H₂, N₂, Air & He. Syringe, tubing, Gas purification panels should be quoted.

Standards as per application (Essential Oil, Fatty Oil, Mycotoxin, Amino acids) should be quoted.

AUTOSAMPLER:

Built-in syringe auto sampler for maximum sampling capabilities. All control is accomplished through the keyboard or by a data system. Number of sample positions atleast 15 vials.

Back flushing and Quick Swap device:

Back flushing, Quick swap (or equivalent technology) to change the column without venting vacuum.

Note : -

1. Manufacturer Quoted by vendor should have own office in India and should have minimum 50 employee at the time of bidding for better after sales and service support.
2. Instrument should have option for up gradation in future.
3. Vendor should have sufficient capacity to give application support.
4. Vendor should quote break up of Individual Items.
5. Performance certificates required for the quoted model (atleast 10)
6. Minimum one week training on the instrument after successful installation.

II. SUPPLY OF HOT AIR OVEN WITH STABILIZER

(NWFP)

EMD -Rs.6,000/-

Description and specification of the items

Hot Air OVEN	
Construction	Double wall design for precise temperature control and excellent uniformity
Inner Chamber	60 x 60 x 90 cm stainless steel mirror finish.S.S.316 grade
Outer Body	69 x 83 x 142 cm Outer cabinet S.S 304 grade dull matt finish
Capacity	320 Liters & 2 KW
Temperature controller	Precise PID Temp. Controller 1000 RTD CE marked
Temperature range	Ambient +5°C to 250°C.
Temperature control accuracy	±1 % of set point.
Temperature display	Digital LED 3½ digit.
Temperature uniformity	±3° C of set value.
Control type:	Microprocessor PID, Auto-tune, Calibration off set.
Door	Silicon door gasket, Validation port, Safety control
Trays	3Nos Supplied with SS Wire mesh shelves.
Air circulation	Forced air circulation, by means of a motorized blower
Insulation	Rock wool
Safety	High temperature safety cut-off with audio/visual alarm.
Input voltage	230Volts AC, 50 Hz.
Calibration & Validation- Temperature sensor probe calibration with traceability to ERTL, Temperature controller calibration with Traceability to ERTL, IQ, OQ and PQ documentation and protocols shall be provided with equipment.	

III. SUPPLY OF BOD INCUBATOR WITH STABILIZER

(NWFP/SILVA/ENTO)

EMD –Rs.10,000/-

S. No.	(NWFP)Description and specification of the items
1	Make-REMI, Cat.No.:CI-19 Plus with Stabilizer (VS-03) Cap.:540 lt. Temperature range:50-600 C Controller:Microprocessor, Display:LCD Version

OR

(Silva)Specification-Double-walled inside anodized aluminium and outside mild steel sheet painted in epox/powder coating to work on 220/230 volts A.C.15 cu. ft capacities Electronic digital read out timings and interior illumination should be supplied with unbreakable acrylic transparent door inside. Temperature is controlled by Electronic Digital Temperature Controller Cum-indicator from 5⁰C to 50⁰C, variation plus minus 1⁰C Inside air circulating system is provided by F.H. motor with fan which keeps uniform temperature throughout the chamber. Electronic Digital Temp. Controller-cum-indicator with sensitivity of plus minus 0.5⁰C .with electronic digital voltmeter. Separate or in-built stabilizer should be supplied with the incubator.

