



Government Polytechnic, Bhaga, Dhanbad

Earlier known as Mining Institute, Bhaga

(Department of Higher, Technical & Skill Development, Government of Jharkhand)

(BIT Sindri Campus, PO: Motinagar, Dist: Dhanbad- 828120)

Email: gpbhaga@gmail.com

: निविदा आमंत्रण सूचना संख्या— 09/2017 से संबंधित आवश्यक शर्तें :

: पुर्न निविदा चतुर्थ पुर्नवृत्ति :

1. निविदा में अंकित सभी सामाग्रियों मशीनों, उपकरणों एवं कम्प्यूटर का दर संस्थान तक पहुँचाने एवं स्थापना करने का (जिसमें लागु हो) खर्च सन्निहित होना चाहिए ।
2. निविदादाता वाणिज्यकर अथवा लघु उद्योग से निबंधित होना चाहिए । इस आशय का स्व0 अभिप्रमाणित प्रमाण पत्र संलग्न करना होगा ।
3. निविदादाता या उसके द्वारा अधिकृत बिक्रेता का Jharkhand VAT Registration No. झारखण्ड सरकार के संबंधित विभाग से निर्गत होना चाहिए । झारखण्ड राज्य के बाहर निविदादाता के पास Jharkhand VAT Registration No. नहीं है तो भी औपबधिक रूप से निविदा में भाग ले सकते है लेकिन इस तरह के प्रतिष्ठान को निविदा के शर्तों के अन्तर्गत चयनित होने के उपरांत आपूर्ति आदेश प्राप्त करने से पूर्व Jharkhand VAT Registration No. झारखण्ड सरकार के संबंधित विभाग से प्राप्त करना अनिवार्य होगा । तदोपरांत ही इस तरह के प्रतिष्ठान को आपूर्ति आदेश संस्थान द्वारा निर्गत किया जायेगा । अन्य शर्तों में कोई भी विचलन नहीं होगा । झारखण्ड सरकार द्वारा निर्धारित Jharkhand VAT. की राशि जमा करना इस निविदा में चयनित प्रतिष्ठान के लिए अनिवार्य है । झारखण्ड राज्य के बाहर निविदादाता झारखण्ड राज्य में कार्यरत अपने डीलर के माध्यम से भी निविदा में भाग ले सकते है ।
4. निविदादाता को अधिकृत बिक्रेता (डीलरशीप) का प्रमाण पत्र अपने मूल प्रतिष्ठान से प्राप्त कर संलग्न करना होगा यह शर्त केवल कम्प्यूटर निविदादाता पर लागु होगा ।
5. निविदा में वाणिज्य एवं अन्य करों (यदि लागु हो तो) का विवरण होना आवश्यक है अन्यथा निविदा रद्द कर दी जायेगी । निविदादाता जमा किये गये निविदा के **Technical Bid & Financial Bid** में Tax Inclusive या Tax Exclusive अंकित न करें । यदि टेक्स देय है तो टेक्स के दर का उल्लेख **Technical Bid & Financial Bid** दोनों में करें । यदि टेक्स देय नहीं है तो **Technical Bid & Financial Bid** शुन्य टेक्स दोनों बीड में अंकित करें।
6. सभी मशीनों/उपकरणों का **Make & Model No.** का उल्लेख तकनीकी विड में मूल्य वीड दोनों में स्पष्ट करें।
7. नवीनतम/अद्यतन वाणिज्यकर जमा करने संबंधित दस्तावेज की स्व0 अभिप्रमाणित छाया प्रति संलग्न करना आवश्यक है ।

Signature of Tenderer

8. एक वर्ष के अंदर किसी प्रकार की खराबी पाये जाने पर निविदादाता को अपने खर्च पर बदलना होगा । इसके लिए संस्थान से कोई राशि देय नहीं होगा ।
9. मशीन एवं उपकरण एवं अन्य सामग्री के निविदा के साथ पूर्ण स्पेशिफिकेशन, कैटलॉग, नमुना एवं तकनीकी विवरणी यथासंभव संलग्न करना होगा । यदि उपरोक्त सामग्री आई0 एस0 ओ0 या बी0 आई0 एस0 प्रमाणित है तो उसका भी उल्लेख आवश्यक है । तकनीकी विड वाले लिफाफे में ही उपरोक्त सभी कैटलॉग युक्त लिफाफे को डालें ।
10. निविदा में टेकनिकल बीड तथा सामग्री मूल्य (Financial Bid) का विवरण अलग-अलग मुहरबंद लिफाफे में जमा करना होगा । सर्व प्रथम टेकनिकल बीड वाले निविदाओं को खोला जायेगा । जिस निविदा दाता का टेकनिकल बीड विवरण शर्तों के अधीन सही पाया जायेगा उन्ही निविदादाताओं का मूल्य संबंधी (Financial Bid) निविदा खोला जायेगा । Technical Bid सफेद लिफाफे में एवं Financial Bid भुरा रंग के लिफाफे में मुहरबंद होना चाहिए एवं प्रत्येक लिफाफे के उपर Technical Bid या Financial Bid बड़े अक्षर में स्पष्ट अंकित होना चाहिए । यदि लिफाफे के उपर निविदाकर्ता द्वारा ऐसा अंकित नहीं किया गया है तो ऐसे लिफाफे पर कोई विचार नहीं किया जायेगा ।
11. अंतिम तिथि तक संस्थान में प्राप्त निविदाओं पर विचार किया जायेगा । निर्धारित तिथि के उपरांत पहुँची निविदाओं पर कोई विचार नहीं किया जायेगा ।
12. मुहरबंद निविदा क्रय समिति की बैठक में खोली जायेगी । निविदा खुलने की तिथि क्रय समिति के अध्यक्ष की परामर्शनुसार परिवर्तित हो सकता है । जिसकी सूचना संस्थानीय सूचना पट्ट/संस्थान के वेवसाइट पर दी जायेगी ।
13. बिना कारण बताये कोई या सभी निविदाएँ रद्द करने का अधिकार अधोहस्ताक्षरी को सुरक्षित होगी ।
14. निविदादाता निविदा खुलने की तिथि को स्वयं या उनके द्वारा प्राधिकृत व्यक्ति अधोहस्ताक्षरी के कार्यालय में उपस्थित हो सकते हैं ।
15. निविदादाता/उसके प्रतिष्ठान को काली सूची में दर्ज नहीं रहने का शपथ पत्र निविदा के साथ संलग्न करना अनिवार्य होगा ।
16. उद्योग विभाग, झारखण्ड से निबंधन (यदि आवश्यक हो) प्रमाण पत्र देना होगा ।
17. विभाग के निर्देशानुसार शर्तों, नियमों एवं तिथियों में परिवर्तन हो सकता है । परिवर्तित शर्तों एवं नियमों को संस्थान के सूचना पट्ट/वेवसाइट के नोटिस पेज पर देखा जा सकता है । निविदा दाता को संशोधित शर्तें, नियम एवं परिवर्तित तिथियों से संबंधित सूचना अलग से नहीं दी जायेगी ।
18. बी0 ओ0 क्यू0 संस्थान के वेवसाइट www.gpbhaga.com पर प्रदर्शित है । सभी मशीनों/उपकरणों एवं कम्प्यूटर का विस्तृत विवरणी इस बी0 ओ0 क्यू0 में देखा जा सकता है ।
19. बी0 ओ0 क्यू0 का क्रय संस्थान से नहीं करना है । निविदादाता संस्थान के वेवसाइट www.gpbhaga.com पर प्रदर्शित निविदा को डाउनलोड कर उसके साथ बी0 ओ0 क्यू0 का मूल्य 100.00 रुपये का ड्राफ्ट प्राचार्य, राजकीय पोलिटेकनिक भागा, धनबाद के नाम से ड्राफ्ट जमा करना होगा जो धनबाद में भुगतये होगा । बी0 ओ0 क्यू0 की राशि जमा नहीं करने की स्थिति में संस्थान द्वारा निविदा स्वीकार नहीं किया जायेगा ।


