

# INDIRA GANDHI NATIONAL TRIBAL UNIVERSITY, AMARKANTAK, M.P.



**Two Bid**

**TENDER INVITED**

**For Supply of  
Geological Equipments for the Department of Geology,  
IGNTU Amarkantak**

Tender No. IGNTU/2018/P&S/934

INDIRA GANDHI NATIONAL UNIVERSITY, AMARKANTAK  
LALPUR, DISTT- ANUPPUR (M.P.) – 484 886

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INDIRA GANDHI NATIONAL UNIVERSITY, AMARKANTAK  
LALPUR, DISTT- ANUPPUR – 484 886  
Tender No. IGNTU/2018/P&S/934

**NOTICE INVITING TENDER**

**Subject- Two Bid Tender invited for Supply of Equipments-reg.**

The Indira Gandhi National Tribal University, Amarkantak (M.P.) (IGNTU) invites sealed tender/quotations under **Two-Bid System for Supply of Equipments** for the **Department of Geology** from the reputed and well established agencies/authorized suppliers.

The tender documents is in **Two-Bid System** i.e. Technical Bid & Financial Bid .The technical bid will be opened on the designated date and the financial bid containing the rate of various item(s) will be opened on a suitable date, to be intimated later in respect of those who qualify the terms and conditions of the technical bid.

**Date of issue of tender form: 06<sup>th</sup> September 2018.**

**Last date of receiving tender documents: 01<sup>st</sup> Oct. 2018.**

**Tender opening (Technical bid) date: 03<sup>rd</sup> Oct. 2018.**

The interested bidders may also attend the meeting on scheduled date and time. The details of equipments is given in Part-2 of the Tender Notice.

The tender documents must be duly sealed by the bidder (s). The Technical Bid should be sealed in separate inner covers and clearly Superscripted "**Technical Bid for Supply of Equipment for the Department of Geology**". The Financial Bid also kept in separate inner envelop and clearly Superscripted "**Financial Bid for Supply of Equipments**" and both the sealed tender documents (inner envelopes) must should be kept in a main/ bigger envelope Superscripted as "**Two Bid Tender Documents Supply of Equipments for the Department of Geology**" and may be sent to: **Registrar, Indira Gandhi National Tribal University, Amarkantak (M.P.)- 484887.**

The sealed tender document must be reached through speed post/registered post only on or before last date and time. If the tender document is submitted without required tender fee & EMD also it will summarily be rejected. Incomplete tenders and if the tenders received after due date and time will also not be accepted.

Non-transferable tender documents can be downloaded from the IGNTU website i.e. **[www.igntu.ac.in](http://www.igntu.ac.in)** and submitted on or before designated date and time on payment of Non-Refundable Tender fee Rs.5000/- (Rupees Five Thousand only) and EMD as per the specifications of the equipments and must be remitted through Demand Draft in favour of **Indira Gandhi National Tribal University, Amarkantak**. The direct cash deposition into University account and other mode of payment will not be considered. The original DD i.e. Tender Fee as well EMD money must be attached along with the technical bid. The University will not be responsible for any matter related to the non-payment of the fee. The EMD of the unsuccessful bidders shall be returned as per after expiry of the final bid validity or the DD may be returned as the case might be.

**Registrar**



### General Terms & Conditions

1. The tender documents is in **Two-Bid System** i.e. Technical Bid & Financial Bid .The technical bid will be opened on the designated date and the financial bid containing the rate of various item(s) will be opened on a suitable date, to be intimated later in respect of those who qualify the terms and conditions of the technical bid.
2. That the delivery/supply will be made on F.O.R. basis to the Indira Gandhi National Tribal University, Amarkantak, (M.P.). Rates should be quoted inclusive of Packaging Forwarding, Postage and Transportation charges, Octroi, etc.
3. The tender documents will be opened on the designated date and time. The incomplete proposal and Late Bid will not be acceptable at any circumstances.
4. That the freight, insurance charges, if any will not be borne by the IGNTU. Similarly shortage, pilferage, damage in transit will be the sole responsibility of the supplier.
5. The firm will supply the material as per supply order and defective supply of material will not be accepted in any circumstances. The defective supply will not be accepted and the same will have to be replaced by the supplier within 7 days without freight/transport or any other charges.
6. Taxes and other Govt. levies will be paid extra as applicable.
7. That the delivery of goods will be taken at the risk and cost of the supplier only.
8. Average annual financial turnover of the agencies /firm (s) for the last 03 financial years should be as per the description in the following table:

S.No.	Equipments	Average Annual Turnover (Rs.)
1	<b>Trinocular Petrological Polarizing research grade Microscope with Camera, Software with essential accessories and spares attached with computer and colour Printer</b>	Rs. 5 lakhs
2	<b>Geological Thin Section Preparation Unit</b>	Rs. 1.20 lakhs
3	<b>Hand held GPS units</b>	Rs. 0.36 lakhs
4	<b>Trinocular Stereo Zoom Micropaleontological Microscope with Camera, computer, Software with essential accessories and spares</b>	Rs. 4 lakhs
5	<b>Clinometer Compasses</b>	Rs. 0.10 lakhs
6	<b>Lab Analytical Balance</b>	Rs. 0.50 lakhs
7	<b>Muffle Furnace</b>	Rs. 0.20 lakhs
8	<b>Vibrating Disc Mill</b>	Rs. 4 lakhs
9	<b>Jaw crusher</b>	Rs. 4 lakhs
10	<b>Pellets Making Machine</b>	Rs. 1.2 lakhs
11	<b>X-Ray Fluorescence (XRF) with Computer, Colour printer and Accessories</b>	Rs. 15 lakhs
12	<b>DESKTOP COMPUTER for using Arc GIS</b>	Rs. 1 lakh
13	<b>Colour Multifunctional Printer</b>	Rs. 0.10 lakhs
14	<b>Laboratory Hot Air Oven</b>	Rs. 0.20 lakhs
15	<b>Laboratory Fume Hood</b>	Rs. 0.25 lakhs

