Price Rs.1000/-

Tender Form
(Tender Notice No. 1/2013-2014, Dated 17/06/2013)

Tender Form for supply of Equipments/Instruments/Machine/Articles etc.
Under DST-FIST Program Level-I

Contact
Head
Post Graduate Department of Geology
Rashtrasant Tukadoji Maharaj Nagpur University
Rao Bahadur D. Laxminarayan Campus
Nagpur -440 001
Technical Specifications of Items to be purchased under DST-FIST Level-I

(1) RESEARCH POLARIZING MICROSCOPE

**Microscope Stand:** Main stand for research pol and petrological application. Built in reflected and transmitted light Emitting Diode (LED) illumination. Dovetail for interchangeable stages. Adjustable height knob. Focus stop and torque adjustment.

**Objective Nosepiece:** Centrable revolving nosepiece 5 - fold. Objectives should have a centering facility along with its optical axis.

**Stage:** Pol rotating stage (360°, 0.1°) with bracket and sub stage.

**Condenser:** Pol. Universal condenser suitable for bright field, polarization, phase contrast. Centering keys, for BF, DF, PH. Pol. & Condenser head P 0.90 S1. Condenser head, achromatic, 0.50 S15, for thicker specimen slides or heating stage applications, low strain

**Light Filters:** Stand ground with filter magazine for 3 filters, 40mm switchable daylight Grey N 16 Panchromatic Green

**Transmitted light:** The ultra-bright, high power LED illumination, constant color temperature of 4500K

**Lamp housing:** LED Lamp housing LH113; Exchangeable LED Lamp housing with constant color temp. at 4500K

**Polariser:** Polariser L ICT/P for transmitted light, rotatable/ swing out with slot for the compensators 32mm diameter

**Analysers:** IC/P 180° rotatable for RL/TL

**Sample Holder:** Object clamp for Pol rotating stage and optional XY stage attachment

**Focus knob:** Set of focus knobs fine with standard surface

**Trinocular Tube:** Documentation tube with fixed viewing angle 30°, field of view 25, variable beam splitters, 3 beam splitter positions: 100% eyepieces, 50% eyepieces: 50% documentation port, 100% documentation port

**Strain Free Universal Pol Objectives Set:**
4x/ 5x: 4x or 5x/ 0.12 POL; 10x: EPI 10x/0.25 POL; 20x: EPI 20x/0.40 OIL POL suitable for DIC; 50x: EPI 50x/0.75 OIL POL DIC compatible; 63x: EPI 63x

**Eyepeices:** Eyepiece HC PLANs 10x/22Br. M with reticle, pol.

**Heating Objectives:**
20x: H 20x/0.40 1.8qu, 10.6 mod. Suitable for heating Stage;
50x: H 50x/0.50/ Coverglasses: 1.8Q/ ICT upright: /ICR: / Thread M25/FWD 7,1: Suitable for heating Stage

**Reflected light Attachment:**


**Lamp housing:** LED Lamp housing LH113; Exchangeable LED Lamp Housing with constant color temp. at 4500K

**Polarization R/L:** Polarizer R/P for incident light with 3 resting positions 0°/45°/90°

**Colour HD Digital Camera:**

**Digital Camera:** Interface with c-mount for all micro and macroscopes; stand alone operation without any PC possible; High definition live image 1920x 1080p, 30fps; JPEG image with max. 1824x 1368 pixels, 2.5Mpixels; MP4 movie clips with max. 1920x 1080 pixels, 2 Mpixels; Camera Control via computer (PC mode) or via remote control RC2 (HD mode), switchable; Capture of JPGs or MP4s directly to SD card; Display of images or playback of movie clips directly on high- definition screen; Display of user defined overlays in the live image; USB2 connection, compatible with PCs and notebooks. Camera kit with Remote, HDMI Cable, software for PC Camera Interface: C-mount (suitable for PC / CCD)

**Computer with TFT Monitor:** Personal Computer attached with above microscope for image viewing analysis and to store data. PUC: Intel Core 2 Duo and TFT Monitor -18 inch