B.O.D. Incubator with Voltage Stabilizer(ENTO)

Specification

Internal Volume (Litres)- 540, Number of tray-6,

Internal Dimensions W x D x H (mm)- 660x655x1250,

External Dimensions W x D x H (mm), 800x1095x 1820, Temperature Range & Accuracy-5°C to 60°C, ± 0.5°C,

Temperature control- Microprocessor with PT-100 sensor, Display- LCD, Power Failure Alarm- Audio Visual Alarm, Door Open Alarm- Audio Alarm in case door open for over , one minute, Temperature Variation Alarm- Set Temperature, ± 2°C, Audio Visual Alarm, Illumination- b8 Watts, Fluorescent Lamp, Internal Body Material- Stainless Steel –

304 grade (Standard Models), Stainless Steel - 316 grade (GMP Models), External Body Material- Powder Coated CRCA Steel (Standard Models), Stainless Steel - 304 grade (GMP Models), Insulation-70 mm minimum for Body & 80 mm for Door, CFC free polyurethane foam Noise Level-n Less Than 65 db(A), Electrical- 220-240 volts, 50Hz, Single Phase. 4 Inch attractive LCD display Multiple level alpha numerical

password with password ageing, Intelligent Controller helps maintain temperature in case of sensor failure Electronic signature and menu entered comment, Battery Backup for Temperature Controller - 12 V, Secured audit trail report. 7.2 Ah sealed maintenance free, Fully charged Alarm report with mention of alarm condition, battery runs for more, than eight hours Mean Kinetic Temperature able to be calculated for Automatic Calibration of set parameters any days & alarm deviation report, Self-Diagnosis for errors Reports in graphical and tabular form Histogram format of 24 hours temperature Data Stored in PC server with Lan connectivity and recording can be monitored on any PC with password Power failure and resumption recorded with date and authentication time Multi chamber data acquisition on single software Settable High / low alarm points with date and time Memory for storage of up to 1000 records Centronic interface to record Temperature, Date, & Time by attaching Dot Matrix printer with adjustable print interval.

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IV. SUPPLY OF ROTARY VACUUM EVAPORATOR (ROTAVATOR) BUCHI TYPE EMD-Rs.25,000/-(NWFP)

Description and specification of the items

Digitally controlled heating water bath , perfectly coordinated data transfer between the heating bath and the drive unit as well the option of remote operation from a PC ensure results

Temperature range- room temp.-180 °C

Setting accuracy - 1K

Control Deviation- ±1K

- Analog heating bath with adjustable safety circuit, "stand alone" operation is possible, pivoting safety hood as an accessory.
 - Temperature control of the heating bath by microcontroller, Digital temperature display
 -
- Safe and simple operation by means of ergonomically shaped control unit in the front.
- Motorized lift (stroke 140 mm) with "safety stop" function, if the power cuts out the evaporator flask is automatically lifted out of the heating bath.
- Adjustable end position recognition to protect the glass from breaking.
Speed range from 20 to 280 rpm
- Smooth start from 100 rpm
- Digital speed display.
- Rotates clockwise and counterclockwise in interval operation for the drying process.
 - Timer function shuts off heating bath at completion of timer sequence
 - Water bath should be detachable
- Timer function for time lapse control.
- Water/oil heating bath with integrated carrying handles for safe handling.
Heats up quickly because of optimized bath volumes.
- Push-off mechanism to loosen tightly fitting flasks.
- Suitable for DIN EN 12697-3 (Asphalt test for hot asphalt).
- 5 year warranty after registration.

Protection class acc to DIN EN 60529

IP 20

Digital Chiller – actively cooled chiller with an air cooled refrigeration system, featuring a user friendly microprocessor controller with large temperature display with accuracy ± 1K

Temperature range- -20 to 40°C

Temperature sensor internal- PT 100

Vacuum Pump – IImvac Diaphragm pump ,chemical resistant

Ultimate total pressure DIN 28432 (mbar)

Pumping speed 50/60 Hz

Set of glassware ,seal, evaporation flask, powder flask, condenser, receiving flask, evaporation cylinder, Condenser type- vertical

Cooling surface- 1,200 cm²

Polycarbonate shield for heating bath – For optimal protection against splashes of hot liquid

Protective cover for heating bath

System should be provided with all required accessories.

Tender for SE/13-14/rkd/doc/32

V . SUPPLY OF DEEP FREEZER (-40⁰ C CAP.)