16	<b>Hot Plate</b>	Rs. 0.10 lakhs
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9. Copy of the CA certified income tax returns, balance sheet and profit and loss account of last 03 years must be submitted by the bidder.
10. State whether the firm (s) have been currently banned/blacklisted by any Ministry/Deptt. of Central Govt. or any State Govt. Submit an Affidavit to this effect.
11. That the supply of material will have to be completed within 30 days from date of issue of work order. The liquidated charges @0.5% per week shall be imposed if supply made after expiry of delivery period subject to maximum 5% of the total value of goods/contract value.
12. No revision in rate (on higher side) will be accepted at any stage.
13. If the tender document is submitted without deposition of EMD and Tender Fee it will be rejected out rightly.
14. Tender Fee and EMD fee shall be deposited through DD only drawn of any nationalized bank. Other mode of payment and direct cash deposit into university account will not be accepted.
15. In case of items/instruments which have been asked for 5 year on-site warranty, the price of instrument/item with free warranty and extended warranty (year wise after free warranty period) should be quoted separately.
16. No payment will be made for unsatisfactory/damaged supply of material (s)/uninstalled item(s).
17. The perishable store and the rejected material must be replaced free of cost by the supplier immediately.
18. The firm shall not assign or sublet the work/job or any part of it to any other firm.
19. In case of discrepancy between unit price & total price, the unit price shall prevail.
20. The payment will be made after successful supply of the ordered quantity and quality of the materials at our end in good condition subject to production of the Physical Verification Report of the User Department/ nominated committee. No advance payment will be made at any stage. The payment shall be released only after the successful installation of the item(s), if any, subject to the production of the satisfactory certificate by the User Department/nominated committee. No payment shall be made for the delivered item(s) which have not been installed.
21. Vendor will have to demonstrate the working of the instrument at the installation in India at no cost to the University.
22. The bidders shall submit the copy of the Valid PAN No./GSTIN No./TIN No. and Registration of firm along with the quotation.
23. The bill(s) must be prepared/raised in the name of the Registrar, IGNTU, Amarkantak, M.P.
24. In case of breach of any of the conditions above, the decision of the Competent Authority Indira Gandhi National Tribal University will be final and binding.
25. The IGNTU, Amarkantak reserves the right to cancel the tender without assigning any reason thereof & no further correspondence shall be entertained in this regard.
26. If any legal disputes arise in connection with the execution of the tender will be subject to the jurisdiction of the District Court Anuppur, M.P. only.
27. If any information is required for the Equipment related the bidder may contact with Head, Department of Geology, email id [meraj.alam@igntu.ac.in](mailto:meraj.alam@igntu.ac.in).
28. The successful bidder will have to deposit a **Performance Security amount @10%** of the amount ordered for supply as per the GFR 2017.
29. EMD of the successful bidder shall be returned after the receipt of Performance Certificate as per GFR 2017.

30. Evaluation criteria:

- i. At first stage only technical bid will be opened.
- ii. The cost of tender document and EMD is deposited by the bidder.
- iii. Average annual turnover of the firm during last three years.
- iv. Financial bid will be opened for only those bidders who qualify the technical bid evaluation. The evaluation by the University will be final.

**Registrar**



**TENDER FORM - 1 Technical Bid**

(Tenderer may use separate sheet wherever required)

**Sub: Two Bid Tender Invited for Supply of Equipment -reg  
Part-A**

1	Tender Ref. No./Notification No.	
2	Name & full address of the Firm & year of establishment	
3	Annual Turnover of the firm/company:	Rs. _____
	Last Three financial years. (enclosed documents in support of claim)	Rs. _____
		Rs. _____
4	Whether the firm is registered: under company Act 1985. If yes enclosed certified copies	
5	a. CA Certified copies of Income tax.	
	b. copy of the Balance sheet and Profit and Loss account of the last 03 years	
6	a) TIN No.	
	b) PAN No.	
	c) GSTIN No.	
7	Details of the Earnest Money Deposit (EMD) as per the specifications of the equipments. If not applicable please specify.	
8	Details of the cost of the tender documents worth Rs. 5000/-(Rupees Five Thousand only). If not applicable please specify	
9	State whether you have been currently banned/blacklisted by any Ministry/Deptt. of Central Govt. or any State Govt. If so give details. Submit an Affidavit.	

**Undertaking**

1. That I/we have carefully studied all the terms & conditions and shall abide by it.
2. That I/We shall supply the items of requisite quality.
3. That I/We undertake that the information given in this tender are true and correct in all respect and I/We hold the responsibility for the same.