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20. डाक द्वारा निविदा जमा करने वाले निविदादाता को निविदा के साथ अलग से 100.00 रुपये का ड्राफ्ट संलग्न करना होगा । ड्राफ्ट को तकनीकी विड या मूल्य वीड के लिफाफे में न रखें ।
21. निविदा हाथों-हाथ या डाक द्वारा भी जमा किया जा सकता है । डाक द्वारा निविदा जमा करने का पता: प्राचार्य, राजकीय पोलिटेकनिक भागा (बी० आई० टी० सिन्दरी परिसर) पो०: मोतीनगर, जिला: धनबाद, झारखण्ड- 828120 । हाथों-हाथ संस्थान में निविदा संस्थान कार्यालय के प्रधान लिपिक-सह-लेखापाल के पास जमा करेंगे ।
22. निविदा में अंकित किये गये उपकरणों के दर की वैधता 31 मार्च 2017 तक होनी चाहिए । इस अवधि में सामाग्रियों का मूल्य परिवर्तन होने की स्थिति में भी निविदा में अंकित दर को आधार मानकर ही राशि का भुगतान की जायेगी ।
23. विहित प्रपत्र अ (नियम एवं शर्तों से संबंधित) एवं प्रपत्र ब (स्पेशिफिकेशन से संबंधित) को भरकर सभी निविदादाता अनिवार्य रूप से तकनीकी विड के साथ संलग्न करेंगे । विहित प्रपत्र संस्थान के वेबसाईड से अपलोड किया जा सकता है ।
24. वैसे निविदादाता जिन्होंने निविदा संख्या: 7/2017 में निविदा शुल्क जमा किया है वे निविदादाता केवल बी० ओ० क्यू० संस्थान में जमा करेंगे । पुनः निविदा शुल्क 100 रु० की राशि जमा नहीं करेंगे ।

निविदा से संबंधित आवश्यक तिथियाँ

निविदा जमा करने की अंतिम तिथि :	21.02.2017 (संध्या 5:00 वजे तक) मंगलवार
निविदा खोलने की तिथि :	22.02.2017 (11:00 वजे पूर्वाह्न) बुधवार

नोट : बी० ओ० क्यू० निविदा से संबंधित शर्तें, प्रपत्र अ एवं ब स्पेशिफिकेशन संस्थान के वेबसाइट www.gpbhaga.com से डाउनलोड किया जा सकता है ।


15.02.17

प्रभारी प्राचार्य
राजकीय पोलिटेकनिक भागा, धनबाद ।



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प्रपत्र अ (शर्ते / प्रमाण पत्र) तकनीकी विड के लिए

Sl. No.	Terms & Conditions	Details to be given by Tendirer	Document as Required for column 1. (Give Page no. in tender submitted by Tendirer)	Remarks.
1	2	3	4	
1	Exemption Certificate from Tender Cost (if any) Enclose photocopy of certificate	Name of Certificate : _____ Issuing Authority: _____ Validity Period : _____ Issuing Date: _____		
2	Manufacturer/Dealer/Seller Registered with the department of Industries (Jharkhand) if any (Enclosed photocopy of Certificate)	Name of Certificate : _____ Issuing Authority: _____ Validity Period : _____ Issuing Date: _____		
3	Valid Income Tax Return for last two Financial Year (Enclosed photocopy of Certificate)	PAN No.: _____ Name of Tax Depositor: _____ Total Tax Deposit in FY 2014-15: _____ Total Tax Deposit in FY 2015-16: _____		

Signature of Tenderer

Sl. No.	Terms & Conditions	Details to be given by Tendirer	Document as Required for column 1. (Give Page no. in tender submitted by Tendirer)	Remarks.
	1	2	3	4
4	JVAT (Jharkhand VAT) TIN No. Enclosed photocopy of Certificate)	TIN No. / JVAT : _____ Issuing Authority: _____ Validity Period : _____ Issuing Date: _____		
5	Experience of supplying material to Government Sector (enclosed copy of supply order)	Name of the State Government Organization 1- _____ 2- _____ 3- _____ Name of the Central Government Organization 1- _____ 2- _____ 3- _____		
6	a) Taxes- enclosed letter regarding applicable taxes clearly.(Do not write inclusive/Exclusive) b) Taxes free item (if any)	1. JVAT Rate: a) Item 1: _____ b) Item 2: _____ c) Item 3: _____ d) Item 4: _____ e) Irtem5: _____		
7	Price for FOR destination No. extra charges will be claim against transportation and installation.	Agree / Disagree if disagree, then quote the charges of FOR : _____		
8	Authorization Certificate (Applicable for Computer item)	Name of firm: _____ Certificate No. : _____ Issuing Authority: _____ Validity Period : _____ Issuing Date: _____		

Signature of Tenderer



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Email: gpbhaga@gmail.com

: प्रपत्र ब (स्पेशिफिकेशन) तकनीकी विड के लिए :

निविदादाता नीचे दिये गये प्रपत्र को भरकर सीधे उपयोग में ला सकते है ।

: प्रपत्र ब (स्पेशिफिकेशन) :

Chemistry Lab

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	PH Meter	Operating Ranges pH : 0.00 to 14.00, MV : ± 1999 , Temp : 0 to 100DegC,Resolution pH : 0.01, MV : 1 , Relative Accuracy pH : ± 0.01 , mV : ± 1 , Temp : ± 1 DegC, ± 1 least significant digit, pH Calibration 2 point 4 & 7 buffer, Temperature Compensation 0 to 100DegC,Manual,7-Segment Display, Input Conditions Impedance greater than 10 ¹² ohms , Operating temperature: 5 to 40DegC, Operating humidity: max 80% at 35DegC (non condensing),The 220 is supplied with an appropriate power supply unit with sensor & accessories.		
2.	Conductivity Meter	Range 0 to 20, 200 μ S Readability 0.05 % of Range Accuracy $\pm 1\%$ of Range Repeatability $\pm 1\%$ of Range Readout 3½ digit 7 segment LED of . 12.7mm height .		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification												
		OUTPUT 20 mV Full Scale into 10 k Resistive Impedance. Cell: Dip type Conductivity cells of cell constants 0.1, 0.5 and 1.0 Power: 230 V ± 10% AC, 50 Hz, 1 , 5 VA Max. Cell Constant: 0.1, 0.5 or 1.0 (Selectable) TEMP. CO-EFFICIENT 2% with sensor & accessories.														
3.	Turbidity Meter															
4.	TDS Meter	Range 0 to 200 mS (EC) 1 ppm to 100 ppt (TDS) Resolution 0.05% of range (EC) Accuracy 1% of range Readout 2 line 16 Character Dot . matrix Backlit LCD . Sensor: Module Dip type Conductivity cell of Cell Constants 0.1, 0.5 and 1.0 Power: 90-260 V AC, 50-60 Hz, 1 , 9 VA Max. Temp. Compensation: 0 to 50°C Auto/Manual														
5.	Flame Photo Meter (Microprocessor Based)	Microprocessor based Printer Interface Automatic ignition Automatic gas shut off Calibration curve maximum of 5 to 20 standards Storage for 100 to 700 samples Optional PC compatibility with RS232C Interface with all accessories.														
		<table border="1"> <thead> <tr> <th colspan="2">RANGE</th> </tr> </thead> <tbody> <tr> <td>Sodium (Na)</td> <td>1-100 ppm</td> </tr> <tr> <td>Potassium (K)</td> <td>1-100 ppm</td> </tr> <tr> <td>Lithium (Li)</td> <td>1-100 ppm</td> </tr> <tr> <td>Calcium (Ca)</td> <td>15-100 ppm</td> </tr> <tr> <td>Barium (Ba)</td> <td>50-1000 ppm</td> </tr> </tbody> </table>	RANGE		Sodium (Na)	1-100 ppm	Potassium (K)	1-100 ppm	Lithium (Li)	1-100 ppm	Calcium (Ca)	15-100 ppm	Barium (Ba)	50-1000 ppm		
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Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																											
6.	Spectrophotometer (Microprocessor Based)	<p>SPECTRAL</p> <table border="1" data-bbox="655 370 1358 667"> <tr> <td>Range</td> <td>190 to 1100 nm</td> </tr> <tr> <td>Bandwidth</td> <td>2 nm</td> </tr> <tr> <td>Readability</td> <td>0.1 nm</td> </tr> <tr> <td>Accuracy</td> <td>± 0.5 nm</td> </tr> <tr> <td>Repeatability</td> <td>± 0.2 nm</td> </tr> </table> <p>PHOTOMETRIC</p> <table border="1" data-bbox="655 727 1358 1149"> <tr> <td>Range</td> <td>± 2.500 Abs</td> </tr> <tr> <td rowspan="2">Accuracy</td> <td>± 0.005 Abs at 1.0 Abs</td> </tr> <tr> <td>± 0.010 Abs at 1.5 Abs</td> </tr> <tr> <td>Repeatability</td> <td>± 0.003 Abs at 1.0 Abs</td> </tr> <tr> <td>Stability (Baseline)</td> <td>± 0.003 Abs/hr. after 2 hour warm up</td> </tr> <tr> <td rowspan="2">Stray Light</td> <td><1% T at 200 nm with KCl 12g/L</td> </tr> <tr> <td><1% T at 220 nm with NaI 10g/L</td> </tr> </table> <table border="1" data-bbox="655 1154 1358 1279"> <tr> <td rowspan="2">Readability</td> <td>%T</td> <td>0.01</td> </tr> <tr> <td>Abs</td> <td>0.0001</td> </tr> </table>	Range	190 to 1100 nm	Bandwidth	2 nm	Readability	0.1 nm	Accuracy	± 0.5 nm	Repeatability	± 0.2 nm	Range	± 2.500 Abs	Accuracy	± 0.005 Abs at 1.0 Abs	± 0.010 Abs at 1.5 Abs	Repeatability	± 0.003 Abs at 1.0 Abs	Stability (Baseline)	± 0.003 Abs/hr. after 2 hour warm up	Stray Light	<1% T at 200 nm with KCl 12g/L	<1% T at 220 nm with NaI 10g/L	Readability	%T	0.01	Abs	0.0001		
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Signature of Tenderer