(NWFP)

EMD-Rs.7,000/-

Description and specification of the items-

REMI Model RQVD-400 plus Deep freezer with stabilizer (-40°C)

Controller Microprocessor.

Tender for SE/13-14/rkd/doc/35

**VI. SUPPLY OF INDUCTIVELY COUPLED PLASMA EMISSION
SPECTROMETER EMD-Rs.2,25,000/- (ECO)**

Description and specification of the items-

Inductivity Coupled Plasma Emission Spectrometer		1 No.
Plasma Light Source :		
Torch Unit	Axial & Radial observation (axial and radial switching option available.	
Sample Misting chamber	Cyclone Chamber	
Plasma Torch	Either mini torch (standard accessory) for conventional torch can be used.	
Nebulizer	Coaxial type	
Radio Frequency Generator :		
Oscillator	Crystal Oscillator	
Maximum frequency output	1.6 KW	
Output Stability	Within $\pm 0.3 \%$	
Radio Frequency Circuit Element	Transistor Element	
Load Matching	Automatic matching	
Spectrometer Unit		
Optical System	Echelle Spectrometer	
Wavelength Range	167 nm to 800 nm	
Detector	Two-dimensional semiconductor detector (CCD)	
Resolution	$\leq 0.01 \text{ nm @ } 200 \text{ nm}$	
Vacuum Ultraviolet Range Compatibility	Vacuum Spectrometer	
Spectrometer Temperature	With thermal control	
Software : Wavelength automatic selection, Automatic generation of coexistent element information, Qualitative analysis, Quantitative analysis, can store data for entire wavelength range, Accuracy control (optional)		
Standard software package, English Ver.		1 No.
Low-temperature thermostatic water heater, NCB-1200		1 No.
CCD Cooling water valve kit for NBC-1200		1 No.
CA-1112, Cooling water circulator single phase AC 100V, 50/60 Hz, 10A		1 No.
Cooling water valve kit for plasma stand		1 No.
Torch		1 No.
QAQC Software Package		1 No.
Step Down Transformer		1 No.

VII . SUPPLY OF UV-VIS SPECTROPHOTOMETER

(AGRO)

EMD –Rs.45,000/-

S. No.	Description and specification of the items
1	206-24301-93 Shimadzu-UV-VIS Spectrophotometer Model:UV 2450 PC Based high performance, Double beam Spectrophotometer with 32-UV Probe Software with Intel Pentium IBM (Lenovo/HP/Leser/printer 1020)

VIII . SUPPLY OF HIGH SPEED SCANNER

(IT CELL)

EMD –Rs.8,000/-

S. No.	Description and specification of the items
1	EPSON WORK FORCE DS-60000

IX. SUPPLY OF LAPTOP

(IT CELL)

EMD –Rs.12,000/-

S. No.	Description and specification of the items
1	<p>1.Supply of Laptop-HP Pavilion 15-e001ax Notebook PC (HP Part Code:D9H74PA)Windows 8, AMD Quad-Core A10-5750M Processor, 8GB Ram/1 TB Mineral Black/15.6” 1GB Graphics Card, 1 Year onsite warranty with ADP.</p> <p>2.Supply of Laptop- HP Pavilion 15-e002au Notebook PC (HP Part Code:E4X37PA)Windows 8, AMD Quad-Core A4-5000APU Processor, 8GB Ram/1 TB Mineral Black/15.6” , 1 Year onsite warranty with ADP.</p>