Date:

(Seal & Signature of the Bidder)

Place:





**Part-C**  
**Format for EMD**

S.No.	Equipments	EMD Amount (Rs.)	DD No. and date
1	<b>Trinocular Petrological Polarizing research grade Microscope with Camera, Software with essential accessories and spares attached with computer and colour Printer</b>		
2	<b>Geological Thin Section Preparation Unit</b>		
3	<b>Hand held GPS units</b>		
4	<b>Trinocular Stereo Zoom Micropaleontological Microscope with Camera, computer, Software with essential accessories and spares</b>		
5	<b>Clinometer Compasses</b>		
6	<b>Lab Analytical Balance</b>		
7	<b>Muffle Furnace</b>		
8	<b>Vibrating Disc Mill</b>		
9	<b>Jaw crusher</b>		
10	<b>Pellets Making Machine</b>		
11	<b>X-Ray Fluorescence (XRF) with Computer, Colour printer and Accessories</b>		
12	<b>DESKTOP COMPUTER for using Arc GIS</b>		
13	<b>Colour Multifunctional Printer</b>		
14	<b>Laboratory Hot Air Oven</b>		
15	<b>Laboratory Fume Hood</b>		
16	<b>Hot Plate</b>		

**Date**

**Seal & Signature of the bidder**

**Place**





### **Part-D**

(Tenderer may use separate sheet wherever required)

#### **Sub- Two Bid Tender Invited for Supply of Equipments- reg.**

1. The requirements/specifications of the instruments are given below. Please furnish details for compliance of the specifications as given below:

S.No.	Item Description	Compliance of the Specifications (Yes/No)	Remarks
1	<p><b>Trinocular Petrological Polarizing research grade Microscope with Camera, Software with essential accessories and spares attached with computer and colour Printer</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 60,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. Microscope</b></p> <ul style="list-style-type: none"><li>• Microscope system designed for qualitative and quantitative polarization microscopy for both ore and thin-section of different rocks for both orthoscopy and Conoscopy</li><li>• Magnification of 25x, 50x, 100x, 200x, 500x, 1000x at eyepiece level including Bertrand lens and gypsum/ mica plate</li><li>• Colour corrected infinity optical system</li><li>• Widefield binocular observation tube</li><li>• Trinocular stand</li><li>• LED Stand with 4 Position centerable nosepiece</li><li>• Koehler Illumination</li><li>• Polarizer for Transmitted Light</li><li>• Circular rotating stage with graduations and adjustable brake LED illumination</li><li>• Objective centering tools</li><li>• 2 Object Clamps</li><li>• Dust Cover</li><li>• Manual</li><li>• Module with slot for Analyzer Sliders</li><li>• 30 degree Trinocular Pol Tube with eyepiece locking mechanism</li><li>• Achromat swing-out condenser/ Pol Abbe Condenser 0.85</li><li>• Quartz wedge</li><li>• <math>\lambda</math> plate for condenser CLP/PH in slider</li><li>• <math>\lambda/4</math> condenser compensator</li><li>• Analyzer 180°, rotatable, in slide bar 30 x 5mm, revolving 180° with scale intervals of 5°</li><li>• 10X/20 Focusing Eyepiece with Eyeguard Accepts a 24.5mm</li></ul>		

diameter reticule

- 10X/20 focusing eyepiece with eyeguard, Crosshair reticule, and key for orientation
- Reticule for eyepiece 100 divisions
- Point counter
- Object guide without point counter
- India power cord
- Rotatable polariser
- Coarse focus with torque adjustment
- Fine focus with best possible minimum increments
- Polarising mechanical stage
- Camera adapters
- Accessories and spares

**b. Digital Camera with linear measurement software**

- Digital camera with sw kit
- Colour digital camera for on-screen microscope image display
- Resolution (No. of pixels) 2048x1536,
- Upto 5 megapixels
- CMOS Sensor with 1/1.8" or bigger sensor size
- Colour filter RGB (Bayer), colour depth 30 bits
- Exposure time 0.1 millise- 2 sec
- Full size live image
- VGA, SVGA, XGA and XVGA image formats
- Gain 1x - 20x, shading correction, optical C-mount, recommended video adapter 0.63x,
- Supported operating systems PC Win7/Win8/Win10/ Mac OS-X
- Provisions for software interpolation
- RGB color filter mask
- Exposure control: Automatic and manual both (via remote-control and via comp.)
- USB 3.0 interface to PC
- 0.5x C-mount camera adapter

**c. Software**

Camera operations should be controlled by the software. The software should have image acquisition tools with interactive measurement analysis, point counter, area measurement, length/width measurement, angle measurement, documentation ability, objective calibration, 3D image rebuilding feature, Live image capturing function, live movie recording tool multipoint image capturing, Z stack image capturing function integrated with hardware for stacking image mosaic, Extended depth of focus module/plugin/hardware, Histogram, report generator and microscope control. Software calibration of scale should be automatic with change in magnification of the microscope.

**Microscope, Camera and Software must be from the same manufacturer for optimum co-ordination and functionality among them.**

**d. Desktop Computer** : for image acquisition and analysis  
Specification for the desktop computer –

- Intel Core i7-8<sup>th</sup> generation Processor
- Integrated Intel motherboard with cabinet
- 8GB DDR3 RAM Memory Card.
- 01 TB Hard Drive
- Graphics Card,
- DVD writer
- Keyboard & wired optical mouse.
- 27" LED Monitor
- USB 3.0 and 2.0 port
- HDMI Port
- Ethernet port
- Windows 10, 64 bit
- MS-Office
- Corel Draw
- Adobe Photoshop
- UPS (1kW backup)