(2) HEATING AND FREEZING STAGE ASSEMBLY

**Heating (+600) and Freezing (-196) stage attachment**

**Heating Stage:** THMS600 Heating Stage, XY Sample Manipulation ‘Ambient to +600°c & -196°c with liquid nitrogen attachment.
Controller & Programmer: Programmer & Controller with temperature range - 196°C to +600°C.  
Ramp Rate: Up to 130°C / min heating 32 ramp temperature profile programming stand alone version.  
Stability: Temperature stability < 0.03°C  
Sample holder: 16 mm X, Y sample manipulation. Sample area 22 mm dia. Gas tight chamber for atmospheric control  
Microscope holder: Clamps directly to the microscope substage for stability  
Sensor: 100ohm platinum resistor sensor. 1/10th Din Class B to 0.1°C. Silver heating block for high thermal conductivity direct injection of the coolant into the silver block.  
Opening Window: Light aperture 2.4 mm Ø single ultra thin lid window 0.17mm  
Video Interface Software: Temperature control and analogue video capture software (incl. video fusion PCI card).  
Microscope adaptor: Adapter plate and clamps for a optical polarizing microscope.  
Freezing attachment: Liquid nitrogen Freezing Systems (achieves a stage temperature of -196°C).  
Video CCD Camera: Camera with 4-port fire wire card & fire wire cable.  
Objective: objective lens working distance 0.1mm to 4.5mm  
Condenser: Condenser lens minimum working distance 12.5mm  

(3) TRINOCULAR BIOLOGICAL RESEARCH MICROSCOPE

The Trinocular Biological Research Microscope shall be equipped with transmitted light brightfield, dark field, phase contrast and differential interference contrast, led illumination with live measurement software attached with computer and TFT monitor for image analysis and to store data.  
Stand: Power supply external for HAL 100 W lamps, stabilized including lamp sockets with switch. Should have switchable segment facility and working distance : 60-150 mm. Integrated control panel, Can bus, Indicator LED’s for active segment power supply for standalone unit. Rotatable polarization set for Ring Light with Click-stop at crossed polarization to minimize gloss marks, stabilized including lamp sockets with switch. Built-in filters 6 position filter wheel and grey filter set containing 3 grey filters 0.015, 0.06 and 0.25; 06 position reflector turret for fluorescence filter sets. Built –in variable field diaphragm for transmitted light illumination. Suitable for transmitted light studies viz. bright field, dark field, phase contrast and Differential Interference Contrast and Reflected light Fluorescence studies. Anti fungus treatment.  
Optics: Infinity Colour Corrected System optics.  
Binocular Photo Tube: Binocular photo tube with an Upright Image and 20º inclination and suitable for 23 mm field of view eyepieces and 100: 0/0: 100 ratio for observation and documentation.  
Eyepieces: 10x with field of view of not less than 22. Both the eyepieces should have diopter adjustment of +/- 5. It should capable of accepting reticules. Eyepiece with eyecups.  
Nosepiece: 6x revolving nosepiece (capable of accommodation upto 6 objectives) mounted on ball bearing with highly precise click stops and should have slots for up-gradation for DIC.  
Mechanical Stage: Dual layered with hard coat anodized surface with a stage plate of 220 x 170 mm and mechanical stage of 75 x 50 with right drive.  
Illumination: Halogen 12V 100 W illuminator with bulb. The illumination control knob and ON/OFF switch should be low positioned for convenient operation.  
Condenser: 0.9/1.25 H; Objectives: A-Plan Objectives and Fluar Objectives of 5x, 10x, 20x, 40x (plan Semi-Apochromat) and 100x (plan Semi-Apochromat) oil immersion objective with 50 ml bottle of oil. Suitable objectives for Differential Interference contrast.  
Ocular Micrometer & Stage micrometer.  
Camera Attachment: 0.5x camera adapter.  
Camera: Camera with 3.0 to 5.0 Mega Pixel Camera.  
Sensor Resolution: 2560 x 1920 pixels.  
Pixel size: 2.2 µm x 2.2 µm.  
Software: Suitable software for variety of imaging tasks such as annotations, Calibrations and Image measurements. The software should provide the means to define acquisition preferences by individual Setting Exposure time, Grain and Gamma levels as well as color depth and size. The results should be Crisp, sharp images which can be saved and displayed as thumbnails in an integrated gallery and reviewed at any time. All image related information such as acquisition time, bit depth and calibration is stored which again simplifies the retrieval process.  
Computer with TFT Monitor: Personal Computer attached with above microscope with antivirus for image viewing analysis and to store data. PUC: Intel Core 2 Duo and TFT Monitor (18 inches).  