: प्रपत्र ब (स्पेशिफिकेशन) :

: List of Equipment Mining Geology :

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																																
1.	Brunton Compass	<p>Vertical angle measurements to +/- 90° or 100% grades A percent grade scale with increments of 5%· Induction dampened needle for quick, accurate readings· Sapphire jewel bearing allows for smooth needle movement· Magnetic declination adjustments allows for east or west declination settings to +/- 180°· Short and long sights for increased accuracy when sighting azimuth or vertical angles· Precision aligned mirror with convenient "see-through" sighting capability· Composite body material has less thermal retention· Ball· & socket tripod mount for increased accuracy O-rings make the Com Pro waterproof for increased reliability· Leather case included·</p>																																		
2.	Zoom binocular microscope	<table border="1"> <thead> <tr> <th colspan="2">Specifications</th> </tr> </thead> <tbody> <tr> <td>Microscope Body</td> <td>Dinocular</td> </tr> <tr> <td>Standard Zoom</td> <td>3.7x-45x with 10x eye pieces Included</td> </tr> <tr> <td>Standard Field of View</td> <td>32.0mm to 4.9mm</td> </tr> <tr> <td>Standard Working Distance</td> <td>100mm (3.93")</td> </tr> <tr> <td>Optional Zoom</td> <td>2x-270x with optional lenses</td> </tr> <tr> <td>Working Distance</td> <td>26mm-267mm</td> </tr> <tr> <td>Field of View</td> <td>1mm-109.5mm with optional lenses</td> </tr> <tr> <td>Zoom Body</td> <td>0.67x-4.5x</td> </tr> <tr> <td>Zoom Ratio</td> <td>1:6.7</td> </tr> <tr> <td>Interocular Adjustment</td> <td>52mm-75mm</td> </tr> <tr> <td>Eyepiece inclination</td> <td>45° and 60° 20° rotatable microscope head</td> </tr> <tr> <td>Eyepiece Diopter Correction</td> <td>±5 Diopter</td> </tr> <tr> <td>Optional eyepieces</td> <td>10X, 15X, 20X, 25X and 30X</td> </tr> <tr> <td>Optional Auxiliary Lenses</td> <td>0.3X, 0.5X, 0.75X, 1.5X and 2.0X</td> </tr> <tr> <td>Stand with focus block</td> <td> Post stand Track stand Back Lighting Stand Boom Stand Double Barre Boom Stand Articulating Arm Stand </td> </tr> </tbody> </table>	Specifications		Microscope Body	Dinocular	Standard Zoom	3.7x-45x with 10x eye pieces Included	Standard Field of View	32.0mm to 4.9mm	Standard Working Distance	100mm (3.93")	Optional Zoom	2x-270x with optional lenses	Working Distance	26mm-267mm	Field of View	1mm-109.5mm with optional lenses	Zoom Body	0.67x-4.5x	Zoom Ratio	1:6.7	Interocular Adjustment	52mm-75mm	Eyepiece inclination	45° and 60° 20° rotatable microscope head	Eyepiece Diopter Correction	±5 Diopter	Optional eyepieces	10X, 15X, 20X, 25X and 30X	Optional Auxiliary Lenses	0.3X, 0.5X, 0.75X, 1.5X and 2.0X	Stand with focus block	Post stand Track stand Back Lighting Stand Boom Stand Double Barre Boom Stand Articulating Arm Stand		
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Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
3.	Petrological Micro scope.	<p>1 Stand with 4/5 position centrable Nose piece</p> <p>2 Microscope frame for polarizing microscopy with circular rotatable graduated stage, including centring knob (1 pair) and stage clip U-SCB2 (1 pair) with condenser & Polarizer.</p> <p>3. Trinocular tube, FN20, fixed light pass, Bi/Photo: 50/50, Wide field eyepiece 10X, FN20 .</p> <p>4. Light Balancing day light filter, 30W LED/Halogen bulb, Power cord, Dust cover.</p> <p>5. Attachable mechanical stage, graduated for Circular Stage.</p> <p>6. Polarizing Objectives :- Achromat polarising objective 10X/0.25, WD 6 mm Achromat polarising objective 4X/0.1, WD 18.5 mm Achromat polarising objective 20X/0.4, WD 3 mm Achromat polarising objective 40X/0.65, WD 0.45mm (spring) Achromat polarising objective 40X/0.65, WD 0.45mm (spring)</p> <p>7. Microscopic Digital Camera - High resolution Digital Camera with 1/2" CMOS chip USB 2.0 PC connection, Minimum Image resolution: 3.3 mega pixels, 2048 x 1536 pixels, 16mm lens Macro viewing tube, Calibration slide and Microscope eyepiece adapters, ROI (Region of Interest) from 1x1 pixels up to full resolution, continuously variable in single-pixel increments, Frame Speed of 30fps full field of view (higher fps with ROI functions) and necessary C mount adapter.</p> <p>8. Software (Optional): Image analysis Software for Measurements, EFI, Morphometry Analysis, AVI recording, Annotations, Advanced acquisition Control Snapshot, Time lapse and should be capable of driving the camera for capture of Images in Real Time, Magnifier (zoom) function, Distant Image Sharing, Data Export, Interactive File Format. [Please mentioned the price of software in separate sheet]</p> <p>Optional: Related optional accessories can also be quoted.</p>		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
4.	Hardness Pencil for moh's scale of hardness	Made of Sharp edge of minerals having hardness to 10 in form of pencil		
5.	Hardness Box	Minerals having hardness 1 – 10 as scaled		
6.	Rock Hand Specimen	Basalt gabbro, Norites, Tractolite, Pyroxenites, Diorites Monzonites, Syenite, granites granodiorites, tuffaceous sandstone, limestone, greywacke, and chert, sandstone, dolomite, chert, porphyry ironstones, slates, phyllites, schist, amphibolites, quartzites, Marble and gneisses.		
7.	IUGS/ Double triangle classification of igneous rock	All rocks must be kept in wooden box with IUGS/ Double triangle classification. Box to be covered with 4 mm transparent fiber plate and hang on wall.		
8.	Bowens reaction table	All rocks must be kept in wooden box with Bowens reaction principle. Wooden box to be covered with 4 mm transparent fiber plate and hang on wall.		
9.	Laser distance meter	<ol style="list-style-type: none"> 1. Measuring accuracy range ± 1.5 mm to 100 m. 2. Capable to measure distance upto 100 m. 3. Measuring units m, ft, In 4. Tilt measuring range ± 45 or 360° 5. With software and stand (Tripod) and all accessories with area, volume measurement, Pythagoras functions. 		
10.	Magnifying Lens.	Hand lens and Jewelers Loupe, with a 10x magnification and a diameter of 18mm. Viewing field. 10x magnification Diameter of 18mm Chrome plated lens Plastic weather resistant case		
11.	Geological Hammer	Bonded and molded Shock Reduction Grip which offers the utmost in both comfort and durability, while reducing vibrations caused by impact. The head and handle are forged in one piece and have a fully polished head. Weight-22 oz / 616 g Overall Length= 13" / 330 mm		