**e. Colour Printer**

- Functions: Print, copy, scan
- Duty cycle (monthly, A4): Up to 1000 pages
- Recommended monthly page volume: 400 to 800
- Print technology: Inkjet
- Printer drivers included
- Print quality (best) Color: Up to 4800 x 1200 optimized dpi  
color Black: Up to 1200 x 1200 rendered dpi
- LCD Display
- Processor speed: 360 MHz
- Wireless capability: Yes
- 1 Hi-Speed USB 2.0
- Paper handling input, standard 60-sheet input tray
- Paper handling output, standard 25-sheet output tray
- Duplex printing Manual/Automatic
- Media sizes supported: A4, B5, A6, DL envelope
- Media types: Plain paper, Photo paper, Brochure paper
- Borderless printing: Yes
- Scanner type: Flatbed
- Scan file format: JPEG, TIFF, PDF, BMP, PNG
- Scan resolution, optical Up to 1200 dpi
- Scan size, maximum 216 x 297 mm
- Software for scanning
- Power: Input voltage 100 to 240 VAC (+/- 10%), 50/60 Hz

	<p>(+/- 3 Hz).</p> <ul style="list-style-type: none"> <li>• High voltage: Input voltage 200 to 240 VAC (+/- 10%), 50/60 Hz (+/- 3Hz)</li> <li>• Power consumption: 10 watts maximum, 0.07 watts (Off), 2.1 watts (Standby), 0.88 watt (Sleep)</li> </ul> <p><b>f. Warranty:</b> Five year On-Site Warranty of supplied microscope system (including Camera, Software, UPS and PC)</p> <p><b>g. Inverter</b></p> <ul style="list-style-type: none"> <li>• Output Power: 0.875 KVA</li> <li>• Voltage: 12 V</li> <li>• Technology: IGBT based PWM technology</li> <li>• WaveForm: Pure Sine Wave</li> <li>• Recharge Time: 6 Hr(s)</li> <li>• Warranty: 2 Year(s)</li> </ul>		
2	<p><b>Geological Thin Section Preparation Unit</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 16,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. Petrography Cutting Machine</b></p> <ul style="list-style-type: none"> <li>• Geological Specimen cutting diameter up to 8'' diameter diamond saw attached with 220 V AC</li> <li>• Extra Diamond saw</li> </ul> <p><b>b. Geological Rock Grinding Machine Single Speed</b></p> <ul style="list-style-type: none"> <li>• Motorized to be run on 220V AC</li> <li>• Constant speed</li> <li>• Single disc 20 cm diameter brass Lap</li> </ul> <p><b>c. Geological Polishing Machine</b></p> <ul style="list-style-type: none"> <li>• Double disc 20 cm diameter brass lap, 2 Nos.</li> <li>• To be run on 220V AC</li> <li>• Constant speed</li> <li>• Extra Brass Lap for polishing</li> <li>• Extra Steel Lap</li> </ul> <p><b>d. Sieve Shaking Machine</b></p> <ul style="list-style-type: none"> <li>• 220 V Ac with time switch</li> </ul>		
3	<p><b>Hand held GPS units</b></p> <p><b>Quantity- 10 No.</b></p> <p><b>EMD- 5,000/-</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Capable of showing Latitude and Longitude</li> <li>• Built in Barometric Altimeter and electronic compass</li> <li>• Battery operated</li> <li>• Colour display TF screen</li> <li>• Receiver Sensitivity: High</li> <li>• Micro SD card slot</li> <li>• More than 100 plus user datums</li> <li>• USB Cable and software for USB and serial interface,</li> </ul>		

	<p>computer cable, and other accessories</p> <ul style="list-style-type: none"> <li>• Carrying case</li> <li>• Waterproof casing</li> <li>• Warranty: 1 year minimum</li> </ul>		
4	<p><b>Clinometer Compasses</b></p> <p><b>Quantity- 20 No.</b></p> <p><b>EMD- 1,000/-</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Adjustable needle locking mechanism</li> <li>• Hinge clinometer with 1° increments for 1/2° readable dip measurements</li> <li>• Two long-level bubbles on the outside of the aluminum housing for no guess leveling from the sides or the bottom</li> <li>• Cover hinge assembly designed for increased durability</li> <li>• Azimuth accuracy +/- 1/2° with 1° graduations</li> <li>• Vertical angle accuracy +/- 1/2° with 1° graduations and 10 minute vernier</li> <li>• Vertical angle measurements to +/- 90° or 100% grade</li> <li>• Induction dampened needle for quick, accurate readings</li> <li>• Magnetic declination adjustment</li> <li>• Precision aligned mirror with convenient see-through sighting capability</li> <li>• Aluminum body assembly</li> <li>• for permanent color and scratch resistance</li> <li>• Ball &amp; socket tripod mount is centered for increased accuracy of rotation</li> <li>• Waterproof for increased reliability</li> <li>• Leather case included</li> </ul>		
5	<p><b>Trinocular Stereo Zoom Micropaleontological Microscope with Camera, computer, Software with essential accessories and spares</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 48,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. Microscope</b></p> <ul style="list-style-type: none"> <li>• Trinocular Stereo Zoom Microscope with system to achieve higher resolution and depth of focus at highest zoom levels.</li> <li>• Focus unit with focus mount adapter.</li> <li>• Zoom ratio range 15:1 or higher</li> <li>• 10 X Eyepiece pair. It must have rubber eye-shields and Reticule Holder.</li> </ul>		

- High Resolution Objective which can offer true-to-life colours and higher resolutions with NA: 0.14 or higher.
- Working distance of minimum 60 mm or higher using 1 X objective.
- Magnification of 150 mm or higher with configuration of 10 X eyepiece pair and 1X Plan Apo Objective.
- Resolution of 420LP/mm or higher using 1 X PlanApo objective and 10 X Eyepiece pair.
- Trinocular eyepiece tube with low inclination viewing angle of 15/20/35 degrees.
- Handy and easy access to zoom and focus controls with LCD monitor to provide information about Zoom factor, objective lens, filter cube, and LED DIA brightness.
- Transmitted light LED Illumination base with slim design for bright field/dark field and oblique illumination. Episcopic cold LED light source through bifurcated double arm goose neck fiber illuminator. The light source from transmitted and reflected light should be independent.
- **Accessories** (Dust cover, Extra bulb for illuminator, Stand for studying samples etc.)