CONDITION OF TENDERING FOR SUPPLY OF EQUIPMENTS

1. The tender documents, complete in all respects along with the enclosures should be submitted under sealed cover in person at the receipt counter of Institute by putting inside tender box or should be sent by Speed post, registered post only **(Not By Courier Services)** so as to reach the office before the specified date and time. Tenders received after the specified date and time will not be considered and will be filed. The Institute will not be responsible for postal delay.
2. In case the date of opening of the tenders/receiving the tenders is declared a holiday, the tenders will be received/opened on the next working day at the specified timing.
3. The tender shall be valid for a period of 120 days from the date of opening.
4. **The quoted prices shall be in Indian Rupees (INR) only, (Prices quoted in foreign currency shall not be accepted) inclusive of all duties and levies except for excise duty and sales tax at the prevailing concessional rates, applicable against declaration of form 13 Photo Copy of the last sales tax registration number/certificate should be enclosed along with tender.**
5. The items are required F.O.R. at TFRI , Jabalpur.
6. Full details of business terms and conditions e.g. packing and forwarding charges, delivery, validity period, guarantee of equipment , Installation, Demonstration of equipment, discount or any other information relevant to supply may also be given along with rates.
7. Tenderer should clearly mention the make/brand of the machine complete specification and other information regarding the articles to be supplied and enclosed printed literature and original catalogue/operational manual.
8. The Director, Tropical Forest Research Institute, Jabalpur reserve the right to reject any or all tenders without assigning any reason. Director, Tropical Forest Research Institute, Jabalpur will have the full right to accept tender with higher rates without giving any reasons to tenderers and his decision will be final and acceptable to all.
9. The act of giving tender shall be deemed to be the unreserved acceptance of terms and conditions of this tender.
10. Conditional tenders are liable to be rejected.
11. The earnest money specify item wise will be deposited along with the tender in the form of Demand Draft/Banker's Cheque, in favour of Director Tropical Forest Research Institute, Jabalpur. The tenders will not be considered in the absence of required earnest money EMD in any other form like Bank guarantee, etc. will not be considered.
12. In case of successful tender, the amount of EMD shall be kept as security deposit which will be released after successful installation and demonstration of the supplied goods in satisfactory conditions and EMD shall be returned to unsuccessful tenderers.
13. The firms exempted from submission of EMD at the time of submission of the tender form; if awarded the contract will have to submit a performance security equivalent to the EMD.

14. The tenderer may be asked to demonstrate the equipment before the Director, TFRI or any other officials/nominated by him for adjudging the suitability of the equipment in that case, the tenderer shall be final and binding.
15. Acceptance of the offer shall automatically carry with it a guarantee on suppliers part that every material supplied there under shall be fresh and free from defects and shall be consistent with the established and general accepted standards for the materials of type and in full conformity with the specifications. If it is found other wise when put into actual use, it shall be replaced by the supplier at his cost even after the payment of the bill has been made.
16. If the tenderer fails to comply with any of the above conditions or backs out from his/their tender or fails to supply within stipulated period to the satisfaction of the Director, Tropical Forest Research Institute, Jabalpur or any official authorized by him in this respect or fails to execute the agreement ,the EMD of tenderer shall be forfeited the Institute. In addition to forfeiting the EMD , the Director shall be at liberty to obtain the material to the extent stated in tender notice from any other source. The excess expenditure if any, incurred by the Institute in making such purchase shall also be recoverable from the tenderer in full as per rules. If purchase are made at lower rates difference of cost shall not be payable to the tenderer. In addition, the institute may black list the tenderer for a period up to five years.
17. The successful tender shall hereafter be called the supplier.
18. The equipment are required to be delivered and installed in full with 45 days of the issue of the supply order.
19. After the expiry of the delivery period, the supply order shall be automatically canceled the EMD/Performance Security deposited by the supplier shall be forfeited.
20. Delivery of the goods in good and sound condition at destination shall be the responsibility of the supplier, Any loss, breakage, leakage, theft, etc. during transit or otherwise will be at the supplier's risk and cost.
21. The replacement on account of wrong or short supplier and the suppliers inconsistent with the specification shall be done by the supplier, without extra cost.
22. The supplier should be in a position to supply any spare parts (accessories required at least for period of five years after the expiry of warranty period.
23. Payment will be made after receipt of items in good and satisfactory condition including their demonstration and satisfactory installation.
24. Disputes, if any are subject to JABALPUR jurisdiction only.