Signature of Tenderer

: प्रपत्र ब (स्पेशिफिकेशन) :

: List of Computer/Computer Accessories :

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	Name of Item	Remarks	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																												
1.	Printer	<table border="1"><tr><td>Features:</td><td>Flatbed Colour Image Scanner, Multifunction Ink Tank Printer</td></tr><tr><td>Printing Type:</td><td>Colour</td></tr><tr><td>Printing Technology:</td><td>Inkjet</td></tr><tr><td>Scanner Type:</td><td>Flatbed</td></tr><tr><td>Print Resolution:</td><td>5760x1440 DPI</td></tr><tr><td>Print Speed Black:</td><td>27 PPM</td></tr><tr><td>Print Speed Colour:</td><td>15 PPM</td></tr><tr><td>Paper Size:</td><td>A4, A5, A6, B5</td></tr><tr><td>Scanning Method:</td><td>CIS</td></tr><tr><td>Network:</td><td>USB 2.0</td></tr><tr><td>Color:</td><td>Black</td></tr><tr><td>Paper Tray:</td><td>50 Sheets</td></tr><tr><td>Warranty:</td><td>1 Year(s)</td></tr><tr><td>Printer Type:</td><td>Multifunction</td></tr></table>	Features:	Flatbed Colour Image Scanner, Multifunction Ink Tank Printer	Printing Type:	Colour	Printing Technology:	Inkjet	Scanner Type:	Flatbed	Print Resolution:	5760x1440 DPI	Print Speed Black:	27 PPM	Print Speed Colour:	15 PPM	Paper Size:	A4, A5, A6, B5	Scanning Method:	CIS	Network:	USB 2.0	Color:	Black	Paper Tray:	50 Sheets	Warranty:	1 Year(s)	Printer Type:	Multifunction		
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Network:	USB 2.0																															
Color:	Black																															
Paper Tray:	50 Sheets																															
Warranty:	1 Year(s)																															
Printer Type:	Multifunction																															
2.	Document Scanner Pixel 5.0 MP	DOCUMENT Scanner Smart foldable design, classic black and white color Standard built-in LED light Max scanning A4 size HD fixed focus camera Standard equipped soft pad Support TWAIN interface Provide complete SKD API and DEMO Optional hard pad to make position more accurate																														

Signature of Tenderer

Sl. No.	Name of Item	Remarks	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																																																															
3.	42" Paper Scanner	<table border="1"> <tr> <td>Scan and copy</td> <td>Input speed</td> <td>Color: 1500/S&M (100sec) 6 grayscale: 33 cm/second (13.7"/sec)</td> </tr> <tr> <td></td> <td>Enhanced resolution</td> <td>9600 dpi</td> </tr> <tr> <td></td> <td>Optical resolution</td> <td>1200 dpi</td> </tr> <tr> <td></td> <td>Imaging technology</td> <td>CIS scanning technology</td> </tr> <tr> <td></td> <td>Accuracy</td> <td>±/ 0.136 ±/ 1 pixel</td> </tr> <tr> <td></td> <td>Data capture (color/mono)</td> <td>48 bit/16 bit</td> </tr> <tr> <td></td> <td>Maximum scan width</td> <td>1118 mm (44 in)</td> </tr> <tr> <td></td> <td>Supported file formats</td> <td>PDF, TIFF, JPEG, JPEG2000, DWF, multi-page PDF generation</td> </tr> <tr> <td></td> <td>Scan to</td> <td>File, email, USB, HDD, network folder, FTP, print</td> </tr> <tr> <td></td> <td>Settings</td> <td>Type of original, preset, color mode, resolution, dpi, batch, single/multi page, file format, customisable filename, customizable default settings, de-skew, image crop and zoom, preview, grey scale, blueprint, lightness, saturation, anti-RGB controls, white print and black print adjust, sharpen/blur, background removal, invert mirror, accounting</td> </tr> <tr> <td></td> <td>Features/Software</td> <td>Emulate, up to 16 size paper, 2 copies, page number collate, printer output destination (folder, storage bin),* feeding style selection, *paneling, dithering, nesting, reprint</td> </tr> <tr> <td></td> <td>Maximum scan size*</td> <td>0.91 x 26 m (36 x 120.4 in); 0.6 x 37.9 m (24 x 149.1 in); 0.3 x 75.8 m (12 x 299.1 in)</td> </tr> <tr> <td></td> <td>Maximum copies</td> <td>Unlimited</td> </tr> <tr> <td></td> <td>Batch</td> <td>Available with scan and copy</td> </tr> <tr> <td></td> <td>Preview</td> <td>Scan, copy and print after previewing the original in the advanced touchscreen controller</td> </tr> <tr> <td></td> <td>Size detection</td> <td>Automatic width detector. Manual detection or also possible</td> </tr> <tr> <td></td> <td>Applications</td> <td>Line drawings, Maps, Office Graphics, Posters, Presentations</td> </tr> <tr> <td></td> <td>Media</td> <td>Feeding Straight-through size paper, such as sheet and roll, input and take-up, front entry, rear exit, reverse to front, use document return guide for front return</td> </tr> <tr> <td></td> <td>Types*</td> <td>Coated to-weigh paper, semi-blueprint, plastic, plastic laminate, foam board, cardboard, newspaper</td> </tr> <tr> <td></td> <td>Size</td> <td>Up to 1168 mm (46 in) wide</td> </tr> <tr> <td></td> <td>Thickness</td> <td>Up to 2 mm (0.08 in)</td> </tr> </table>	Scan and copy	Input speed	Color: 1500/S&M (100sec) 6 grayscale: 33 cm/second (13.7"/sec)		Enhanced resolution	9600 dpi		Optical resolution	1200 dpi		Imaging technology	CIS scanning technology		Accuracy	±/ 0.136 ±/ 1 pixel		Data capture (color/mono)	48 bit/16 bit		Maximum scan width	1118 mm (44 in)		Supported file formats	PDF, TIFF, JPEG, JPEG2000, DWF, multi-page PDF generation		Scan to	File, email, USB, HDD, network folder, FTP, print		Settings	Type of original, preset, color mode, resolution, dpi, batch, single/multi page, file format, customisable filename, customizable default settings, de-skew, image crop and zoom, preview, grey scale, blueprint, lightness, saturation, anti-RGB controls, white print and black print adjust, sharpen/blur, background removal, invert mirror, accounting		Features/Software	Emulate, up to 16 size paper, 2 copies, page number collate, printer output destination (folder, storage bin),* feeding style selection, *paneling, dithering, nesting, reprint		Maximum scan size*	0.91 x 26 m (36 x 120.4 in); 0.6 x 37.9 m (24 x 149.1 in); 0.3 x 75.8 m (12 x 299.1 in)		Maximum copies	Unlimited		Batch	Available with scan and copy		Preview	Scan, copy and print after previewing the original in the advanced touchscreen controller		Size detection	Automatic width detector. Manual detection or also possible		Applications	Line drawings, Maps, Office Graphics, Posters, Presentations		Media	Feeding Straight-through size paper, such as sheet and roll, input and take-up, front entry, rear exit, reverse to front, use document return guide for front return		Types*	Coated to-weigh paper, semi-blueprint, plastic, plastic laminate, foam board, cardboard, newspaper		Size	Up to 1168 mm (46 in) wide		Thickness	Up to 2 mm (0.08 in)		
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4.	Desktop PC Intel Core i7	<p>Processors : Intel® Core™ i7-6700 Processor Speed : 3.4 GHz, 8 MB, Cache 4 Core Operating Systems: Genuine Windows® 10 Professional pre-installed. Chipset : Intel® Q150 chipset Form Factor : All-in-One Hard Drive: SATA Connector- 6 GBPS Hard Drive Size: 500 GB Memory : DDR4 RAM Size: 4 GB to 8GB RAM Speed: 2133 MHz Optical Drive : DVD Recordable Wi-Fi :Inbuilt Bluetooth • Inbuilt DVD ROM External Bays: One Slim ODD No. Internal Bays: 2x3.5 inch No. Monitor Resolution : 1386x768 Monitor Size: 18.5 inch. Bus Architecture: 1xPCI Express X16 + 3 PCI USB Port 2.0-2 No. USB Port: 3.0 - 4 No Graphics Card: Intel® Keyboard • USB</p>																																																																	