**b. Camera:**

- High definition and resolution scientific and research digital color camera with upto 5 megapixel resolution or higher with driver software.
- Sensor with 1/1.8' or bigger sensor size
- 30 fps with full HD and live display mode
- Provisions for software interpolation
- RGB color filter mask
- Exposure control: Automatic and manual both
- USB 3.0 interface to PC
- 0.5x C-mount camera adapter

**c. Software:**

Camera operations should be controlled by the software. The software should have image acquisition tools with interactive measurement analysis, point counter, area measurement, length/width measurement, angle measurement, documentation ability, objective calibration, 3D image rebuilding feature, Live image capturing function, live movie recording tool multipoint image capturing, Z stack image capturing function integrated with hardware for stacking image mosaic, Extended depth of focus module/plugin/hardware, Histogram, report generator and microscope control. Software calibration of scale should

	<p>be automatic with change in magnification of the microscope.</p> <p><b>Microscope, Camera and Software must be from the same manufacturer for optimum co-ordination and functionality among them.</b></p> <p><b>d. Desktop Computer</b> : for image acquisition and analysis Specification for the desktop computer –</p> <ul style="list-style-type: none"> <li>• Intel Core i7-8<sup>th</sup> generation Processor</li> <li>• Integrated Intel motherboard with cabinet</li> <li>• 8GB DDR3 RAM Memory Card.</li> <li>• 1 TB Hard Drive</li> <li>• Graphics Card,</li> <li>• DVD writer</li> <li>• Keyboard &amp; wired optical mouse.</li> <li>• 27" LED Monitor</li> <li>• USB 3.0 and 2.0 port</li> <li>• HDMI Port</li> <li>• Ethernet port</li> <li>• Windows 10, 64 bit</li> <li>• MS-Office</li> <li>• Corel Draw</li> <li>• Adobe Photoshop</li> <li>• <b>UPS (1KW backup)</b></li> </ul> <p><b>e. Warranty:</b> Five year On-Site Warranty of supplied microscope system (including Camera, Software, UPS and PC)</p>		
6	<p><b>Lab Analytical Balance</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 4,000/-</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Maximum Capacity-100 g</li> <li>• Readability-0.01 mg</li> <li>• Repeatability (Test Weight)- 0.04 mg (100 g)</li> <li>• Minimum Weight (USP), Typical-45 mg</li> <li>• Settling Time-1.5 s</li> <li>• Weighing Pan Diameter-80 mm</li> <li>• Interfaces RS 232 and USB</li> <li>• Adjustment Internal / FACT Resolution 0.01 mg</li> <li>• Housing Die-cast aluminum, plastic PA-12</li> <li>• Dimensions (DxHxW) 358 mm x 331 mm x 247 mm</li> <li>• Minimum Weight (USP, 0.1%, typical)N/A</li> <li>• Minimum sample weight (acc. to USP)N/A</li> </ul>		
7	<p><b>Muffle Furnace</b></p> <p><b>Quantity- 01 No.</b></p>		

	<p><b>EMD- 2,000/-</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Capacity- 2.1L (0.07 cu. ft.)</li> <li>• Temperature range -100° to 1100 °C ±0.5 °C at 1000 °C (±5.0 °C at 1000 °C)</li> <li>• Interior DxWxH- 15.2 x 12.7 x 10.8 cm (6 x 5 x 4.25 in)</li> <li>• Exterior LxWxH- 40 x 25 x 37 cm (15.8 x 10 x 14.5 in)</li> <li>• Electrical - 240 V, 50/60 Hz 1520 W, 6.3 A</li> <li>• Plug type- Indian</li> </ul>		
8	<p><b>Vibrating Disc Mill</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 48,000/-</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Size reduction, mixing, trituration</li> <li>• Field of application: construction materials, / Hard rocks, geology /metallurgy, glass</li> <li>• Feed material should be medium-hard, hard, brittle, fibrous</li> <li>• Size reduction principle: Pressure, friction</li> <li>• Material feed size: &lt; 20 mm</li> <li>• Final fineness: &lt; 20 µm</li> <li>• Batch size / feed quantity: 35 - 2,000 ml</li> <li>• Speed at 50 Hz (60 Hz): 912 min-1</li> <li>• Material of grinding tools: chrome steel, hardened steel, tungsten carbide, zirconium oxide,</li> <li>• Grinding jar sizes: 100 ml / 800 ml / 1,000 ml / 2,000 ml</li> <li>• Setting of grinding time: digital, 00:00 to 59:59</li> <li>• Drive: 3-phase motor</li> <li>• Drive power: 2.2 kW</li> <li>• Electrical supply data: different voltages</li> <li>• Power connection: 3-phase</li> <li>• W x H x D closed: 1150 x 1400 x 810 mm</li> <li>• Warranty: Five year On-Site Warranty of supplied item</li> </ul>		
9	<p><b>Jaw crusher</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 48,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. Jaw crusher</b></p> <ul style="list-style-type: none"> <li>• Coarse and pre-crushing</li> <li>• Field of application: construction materials, geology / metallurgy, glass / ceramics</li> <li>• Feed material should be medium-hard, hard, brittle, tough</li> <li>• Material feed size: &lt; 40 mm and Final fineness like &lt; 0.5 mm</li> <li>• Material of grinding tools: manganese steel, stainless steel, tungsten carbide, zirconium oxide,</li> <li>• Jaw width: 45 x 59 mm</li> <li>• Dust extraction unit should be dust-tight</li> <li>• Process line use is possible by removing drawer</li> <li>• Collector capacity: 3l</li> <li>• Drive: 3-phase motor with frequency converter</li> </ul>		