3
(4) STEREO ZOOM RESEARCH MICROSCOPE

Specification for Microscope
Stereo Zoom Microscope Body with zoom range 7.7 : 1; Basic magnification continuously variable between 6.5x and 50x; Sturdy stand capable of taking additional optics and documentation accessories viz.; Photomicrography system, Digital Imaging and Image analysis systems; Stand fitted with easy-to-reach controls for focusing, zoom changer and illumination; Ergonomic Binocular tube inclined at 35º with built-in Plan Achromatic objective 1x and wide field 10x/23 focusable eyepieces that cover large area of sample 35.4mm to 4.6 mm; Built-in Trinocular port for attaching CCD camera/ Digital camera /35mm SLR camera; Working distance should be 92mm; For higher magnification, 2.0x objective should be available; Powerful illumination by cold light source 8V 20W with Fiber optic light guide for incident light illumination; Stemi mount with drive for column dia. 32mm; Stand S with 260 mm column height; Adapter for built-in illuminator; Cold-light source KL 300 LED for column 32 (D); Flexible light guide, 1 branch, 4.5 / 600 mm for KL 200/750; Light guide holder for Stemi mount; Dust cover should be provided along with the microscope; Digital microscope camera should be supplied along with specific adaptor

Specification for Digital Microscope Camera
Digital Microscopy Camera AxioCam with AxioVision driver, configuration tool and connection cable USB 2.0; Sensor: Micron MT9P031, 5 Megapixels, color, CMOS; Basic resolution: 2560 (H) x 1920 (V) = 5.0 Megapixels; Pixel size: 2.2 µm x 2.2 µm; Sensor size: 5.7 mm x 4.28 mm equivalent 1/2.5" (diagonal 7.1 mm)Live frame rate (depending on hardware and software configuration): H x V Frame Rate 800 x 600 max. 13; Digitization: 3 x 8 bit/pixel; Integration time: 10 µs up to 2 s Interfaces: 1x SD card slot, 1x mini USB 2.0, 1x AV (S-Video), 1x DVI-D (HDMI) Spectral range: Approx. 400 nm-700 nm, IR-Filter Read-out mode: Progressive; Optical interface: C-mount; Standalone features: Power supply via USB 2.0 or external power supply (optional) Dual color LED: Power on and ready for capture (green); Recording (blinking green); Not ready (red); Error (blinking red)Integrated slot: SD card slot for SD and SDHC cards Recording: Switch for image captureSet new white balance: Switch for new setup Supported operating systems: Windows XP x32 Prof. SP3 and Windows 7 x32 Ultimate.

Computer with TFT Monitor and Printer: Personal Computer attached with Stereo Zoom Microscope for image analysis and to store data with suitable antivirus software. PUC: Intel Core 2 Duo and TFT Monitor (18 inches) and Laser Printer to take printout of the microphotographs.

(5) TOC (Total Organic Carbon) ANALYZER

Variability with a compact shape
The modular system is based on a basic instrument which already includes the main functions: Automatic dosing and distribution of liquid samples Sparger for stripping of TIC as CO2 or POC High temperature combustion for oxi.dation of TC/NPOC or POC (VOC) to CO2 Measuring gas drying and gas flow regulation CO2 detection in the carrier gas stream Power, control and regulation electronics Instrument operation, control and measuring value processing shall be done via a connected PC or laptop. In connection with the basic instrument there a variety of modules available to achieve various applications.

Selection of liquid sample feeding
Modules shall allow the measurement of liquids either in single mode. The sample can be stirred in each of the operation modes. Air purging for stripping TIC or POC (VOC) shall be possible. All types of samplers shall be integrated in the instrument and do not require any additional footprint. Random access to selected sample positions shall be available in the TOC auto samplers.

Selection of solid sample feeding
Module shall enable the measurement of samples in tin foils or capsules in single mode. It should be suitable for solid samples but can also be used for heavy particulate containing samples, viscous liquids, semi-solids or liquid samples of very small quantity.

Variable Configuration
Shall be easily and quickly reconfigure in the TOC cube between liquids or solid sampling.