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		Mouse • USB Optical Wheel Mouse Onsite Warranty: Up to 3 years Preloaded Software : <ul style="list-style-type: none"> • OS Windows 10 Professional • Acrobat Reader • Flash Player • Skype • PC-Doctor for Win PE • SUN JRE • Corel® Burn SE Lenovo Edition • Corel® DVD Movie Factory • Inter Video Win DVD • Norton Internet Security Latest – One year License (extendable every year) • Rescue and Recovery • Password Manager 																																						
5.	Desktop Computer i5	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Processor</td> <td>Intel Core i5-2320</td> </tr> <tr> <td>Speed</td> <td>3.30 GHz</td> </tr> <tr> <td>Cache</td> <td>3MB</td> </tr> <tr> <td colspan="2">Memory</td> </tr> <tr> <td>RAM</td> <td>2GB</td> </tr> <tr> <td>Type</td> <td>DDR3</td> </tr> <tr> <td colspan="2">Motherboard</td> </tr> <tr> <td>Chipset</td> <td>Intel H61</td> </tr> <tr> <td colspan="2">Storage</td> </tr> <tr> <td>Type (SSD/HDD)</td> <td>HDD</td> </tr> <tr> <td>Capacity</td> <td>500GB</td> </tr> <tr> <td colspan="2">Bundled Software</td> </tr> <tr> <td>Operating System</td> <td>Free DOS</td> </tr> <tr> <td colspan="2">Peripherhals</td> </tr> <tr> <td>Keyboard</td> <td>PS2 Keyboard</td> </tr> <tr> <td>Mouse</td> <td>USB Mouse</td> </tr> <tr> <td colspan="2">After Sales Service</td> </tr> <tr> <td>Warranty Period</td> <td>9 Months</td> </tr> </table>	Processor	Intel Core i5-2320	Speed	3.30 GHz	Cache	3MB	Memory		RAM	2GB	Type	DDR3	Motherboard		Chipset	Intel H61	Storage		Type (SSD/HDD)	HDD	Capacity	500GB	Bundled Software		Operating System	Free DOS	Peripherhals		Keyboard	PS2 Keyboard	Mouse	USB Mouse	After Sales Service		Warranty Period	9 Months		
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6.	Desktop Computer i7 (Advance)	<p>Motherboard Chipset: H170 Memory sockets: 2 x DDR4 Processor socket: LGA 1151 Expansion Slots: One PCI-E (GEN 3) x16 socket One M.2 socket 1, key A Processor (Intel Core i7-7th Gen (6700T) Quad Core) CPU speed: 2.8 GHz (3.6 GHz max turbo boost) CPU cores: 4 CPU Cache: 8 MB TDP: 35 W Integrated graphics: Intel HD graphics (GT2) Cache 2.8 GHz , Intel Turbo Boost 2.0 up to 3.6 GHz, 8 MB Smart Cache Memory Amount: 8 GB Type: DDR4-2133 RAM Video Graphics Board: 4 layer Memory size: 2 GB Engine clock: 650 MHz Memory clock: 900 MHz Networking Integrated Bluetooth 4.0 and Wireless LAN 802.11b/g/n featuring 2.4 GHz 1x1 technology LAN: 1000BASE-T Hard Drive Size: 2 TB Interface: SATA Rotational Speed: 7200 RPM DVD Writer Super Multi , Double Layer (8.5 GB) DVD Writer Ultra Slim Tray Super Multi DVD Burner drive Input Output Ports USB 2.0: 2</p>		

Signature of Tenderer

Sl. No.	Name of Item	Remarks	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		Headphone/Microphone jack: 1 Keyboard, Mouse and Input Devices Special keys: Mute Volume Up Volume Down Mouse Buttons: 2 primary buttons Clickable scroll wheel Operating Software Microsoft Windows 10 Graphics Card AMD Radeon R5 Series 2GB Graphics Card Wireless Integrated Bluetooth 4.0 , Sound DTS Studio Sound Microphone Microphone-In / Headphone-out combo jack, One HDMI V1.4 Out , One VGA Out Monitor 18.5 " Inch Led Monitor (19 US) Warranty 3 Years On Site		
7.	Computer UPS	Microprocessor Controlled, Build in DC Start, Auto Restart, Over Load Protection, UPS off Charge, Faster Battery Recharge, Capacity A/W 600VA/360W, Input Voltage 230 AC, Output Wave Form Simulated Sine Wave, Battery-12 V 7Ah, Backup Time- 40 Min., Recharge time- 6 Hrs.		
8.	Online UPS Battery (Backup time ½ hours)	7 AH/ 12 Volt., Maintenance Free Battery		
9.	Photographic Camera	Sensor Type: CMOS Display Size: 6 to 7 cm Megapixel: 14-18 MP Screen: 3 inch TFT LCD (C Type(s) Touch) Battery Type: Lithium battery Maximum Shutter Speed: 1/1400 sec Focal Length: in-between 15-60 mm		

Signature of Tenderer

: List Equipment of Gas Testing Lab:

Department of Mining Engineering

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	Safety Lamp Model GL 50	"Velox" GL50 Gas Testing Flame Safety Lamp incorporated Rate (Each) with integral extinguisher (non-relighting type)- approved by D.G.M.S. Dhanbad for All Degree Gassy Mines/Seams.		
2.	METHANE GAS TESTING CHAMBER	METHANE GAS TESTING CHAMBER having robust construction with Teak Wood consisting of clear glass in all four sides to have a clear view for 3-4 trainees at a time. Size: Length-12" Breadth-12" Height-18" (Leg attached with best quality rubber buffer). Comprised with LP Gas Cylinder, Gas Pipe, Regulator, Gas Socket a complete Gas Cap Indicator Wooden Box Including 1 No. Velox GL7 Gas Testing Flame Safety Lamp. [Including installation charges]		
3.	Accessories for Gas Testing Chamber.	Gasket (a packet contains of 100 Nos.) Wick (a roll contains of 13 mtr.) Inner Gauge Outer Gauge Glass Seat Snuffer Tube Device (Extingusher) Fuel Vessel (Oil Pot) With Snuffer Tube Device (Extingusher) Double skinned shield with frame Glass Cylinder		