	<ul style="list-style-type: none"> <li>• Drive power: 1.1 kW</li> <li>• Electrical supply data in different voltages</li> <li>• Power connection 1-phase</li> <li>• W x H x D closed: 420 x 460 x 560 mm</li> </ul> <p><b>b. Warranty: Five year On-Site Warranty of supplied item</b></p>		
10	<p><b>Pellets Making Machine</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 16,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. Pellets Making Machine</b></p> <ul style="list-style-type: none"> <li>• Maximum Force: 40 TON</li> <li>• Hydraulic Pump Capacity: 4 Litres per minute.</li> <li>• Hydraulic Pump Feed Rate: 3mm/sec in upward direction &amp; 5mm/sec in downward direction</li> <li>• Max Hydraulic Pressure: 250 bar</li> <li>• Safe Operating Pressure: 200 bar</li> <li>• Pump Power Required: 3Ø, 4 pole with 16 amp MCB.</li> <li>• Time for one operation: 60 sec approx.</li> <li>• Operation: Single switch operation, all parameters completely programmable.</li> <li>• Display: Digital display showing all set and actual parameter values. Electronics: Modular connection for easy and quick service.</li> <li>• Machine Dimension: 900 x 700 x 1000 mm</li> <li>• Working Height: 1000 mm</li> <li>• Pressure force increase / holding / decrease time fix ramp / 1 - 99 s / fix ramp</li> <li>• Parameter combinations 10</li> <li>• Steel rings (external Ø / internal Ø) 32 mm / 40 mm</li> <li>• Electrical supply data 110-240 V, 50/60 Hz</li> <li>• Power connection 1-phase</li> <li>• Standards CE</li> <li>• Hydraulic Oil of proper grade and sufficient amount has to be arranged by the vendor during installation.</li> </ul> <p><b>b. Warranty: Five year On-Site Warranty of supplied item</b></p>		
11	<p><b>X-Ray Fluorescence (XRF) with Computer, Colour Printer and Accessories</b></p> <p><b>Quantity- 01 No.</b></p> <p><b>EMD- 1,50,000/-</b></p> <p><b>Specifications:</b></p> <p><b>a. X-Ray Fluorescence (XRF)</b></p> <ul style="list-style-type: none"> <li>• X-ray generator Max. 50 kV, 4 mA</li> <li>• X-ray tube Pd target, 200 W air-cooled</li> <li>• Crystal changer 3 crystal changer</li> </ul>		

- Analyzing crystals
- Standard: LiF 200 (for Ti-U) and PET (for Al-Ti), option: RX25 (for F-Mg) or Ge (for P-Ca)
- Detectors
- Light elements: F-PC (gas flow proportional counter), heavy elements: SC (scintillation counter)
- Primary beam filter Automatic in and out; Zr filter for Cd analysis (standard) and Al filter for trace K analysis
- Sample changer 12-position sample turret
- Sample size : Maximum sample size 44 mm diameter, 33 mm height
- Sample spinning : 30 rpm
- Spectrometer chamber atmosphere
- Vacuum, vacuum/helium (option)
- Vacuum pump Rotary pump
- Power requirements : 100 – 120V (50/60 Hz) 15A or 200 – 240V (50/60 Hz) 10A
- Installation environment :Temperature 15-28°C

**b. Desktop Computer** : for image acquisition and analysis  
Specification for the desktop computer

- Intel Core i7-8<sup>th</sup> generation Processor
- Integrated Intel motherboard with cabinet
- 8GB DDR3 RAM Memory Card.
- 1 TB Hard Drive
- Graphics Card,
- DVD writer
- Keyboard & wired optical mouse.
- 27" LED Monitor
- USB 3.0 and 2.0 port
- HDMI Port
- Ethernet port
- Windows 10, 64 bit
- MS-Office
- Corel Draw
- Adobe Photoshop
- UPS (1kW)

**c. Colour Printer**

- Functions: Print, copy, scanner
- Duty cycle (monthly, A4): Up to 1000 pages
- Recommended monthly page volume: 400 to 800
- Print technology: Inkjet
- Printer drivers included
- Print quality (best) Color: Up to 4800 x 1200 optimized dpi  
color Black: Up to 1200 x 1200 rendered dpi
- LCD Display
- Processor speed: 360 MHz
- Number of print cartridges: 1 black bottle, set of 3 color bottles
- Wireless capability: Yes
- 1 Hi-Speed USB 2.0