Selection of the detections
Three different NDIR detectors required for the carbon determination. A standard wide range NDIR detector is suitable for almost all applications A trace version NDIR with double cuvette length for
lowest detection limits. For very high carbon concentrations e.g. in solids, a special optional detector needed.
The content of bound nitrogen (TNb) can be optionally measured with 3 different detection types:
Electrochemical cell (EC) as the most economic detection type Chemiluminescence detector (CLD) according to DIN 38409 H27 Non dispersive IR detector for largest concentration range from 0.05 to more than 50,000 ppm.
Analysis method: **Catalytic high temperature combustion at 850°-950°C (max. 1200°C)**
Oxidation from C to CO2 which is quantitatively determined with a NDIR
Optional detection of the formed NO with NDIR, CLD or EC

**Measuring parameters: TC, TOC, DOC, NPOC, TIC, POC, optional TNb**
Norms and standards: ISO 8245, EPA 415.1, European standard acc. to EN 1484, ENV 12260, Safety standards: CE, IEC 1010, EMV; Measuring range: C 0 – 60,000 mg/l in liquids ; 0 – 100 % in solids; N 0 – 200 mg/l (CLD); 0 – > 50,000 mg/l (NDIR); Detection limits* (SD): C 6 μg/l (ppb) (3 μg/l (ppb) for trace version); N 0,02 mg/l (ppm) (NDIR); Precision* (RSD): < 1% at > 5 mg/l C; Analysis time*: 3-4 min per parameter; Sample quantity*: liquid: <50 – 2,000 μl variable solid: 1 g soil sample or 10 mg C abs. (optional up to 50 mg C); Particle size*: exceeds the requirements EN 1484 for 100 μm cellulose standard, with capsule technique no upper limit Calibration: Automatic multi point calibration; Sample feeding:  • **liquid samples manual**,  • **solid sample manual**

**Instrument control Operation and control via P. C. under Windows-7 or 8**
All instrument functions are digitally controllable, the comprehensive operation software includes e.g. automatic leak test, extensive error diagnosis, monitoring of the maintenance cycles, sleep-/wake up function, statistical evaluation and almost unlimited memory capacity for analysis data incl. graphics. Integration in data networks like LIMS and the possibility of remote control and diagnosis via the internet.

**Cylinder with Gas: Synthetic air (hydrocarbon and CO2 free) or oxygen (4.5), 200 ml/min**
Electrical connections: 100/110/200/230 VAC, 50/60 Hz, 1.8 kW
Dimensions*: 48 × 55 × 57 cm (w × d × h); Weight: approx. 60 kg
In full compliance with 21 CFR Part 11 (option)

**GENERAL TERMS AND CONDITIONS**

1. Dealers have to supply Equipments/ Machine/ Instrument/ any articles as per the Order. No alternate makes of Instruments are accepted. And if any dealer supply any alternate make of Instruments which has not been ordered these Equipments/ Machine / Instrument / any articles will be returned to them at their cost.
2. If the Equipments/Machine/Instrument/ any articles supplied are not found satisfactory, such Instruments will be return to them at their cost.
3. The Order should be complied in totality within fifteen days from date of order or to report how the matter stands.
4. Bills in Triplicate with Pre-stamped receipt/Invoices affixing with Rs.1 revenue stamp should be sent to us within fifteen days.
5. Delivery of Equipments/Machine/Instrument/ any articles are FOR at Head, PG Department of Geology, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
6. Please note that our Banker is Bank of India, Rashtrasant Tukadoji Maharaj Nagpur University Extension Counter, University Campus, Nagpur-440 033.
7. Outside dealers are requested to negotiate all documents through the above mentioned Bank.
8. While submitting your quotation kindly mentioned terms and condition clearly regarding i) VAT Tax  ii) Sale Tax iii) Octroi  iv) Excise Duty and any other tax applicable.
9. Octroi and Excise duty certificate will be provided if the Proforma Invoice and consignment are made on the name of Head of the Department of Geology Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur. In no case the University will pay the Octroi Tax/Excise Duty.
10. The rates mentioned in the quotations should be valid for six months duration.
11. A performance guarantee of the instrument / equipment is to be given with minimum validity for 12 months or more from the date of installation.

12. Blank tender form will be issued after receiving demand draft of any Nationalized/Schedule bank of Rs. 1000/- in favour of The Head, Department of Geology, R.T.M. Nagpur University, Nagpur - 440 001.

13. Earnest Money Deposit (EMD) in the form of demand draft of any Nationalised/Schedule bank of 1% per item drawn in favour of The Head, Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001 should be submitted in Envelope No. 1. This money (EMD) shall be refunded to the unsuccessful dealer/bidder, within 30 days from the date of the opening of the tenders. No interest shall be paid on earnest money deposited. In case of successful dealer the EMD shall be refunded after the official order and successful installation at Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001 (MS) India. Any offer received without the EMD shall stand wholly rejected. Nevertheless, Decision of the Head, Department of Geology, R.T.M. Nagpur University, Nagpur. (MS) India, on such matters shall remain final and binding.