Signature of Tenderer

MINE VENTILATION LAB

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	High volume sampler model – I	Volumetric flow range: Nominal 45-96m ³ /hr Flow accuracy: Better than ± 1 m ³ /hr Vacuum Capability: 140 mBar max Temperature range: 0-50°C Filter size: 250 x 200mm (rectangular element) Power: 200-240V $\pm 10\%$ 50/60 Hz (std)		
2.	High volume sampler model – II	Sampling principle: Impactor based design as per EPA specifications, Particle Separation : Omni-directional air inlet with PM 10 separation through an impactor, Sampling Rate: The sampling rate is held constant at 1m ³ /hr by a suitable critical orifice. The reduced sampling rate allows the sampler to operate continuously for 24 hours even in areas having Filter holder designed to accept standard 47 mm diameter filter media/PTFE Membrane, Filter media : Low noise, brushless motor driven		
3.	Noise Level Meter	LCD digital display, Analog bar indicator, Rs232c interface Computer record graph software Backlight Low power indication.		
4.	Methanometer/Gas Detector	MSA D-6 Digital Methanometer with extendable probe		
5.	Velometer	DGMS Approved		
6.	Lux Meter	Intrinsically Safe DGMS Approved		
7.	Konimeter	with All Accessories, Battery Driven and Backup Battery		
8.	Multigas detector	For detection of CO, O ₂ , H ₂ S and Explosive gas e.g. CH ₄ Detecting Range: 0-100% LCD Digital Alarm Indication (Long Extendable Probe)		

Signature of Tenderer

Rock Mechanics & Ground Control Lab

Department of Mining Engineering

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	Compression Testing Machine	2000 KN Capacity Ram Travel:- 50mm Daylight Clearance:-325mm (Minimum) Horizontal Clearance:-300mm Platen size:-Minimum Dia-220mm 220V/50Hz AC Supply Proving Ring 2000 KN Capacity with loading Platens conforming IS-4169 Sensitivity:-5N per division, Certified by NPL/NABL or Other approving body.		
2.	Core Drilling Machine	Core cutting- core drilling machine (electrically operated) Suitable to cut / Drill cores of Rocks, Stones, Tiles concrete or the similar material. Core cutting machines (at least 100 mm dia) with 2 core bit (4 inch, 6inch) The machine is suitable for core samples of size upto 150mm diameter The base frame is also fitted with wheels for ease of transportation. Drill Speeds : 900 RPM for soft samples and 350 RPM for hard samples. Suitable for 220 volts AC, Single Phase Accessories: Thin wall diamond bit - 1 Core Barrel - 1		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
3.	Slack Durability Index Apparatus	As Per DGMS specification Or Two sets of drums of the length of at least 100 mm and the diameter of at least 140 mm. Drums rotate in water that had a level of about 20 mm below the drum axis. Rotation must be driven by a motor capable of rotating the drums at a constant speed of 20 rpm.		
4.	Rock Shear Testing Machine	Steel fabricated compatible for UTM		
5.	Protodykanov Index Apparatus	Fabricated as per International Society of Rock Mechanics Standard		
6.	Universal Testing Machine 400 KN (General Type)	Load: Maximum capacity of Load at least 40 TON/ 400 KN. Accuracy: $\pm 1\%$ of the applied force. Least Count: 0.04 KN Measuring Range : 0- 400 KN Resolution of piston movement: 0.1mm Clearance between column: 500mm Ram stroke: 200 mm Straining/Piston Speed at no Load: 0-150mm Power of connected load: 2.5HP Dimensions: 2032 x 600 x 1960mm Weight: 1600 Kg (approx.)		
6.	Universal Testing Machine (Advance)	400/440V, 50Hz Three Phase A.C Supply 1.5 H.P with hydraulic system Designed to perform variety of tests like tension, compression, etc. on metallic materials. Continuous roll autographic load recorder Provision for computer with user friendly software Auto detection and switching off provision in case of over load, over travel and specimen break. Analogue and computerized control panel Capacity: 400KN		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>Max. Range: 10-200KN \pm0.5 KN Min. Range: 0-20KN \pm0.02 KN Maximum tensile clearance at full : (50-700 mm) decedent piston position Distance between columns: 500 mm. Piston stroke: approx 200 mm. Max Clearance for compression rest : 0-700(mm) Max. Straining speed at No. Load : 150(mm / min)</p> <p>Pair of compression plates dia 120 mm For Tension Test Jaws: Round specimen dia 10-20 mm Round specimen dia 20-30 mm Flat specimen thickness 0-10 mm Flat specimen thickness 10-20 mm Max. width for flat specimen 50 mm For Transverse Test: Adjustable Roller Support of width approx. 150 mm Adjustable Roller Support of dia. approx. 30 mm With max adjustable clearance approx. 500 mm RS232 Serial Port/Data Cable</p> <p>Standard Accessories Optional Accessories: Extensometer Load rate Control Load rate stabilizers Flat Belt test Bolt nut and Washer test Single and double shear test Tensile test for shouldered and threaded Bend Re-bend test</p>		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
7.	Point Load Testing Apparatus	<p>Point Load Test Apparatus of load frame 60 kN capacity with a hydraulic loading ram actuated by a hand pump. The frame may be adjustable to allow for testing samples up to 102 mm dia. A ruler assembled on the frame allows for direct measurement of the distance between the conical platens before and after the test. The compression load is measured by a pressure transducer with an advanced digital display unit assuring the best accuracy and resistance to the failure shocks. The machine, fitted with the set of lower and upper platen of at least 52 mm dia with spherical seat for compression tests, can also be used for compression tests on small cores or cylindrical specimens. The apparatus is contained in an easily transportable case.</p>		
8.	Anchorage Testing m/c	<p>For testing for roof bolts anchorage strength in underground mines for a height roof of upto 5 meters.</p> <p>Weight: Maximum 18-20 Kgs for 10-12 T Capacities. Equipment can be accommodated in a Bog/Box.</p> <p>Hoses: 6 meters, Working Pressure-700 Bar, Testing Pressure Bar, Burst Pressure: 2800 Bar; Make:</p>		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>Thermo Plastic.</p> <p>Bridge: To support in between Roof & ATM Jack, Provide with no of slots for better observation, along with bearing plates on both the sides.</p> <p>Indicator Gauge: Show Hydraulic Pressure directly calibrated to tones with a least count of 0.5 tons to 1 tones, along with gauge.</p> <p>Hydraulic Oil: Recommended one Like Indian Oil SS46/48. CMRI Test Certificate for Anchorage testing Machine and with Operation & Maintenance manuals provided.</p>		
9.	Strain Gauge	<p>Key Features Measurement of 120 ohm resistive strain gauges in quarter bridge configuration</p> <p>Liquid Crystal Display giving microstrain units with a range of +/- 18,000</p> <p>Rechargeable Nickel-Metal Hydride battery</p> <p>Ability to read up to 18 strain gauges automatically</p> <p>Hand-held graphite filled glass fibre antistatic case with shoulder strap</p> <p>Specification Display: high visibility 8 character numeric Liquid Crystal Display. Powerpack: 12v NiMH rechargeable batteries providing over 8 hours continuous use. Temperature Range: 0 to +50°C operating temperature; -20 to + 50° C transport and storage temperature.</p>		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		Excitation Voltage: 2.5V. . Accessories Included with the SM02 unit is: Multi-voltage a.c. "intelligent" battery charger; User manual and plasticised instruction sheet; USB cable and drivers for PC interface; and Exbolt for Windows software package including manual.		