	<ul style="list-style-type: none"> <li>• Paper handling input, standard 60-sheet input tray</li> <li>• Paper handling output, standard 25-sheet output tray</li> <li>• Duplex printing Manual/Automatic</li> <li>• Media sizes supported: A4, B5, A6, DL envelope</li> <li>• Media types: Plain paper, Photo paper, Brochure paper</li> <li>• Borderless printing: Yes</li> <li>• Scanner type: Flatbed</li> <li>• Scan file format: JPEG, TIFF, PDF, BMP, PNG</li> <li>• Scan resolution, optical Up to 1200 dpi</li> <li>• Scan size, maximum 216 x 297 mm</li> <li>• Software for scanning</li> <li>• Power: Input voltage 100 to 240 VAC (+/- 10%), 50/60 Hz (+/- 3 Hz).</li> <li>• High voltage: Input voltage 200 to 240 VAC (+/- 10%), 50/60 Hz (+/- 3Hz)</li> <li>• Power consumption: 10 watts maximum, 0.07 watts (Off), 2.1 watts (Standby), 0.88 watt (Sleep)</li> </ul> <p><b>d. Accessories</b></p> <ul style="list-style-type: none"> <li>• One Lab Standard each for major oxides of Granite (JG-1, JG-2GSP2), Rhyolite (JR-3), Basalt (BHVO-1, GSP-2, BHVO-2, JB-1A)</li> <li>• Table for installation of XRF</li> <li>• Dust cover</li> </ul> <p><b>e. Warranty</b></p> <ul style="list-style-type: none"> <li>• 5-year on-site warranty for the XRF</li> <li>• 5 free service of the machine</li> </ul> <p><b>f. UPS</b></p> <ul style="list-style-type: none"> <li>• UPS (15 KV, with SMF battery) with PMV technology. It should give minimum one hour backup. The UPS should have microprocessor controlled temperature compensated battery charging system.</li> </ul> <p><b>g. Wall mounted split A/C:</b></p> <ul style="list-style-type: none"> <li>• 01 wall mounted split A/C of <b>2 tonnes</b></li> <li>• Installation and related accessories will be provided by the vendor</li> </ul> <p><b>Vendor will have to demonstrate the results for the samples (standards) supplied by the University at the installation in India at no cost to the University.</b></p>		
12	<p><b>DESKTOP COMPUTER for using Arc GIS</b>  <b>Quantity- 5 No.</b>  <b>EMD- 10,000/-</b>  <b>Specifications:</b></p> <ul style="list-style-type: none"> <li>a. Intel Core i7-8<sup>th</sup> generation Processor</li> <li>b. Integrated Intel motherboard with cabinet</li> <li>c. 8GB DDR3 RAM Memory Card.</li> <li>d. 1 TB Hard Drive</li> <li>e. Graphics Card,</li> <li>f. DVD writer</li> <li>g. Keyboard &amp; wired optical mouse.</li> <li>h. 27" LED Monitor</li> <li>i. USB 3.0 and 2.0 port</li> <li>j. HDMI Port</li> </ul>		

	<p>k. Ethernet port  l. Windows 10, 64 bit  m. MS-Office  n. Corel Draw  o. Adobe Photoshop</p>		
13	<p><b>Colour Multifunctional Printer</b>  <b>Quantity- 02 No.</b>  <b>EMD- 2,000/-</b>  <b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Functions: Print, copy, scan, wireless</li> <li>• Duty cycle (monthly, A4): Up to 1000 pages</li> <li>• Recommended monthly page volume: 400 to 800</li> <li>• Print technology: Inkjet</li> <li>• Printer drivers included</li> <li>• Print quality (best) Color: Up to 4800 x 1200 optimized dpi  color Black: Up to 1200 x 1200 rendered dpi</li> <li>• LCD Display</li> <li>• Processor speed: 360 MHz</li> <li>• Wireless capability: Yes</li> <li>• 1 Hi-Speed USB 2.0</li> <li>• Paper handling input, standard 60-sheet input tray</li> <li>• Paper handling output, standard 25-sheet output tray</li> <li>• Duplex printing Manual/Automatic</li> <li>• Media sizes supported: A4, B5, A6, DL envelope</li> <li>• Media types: Plain paper, Photo paper, Brochure paper</li> <li>• Borderless printing: Yes</li> <li>• Scanner type: Flatbed</li> <li>• Scan file format: JPEG, TIFF, PDF, BMP, PNG</li> <li>• Scan resolution, optical Up to 1200 dpi</li> <li>• Scan size, maximum 216 x 297 mm</li> <li>• Software for scanning</li> <li>• Power: Input voltage 100 to 240 VAC (+/- 10%), 50/60 Hz (+/- 3 Hz).</li> <li>• High voltage: Input voltage 200 to 240 VAC (+/- 10%), 50/60 Hz (+/- 3Hz)</li> <li>• Power consumption: 10 watts maximum, 0.07 watts (Off), 2.1 watts (Standby), 0.88 watt (Sleep)</li> </ul>		
14	<p><b>Laboratory Hot Air Oven</b>  <b>Quantity- 01 No.</b>  <b>EMD- 2,000/-</b>  <b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• <b>Inner chamber:</b> Refractory material, industry standard</li> <li>• <b>Outer wall:</b> Mild Steel with Power coating</li> <li>• Gap between the walls fitted with glass wool insulation to avoid heat loses.</li> <li>• Heating elements made of high grade chrome plated nichrome wire</li> <li>• Equipped with thermostat to control the temperature</li> </ul>		