14. **Procedure strictly to be followed for submission of Tender Form:**
   
a) The sealed tender should be submitted as per the two bid system (Technical and Price /Commercial).

b) Envelope No. 1 (Technical Bid): This envelope should contain with details like Registration certificate of the firm, IT Certificate & its clearance, Sale tax registration certificate & its clearance, VAT registration & clearance, technical specification authorization from the manufacturers, previous experience etc.) & the Dealers/ Bidders must sign all pages of the tender form with their stamp.

c) Envelope No.2 (Price Bid/ Commercial): All pages by of the price bid should be signed by the Dealers/ Bidders with their stamp.

d) Envelope No. 3: This envelope should contain envelopes 1 and 2 along with EMD of 1% of the cost of the items.

15. The tender form downloaded from www.nagpuruniversity.org should be accompanied by a DD of Rs. 1000/- as the formal tender form fee.

16. The supplier shall provide both technical/onsite demonstration /service manual and operation/ installation manual along with the dust cover for the equipment free of cost.

17. In case of any dispute the jurisdiction shall be Nagpur.

18. The tender for equipment/instruments must be sent in sealed envelope with the superscription “Tender for instruments/equipment for DST-FIST Program Level-I” Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001 and addressed to the Head, Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001 (MS) India.

19. No correspondence queries or reminders or personal visits regarding quotation position or ordering action will be entertained or replied. Orders when finalized will be intimated to the parties concerned only.

20. Outside dealers are requested to quote the mode of dispatch of articles, i.e. by Railway, Post Parcel, Currier or Goods Transport or Air Mail.

21. Two bid system will be followed. First technical bid (envelope no. 1) will be opened. After the fulfillment of all the necessary documents along with EMD enclosed in envelope no. 1), then commercial bid (i.e. envelope no. 2) of the required technical specifications will be only opened. It is, therefore, suggested to submit two independent envelops for technical and financial bids.

22. Kindly mention Sales Tax / Registration number of the firm.

23. Payment: Advance payment will not be made.

24. Any special discount for Educational / Research Institution should be specified.

25. Equipments / Machine / Instrument/ any articles shall be accepted on any working days up to 5-00 p.m.

26. Schedule of the date is as given below (on working days up to 04.00 pm):
i. Sale of blank tender form: **17-07-2013 to 06-08-2013**

ii. Submission of tender form: on or before **06-08-2013 up to 04.30 pm**

27. Opening of tender form: **12-08-2013 (3.00 pm)** at the university office located at the Mahatma Jyotiba Fule Educational campus, Amravati Road, Nagpur

28. The Head, Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001 (MS) India reserves the right to reject lowest of any tender and to increase or decrease the quantity of or split of the items of the tender at any time while finalization of the order.

29. The Head, Department of Geology, R.T.M. Nagpur University, Nagpur- 440 001(MS) India reserves the right to reject any or all of the tenders without assigning any reasons thereof.

**IMPORTANT NOTE:**

i. The tender may be accompanied with an undertaking from the party/supplier that the terms and conditions of the tender are acceptable and binding on the party/supplier.

ii. Please return this copy of terms and conditions duly signed and stamped along with the tender documents.

iii. The goods must be dispatched on CIF Nagpur basis ONLY.

iv. **Prize must be quoted in Indian Rupees only.**

v. **Separate envelopes (Envelope 1: Technical and Envelope 2: Price /Commercial) must be submitted for each item.**

Head
PG Department of Geology
Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur
Name of the Supplier / Firm: ..........................................................................................
..........................................................................................

Whether Sole Proprietor / Partnership/ Pvt. Ltd., Public Limited under Indian Company’s Act, 1956, with copy of Partnership Public Ltd., Registration Certificate

Name of Sole Proprietor or Managing Partners or Managing Director and other Directors with Address and Telephone numbers

Details of Registered Office and other Regional Offices: ..........................................................................................

Contact Person for the matters as regard to the present contract (legal authority may be cited): ..........................................................................................

Signature of the Supplier / Firm: ..........................................................................................

Office Stamp / Seal: ..........................................................................................

Place: ..........................................................................................

Date: ..........................................................................................