: प्रपत्र ब (स्पेशिफिकेशन) :

: List of Electrical Items :

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification														
1.	Inverter	Microprocessor Control 850 Watt Load & 1000 Watt Load.																
2.	Solar Hybrid 850 VA Home UPS (With appropriate solar panel 300 watt) Including Battery.	<p>Up to 600 Watt PV Module solar panel compatibility</p> <p>Intelligent fuzzy logic technology helps in saving of electricity from 1.5 to 3 unit a day.</p> <p>Pure Sine wave output provides better performance & safety to the output load.</p> <table border="1"> <tr> <td>Wave Type</td> <td>Pure Sine Wave</td> </tr> <tr> <td>Rated Capacity</td> <td>850 VA</td> </tr> <tr> <td>Voltage Window (eco mode):</td> <td>100 V – 290V</td> </tr> <tr> <td>Voltage window (UPS mode)</td> <td>180V – 260 V</td> </tr> <tr> <td>Full Battery Recharge Time</td> <td>10-12 Hrs</td> </tr> <tr> <td>Charge Controller Rating</td> <td>30 Amp/ 12V</td> </tr> <tr> <td>DC Load Output</td> <td>12 V upto 20 Amp</td> </tr> </table>	Wave Type	Pure Sine Wave	Rated Capacity	850 VA	Voltage Window (eco mode):	100 V – 290V	Voltage window (UPS mode)	180V – 260 V	Full Battery Recharge Time	10-12 Hrs	Charge Controller Rating	30 Amp/ 12V	DC Load Output	12 V upto 20 Amp		
Wave Type	Pure Sine Wave																	
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Charge Controller Rating	30 Amp/ 12V																	
DC Load Output	12 V upto 20 Amp																	

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>Overload, deep discharge, short-circuit, Battery low cut off</p> <p>) Battery Selection Type – Tubular/ Flat / Gel or VLRA</p> <p>) Charging selection type – Intelligent charging / Normal Charging</p> <p>) Voltage regulation mode – Eco / UPS</p> <p>) Inverter reset key - Yes</p> <p>) Mains available - yes</p> <p>) Battery Charging through Mains - yes</p> <p>) Battery Charging through Solar Panel – yes</p> <p>) Voltage regulation display – yes</p> <p>) Power savings - yes</p> <p>) Load output through Battery - yes</p> <p>) Low Battery Indication – yes</p> <p>) Overload Indication – yes</p> <p>Battery 12V / (135 Ah – 180Ah)</p>		

Signature of Tenderer

: List Equipment of Survey Lab :

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	Digital Planimeter	Type: Roller Type With Computing Function: Single Function Display: Liquid Crystal Symbol: Batt-E,SCALE MEMO,HOLD cm2,m2, km2,in2, ft2,acre,etc. Converting Function: Unit and Scale value Accumulated Measuring Value: Maximum 10m2(Scale 1:1) Measuring Range: Maximum vertical width: 325mm Horizontal roller rotating length: 30m Power Supply: Built-in NiCd Battery(rechargeable through AC Adapter) AC Adapter 100-240V (Auto-power-off function is provided.)		
2.	Laser 3D	Measuring accuracy (favorable conditions): 1.0mm / ± 0.09 in Smart Base vertical range: -40° to 80° Smart Base vertical sensor tolerance: up to +/- 0.2° Smart Base horizontal range: 360° Smart Base horizontal tolerance: up to +/- 0.2° Tolerance P2P function at distances (combination of sensors and distance measuring): approx. : +/- 2 mm / 2 m +/- 5 mm / 5 m +/- 10 mm /10 m X-Range Technology: Yes Point finder with 3x-4x zoom: Yes Overview camera: Yes File format: .jpg / .dxf Memory: Last 30 displays Windows Software: competent with AutoCAD® plug in Free App: iOS / Android Data interface: Bluetooth® V4.0 Smart / WLAN / USB Measurements per set of batteries: ~ 400 Batteries: Li-ion rechargeable With Tripod & all accessories.		
3.	Laser line	Range: up to 40 ft or higher. Leveling accuracy @ 16 ft: ± 1/16" Self-leveling range: 4° ± 0.8° Accuracy of plumb point @ 16 ft: ± 1/16" Number of laser points: 3 Beam direction: up, down, forward Laser type: 635 nm, laser class II With Tripod & all accessories.		
4.	Laser line	Range: up to 50 ft or higher. Range with detector: > 90 ft or higher.		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		Leveling accuracy @ 16 ft: $\pm 1/16''$ Self-leveling range: $4^\circ \pm 0.8^\circ$ Accuracy of horizontal line @ 16 ft: $\pm 1/16''$ Vertical accuracy @ 10 ftline length: $\pm 1/40''$ Number of laser lines: 2 Beam direction: vertical, horizontal Laser type: 635 nm, laser class II Batteries: type AA 3 \times 1.5 With Tripod & all accessories.		
5.	Laser distance meter	Measuring units: mm, m, ft, in, Power Range Technology: Yes Point finder with 4x zoom: Yes Overview camera: Yes Photograph file format: jpg Memory: Last 20 displays Windows Software: Competent with AutoCAD® plug in Free App: iOS / Android Data interface*: Bluetooth® V4.0 Smart Multifunctional end-piece: Automatic recognition of measurement position Batteries: Li-ion rechargeable With Tripod & all accessories. Protection class: IP 54 - splash water/ dust		
6.	GPS System	Sensor type.L1/G1 GNSS receiver and antenna Systems. GPS, GLONASS, Galileo, Beidou, QZSS Channels.44-channel, parallel tracking Correction sources.SBAS, View Point RTX, QZSS, VRS SBAS. 4-channel, parallel tracking WAAS, EGNOS, MSAS, GAGAN, SBAS ranging Receiver protocols. NMEA 0183 v4.00, Binary Update rate 1 Hz Time to first fix. 45s typically Reacquisition. . < 2s Real time correction protocols CMR, CMR+, CMRx RTCM 2.1, 2.2, 2.3, 3.0, 3.1 SBAS accuracy1 < 80 cm View Point RTX1 50 cm HRMS Code DGNSS accuracy (real-time)1 75 cm + 5 ppm HRMS Maximum speed.1,850 kph / 1,150 mph / 999 knots Maximum altitude.9,000 m (29,520 ft)		
7.	Hand Held GPS	Processor: 416 MHz Intel PXA-270 X-Scale Memory: 64 MB RAM and 512 MB internal Flash disk Battery: Internal 6800 mAh lithium-ion rechargeable in unit 25 Watt-hours Channels: 12 Accuracy: 1 mtr. Real time Display: Touch screen, Soft Input Panel (SIP) virtual keyboard		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
8.	Total Station	<p>DESCRIPTION 5" DR TOTAL STATION with GRAPHIC LCD DISPLAY with 25 Alpha numeric keys and/ or touch screen interfaces.</p> <p>Magnification : 33X Angular</p> <p>Accuracy : 5"</p> <p>Least Count : 1"</p> <p>Dual Axis Compensator: +/- 5' Range without Reflector : 100 or higher m. Range with Single Prism : 1000 M or higher.</p> <p>Distance accuracy with Prism :Distance accuracy without Prism : 3mm+ -7 ppm</p> <p>Internal Memory: 2, 000 to 5,000 points.</p> <p>On Board Programmes includes : - Known Station, Resection, Stake out, Station Elevation, Measure Topo, Ref Line 2D, Div. Line 2D, Eccentric point, Remote Object, Connecting distance (Radial/Polygonal), Station & Offset, Vertical Plane & Computation Area. With Transport case, User manual, Data downloading software. Downloading & Post Processing software : FIELD DATA MODULE. FEATURES: - Downloading & Uploading data, Traverse Adjustments & RL Adjustments, Automated Drafting, Calculation for Area & Perimeter, Volume Calculation, Export of the drawing file to ASCII points, Export of the drawing file to AutoCAD, 3D View, touch screen facilities.</p> <p>ACCESSORIES :</p> <p>Internal Battery: 3 No.</p> <p>Data downloading cable: 2 No.</p> <p>Single Circular Prism: 2 No.</p> <p>High Precision Mini Prism with pole: 2 No.</p> <p>Graduated Telescopic Range Pole: 2 No.</p> <p>Tripod: 2 No.</p>		

Signature of Tenderer

: **List of Workshop Item:**

Note: Please use the following sheet for specification to be attached in Technical Bid. This sheet to be filled by the Tenderer.