	<ul style="list-style-type: none"> <li>• Temperature range 50<sup>0</sup>C to 250<sup>0</sup>C and Accuracy:± 2<sup>0</sup>C</li> <li>• Air Ventilations are placed on top of both sides to remove hot gases/fumes</li> <li>• Heaters placed at the right and left side of the inner chamber</li> <li>• Control switches &amp; pilot lamps are fitted on the front panel</li> <li>• Supplied with G.I. wire mesh</li> </ul>		
15	<p><b>Laboratory Fume Hood</b>  <b>Quantity- 01 No.</b>  <b>EMD- 3,000/-</b>  <b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Size: 6'X2''X2'' ft.</li> <li>• Work Surface Material: Granite, Ceramic, S.S., P.P. and FRP</li> <li>• Duct Material: PP/PVC/HDPE</li> <li>• Panel Thickness: 6 mm</li> <li>• Panel Material: Toughened glass</li> </ul>		
16	<p><b>Hot Plate</b>  <b>Quantity- 02 No.</b>  <b>EMD- 2,000/-</b>  <b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Heating up to 350<sup>0</sup>C</li> <li>• Body of perforated P.C.R.C. sheet painted with enamel</li> <li>• Size: 30 x 45 x 18 cm</li> <li>• Type: with energy regulator, 2.0 kw</li> </ul>		
<b>Total</b>			

**Undertaking**

1. I/We have gone through the terms & conditions as stipulated in the tender enquiry document and confirm to accept and abide the same.
2. No other charges would be payable by the IGNTU, Amarkantak.
3. That I/We undertake that the information given in this tender are true and correct in all respect and I/We hold the responsibility for the same.

(Seal & Signature of the Bidder)

Date:

Place:



**TENDER FORM 2- Financial Bid**  
**TENDER FORM**

**List of Equipments for Geology Department**

S.No.	Equipments	Make/Brand	Quoted Rate (Rs.)
1	<b>Trinocular Petrological Polarizing research grade Microscope (includes items 1a, 1b, 1c)</b> <b>d. Desktop Computer</b> <b>e. Colour Printer</b> <b>f. Warranty</b> <b>g. Inverter</b>		
2	<b>Geological Thin Section Preparation Unit (includes items 2a, 2b, 2c)</b> <b>d. Sieve shaking machine</b>		
3	<b>Hand held GPS units</b>		
4	<b>Clinometer Compasses</b>		
5	<b>Trinocular Stereo Zoom Micropaleontological Microscope (includes items 5a, 5b, 5c)</b> <b>d. Desktop Computer</b> <b>e. Warranty</b>		
6	<b>Lab Analytical Balance</b>		
7	<b>Muffle Furnace</b>		
8	<b>Vibrating Disc Mill</b>		
9	<b>a. Jaw crusher</b> <b>b. Warranty</b>		
10	<b>a. Pellets Making Machine</b> <b>b. Warranty</b>		
11	<b>a. X-Ray Fluorescence (XRF)</b> <b>b. Desktop Computer</b> <b>c. Colour printer</b> <b>d. Accessories</b> <b>e. Warranty</b> <b>f. UPS</b> <b>g. Wall mounted split A/C</b>		
12	<b>DESKTOP COMPUTER for using Arc GIS</b>		
13	<b>Colour Multifunctional Printer</b>		
14	<b>Laboratory Hot Air Oven</b>		
15	<b>Laboratory Fume Hood</b>		
16	<b>Hot Plate</b>		

**Undertaking**

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2. No other charges would be payable by the IGNTU, Amarkantak.
3. That I/We undertake that the information given in this tender are true and correct in all respect and I/We hold the responsibility for the same.

(Seal & Signature of the Bidder)

Date:

Place:

**Estimated market price of the equipments\***

<b>S. No.</b>	<b>Equipments</b>	<b>Estimated Market Price</b>	<b>EMD Amount</b>
1	a. <b>Trinocular Petrological Polarizing research grade Microscope</b> b. <b>Camera</b> c. <b>Software</b> d. <b>Essential accessories and spares</b> e. <b>Computer</b> f. <b>Colour Printer</b> g. <b>UPS</b> h. <b>Inverter</b>	15.00 lakhs	60,000
2	<b>Geological Thin Section Preparation Unit</b> a. <b>Petrography Cutting Machine</b> b. <b>Geological Rock Grinding Machine Single Speed</b> c. <b>Geological Polishing Machine</b>	4.00 lakhs	16,000
3	<b>Hand held GPS units</b>	1.20 lakhs	5,000
4	<b>Clinometer Compasses</b>	0.30 lakhs	1,000
5	a. <b>Trinocular Stereo Zoom Micropaleontological Microscope</b> b. <b>Camera</b> c. <b>Computer</b> d. <b>Colour printer</b> e. <b>Software</b> f. <b>Essential accessories and spares</b> g. <b>UPS</b>	12.00 lakhs	48,000
6	<b>Lab Analytical Balance</b>	1.00 lakh	4,000
7	<b>Muffle Furnace</b>	0.50 lakhs	2,000
8	<b>Vibrating Disc Mill</b>	12.00 lakhs	48,000
9	<b>Jaw crusher</b>	12.00 lakhs	48,000
10	<b>Pellets Making Machine</b>	4.00 lakhs	16,000
11	a. <b>X-Ray Fluorescence (XRF)</b> b. <b>Computer</b> c. <b>Colour printer</b> d. <b>Accessories</b>	45.00 lakhs	1,50,000
12	<b>DESKTOP COMPUTER for using Arc GIS</b>	2.5 lakhs	10,000
13	<b>Colour Multifunctional Printer</b>	0.40 lakhs	2,000
14	<b>Laboratory Hot Air Oven</b>	0.50 lakhs	2,000
15	<b>Laboratory Fume Hood</b>	0.80 lakhs	3,000
16	<b>Hot Plate</b>	0.60 lakhs	2,000
	<b>Total (One crore eleven lakhs eight thousand only)</b>	111.8 lakhs	4,17,000/-

\*Actual price may vary depending on the market rate/currency conversion rate etc.