Carpentry Section

Sl. No.	Name of Item	Specification			Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	Chisel (Different Type)	Types of Chisel	Length	Diameter of handle (widest point)		
		chisel made by Two Cherries, 16 mm blade width - for general carpentry	320 mm (12.598 in.)	43 mm (1.693 in.)		
		chisel made by Two Cherries, 50 mm blade width - for general carpentry	355 mm (13.976 in.)	49 mm (1.929 in.)		
		Staircasemaker's chisel made by Two Cherries, 50 mm blade width - for staircasemaking and general carpentry	320 mm (12.598 in.)	49 mm (1.929 in.)		
		chisel made by Two Cherries with fibre-coated beechwood handle, 40 mm blade width - for general carpentry (no longer available)	333 mm (13.110 in.)	37 mm (1.457 in.)		
		Mortise chisel made by Two Cherries, 12 mm blade width - for deep mortises	378 mm (14.882 in.)	49 mm (1.929 in.)		
		Mortise chisel made by ECE, 14 mm blade width - for deep mortises	370 mm (14.567 in.)	40 mm (1.575 in.)		
		Chisel made by Two Cherries, 4 mm blade width - for general cabinetmaking. This size is representative for western type chisels of this blade width.	250 mm (9.843 in.)	26 mm (1.024 in.)		
Chisel made by Two Cherries, 28 mm blade width - for general cabinetmaking specially larger objects. This size is representative for	298 mm (11.732 in.)	32 mm (1.260 in.)				

Signature of Tenderer

Carpentry Section

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		western type chisels of this blade width. Japanese Chisel (Oire Nomi) standard size, blade width 30 mm - for general cabinetmaking L 228 mm 25 mm /0.984 in.) (8.976 in.) Japanese Firmer Chisel (Tataki Nomi), blade width 36 mm - for general carpentry 294 mm 27 mm (1.063 in.) (11.575 in.)		
2.	Circular Saw	<p>Application For cutting different shapes of material.</p> <hr/> <p>Bore Diameter 25.4 mm</p> <hr/> <p>Capacity 355 mm</p> <hr/> <p>Disc Diameter 355 mm</p> <hr/> <p>Max Cutting Capacity 90 ° 185 x 85 mm</p> <hr/> <p>No Load Speed 3500 RPM</p>		
3.	Drill machine tool kit	Chuck Size 13 mm The accessories include: drill bit wood measuring 1.69, 2.45, 2.74, 3.6, 4.20, 8 mm Sockets, 1 Wire cutter cum Stripper, 1 Long nose piler 1 Diagonal piler 1 Wood working pencil 1 Line tester 2 Medium screwdriver 2 Long screwdriver 2 Small screwdriver 1 Hand Saw		

Signature of Tenderer

Carpentry Section

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		13m Tape 8 inch Spanner 1 Chuck key 11 Screw driver bits 4 Long screwdriver bits 1 Depth Gauge 1 Hammer 1 Big Cutter 1 Screw Driver Holder 52 Screw & wall Ploughs 1 Drill Machine hand with plastic carry case Drill Capacity Concrete: 13 mm Steel : 13 mm Wood : 25 mm Frequency 50 Hz Input Power 350 W		
4.	Angle Grinder	Wheel Dia 100 mm Speed (RPM) 11000 RPM Power Input voltage 230V Power Input 670 W Product Accessories Guard and side handle.		
5.	Drill Machine cordless	maximum Torque 34/15 Nm Applications Metalworking, Construction, Woodworking Battery Voltage 18 V No Load Speed 0-400/1300 rpm Max Torque (Hard Screwdriving Application) 33 Nm Drilling Diameter(in Steel) 10 mm Specifications Screw Diameter: 8mm Torque Setting: 25+1 Battery 1.5 Ah	-----	-----

Signature of Tenderer

Carpentry Section

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification										
		Voltage 14.4 V Model GSR 1800 Li Max Torque (Soft Screwdriving Application) 18 Nm Drilling Diameter(in Wood) 29 mm												
6.	Roof Sheet of workshop	<table border="1"> <tr> <td>Total Coated Thickness (mm)</td> <td>0.35 / 0.45 / 0.50 / 0.60</td> </tr> <tr> <td>Sheet length* (mm)</td> <td>2440 (8 ft), 3050 (10 ft), 3660 (12 ft), 4270 (14 ft), and 4880 (16 ft)</td> </tr> <tr> <td>Effective cover width (mm)</td> <td>Nominal 1015</td> </tr> <tr> <td>Overall width (mm)</td> <td>Nominal 1072</td> </tr> <tr> <td>Min. Roof Slope (Degree)</td> <td>3</td> </tr> </table>	Total Coated Thickness (mm)	0.35 / 0.45 / 0.50 / 0.60	Sheet length* (mm)	2440 (8 ft), 3050 (10 ft), 3660 (12 ft), 4270 (14 ft), and 4880 (16 ft)	Effective cover width (mm)	Nominal 1015	Overall width (mm)	Nominal 1072	Min. Roof Slope (Degree)	3		
Total Coated Thickness (mm)	0.35 / 0.45 / 0.50 / 0.60													
Sheet length* (mm)	2440 (8 ft), 3050 (10 ft), 3660 (12 ft), 4270 (14 ft), and 4880 (16 ft)													
Effective cover width (mm)	Nominal 1015													
Overall width (mm)	Nominal 1072													
Min. Roof Slope (Degree)	3													
7.	Welding machine single phase arc	Type of Product Arc Welding Machine Supply Voltage 230 V Frequency 50/60 Hz Phase Single Phase Input Current 200 Amp All Standard Accessories Electrode Holder, Earthing cable, Welding cable 10m												
8.	Plumbing thread tool kit	Capacity: ½"-2" (DN 15mm-50mm) pipes. Designed to work with 11R dies. Motor: 1200~1350W Universal 115V or 220v, 50~60 Hz. Spindle Speed: 28 RPM for threading, 51 RPM for reverse. (No load) Switch: Heavy-duty paddle-type switch with safety lock off switch. Gear Housing: Aluminum Body & Handle: Durable heavy-duty fiberglass reinforced plastic Die Heads Included: ½", ¾", 1", 1 ¼", 1 ½", 2" (Type 11R) Screw Threads: NPT / BPST Dies Material: Alloy standard,(HSS optional) Reversing System: Mechanical transmission reversing design, to prevent motor from damage. Certificates: CE & CSA Approved.												
9.	Grass cutter machine	Grass cutter machine (petrol) Engine Type: Single Cylinder,Air-cooling,2-stroke Displacement: 52cc Fuel mixing ratio: Petrol 1 Ltr:30ml 2T Oil Max Power: 1.4Kw/7000rpm												

Signature of Tenderer

Carpentry Section

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		Max Torque: 2.2N.w/6000rpm		
10.	Bench Grinder Machine	Capacity 150x 62x 7 mm Item Weight 12.4 Kg. No Load Speed 2950 RPM Size 150 mm TSIN T04RAL0119 Voltage 230V/250V Wheel Diameter 152 mm		
11.	Bench Drilling Machine	Type of Product Bench Drill Tapping MT 2 Magnetic Foot Dimension 320x198 mm, Chuck Capacity 16 mm		
12.	Seat Metal Cutting Tool Kit	<p>1. <u>Hand Shear</u> 12" Professional Hand Operated Metal Shear Easily cuts Sheet, Flat & Rod Heavy Duty steel frame and hardened high carbon steel blade Maximum Cut Width: 12 (in) (304mm), Maximum Cut Thickness: 1/4 (in) (6mm) Maximum Cut Flat Steel: 2-3/4 (in) x 1/4 (in) (70 x 6mm), Maximum Cut Rod Steel: 1/2 (in) (13mm)</p> <p>2. <u>Metal Cutting Shear</u> Cutting Capacity 18 gauge mild steel, 22 gauge stainless steel Speed: 1800 SPM</p> <p>3. <u>THROATLESS ROTARY SHEAR PLATE CUTTER</u> Shearing Thickness Capacity: 1.5mm Shearing Width: No Limit</p>	4.	5.
13.	Core Drilling Machine	20 mm to 50 mm diameter core drilling in rock & steel.		

Fadav
15.02.17

प्रभारी प्राचार्य
राजकीय पोलिटेकनिक भागा, धनबाद ।

Signature of Tenderer