



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— 04/2016 से संबंधित आवश्यक शर्तें :

1. निविदा में अंकित सभी सामग्रियों मशीनों, उपकरणों एवं अग्निशमन उपकरण 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 औपबंधिक रूप से निविदा में भाग ले सकते हैं 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 हैं ।
4. निविदादाता को अधिकृत बिक्रेता (डीलरशिप) 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 ।
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 ।

Signature of Tenderer

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 शर्तों, 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 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 500.00 रुपये का ड्राफ्ट प्राचार्य, राजकीय पोलिटेकनिक भागा, धनबाद के नाम से ड्राफ्ट जमा करना होगा जो

Signature of Tenderer

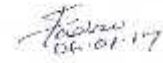
धनबाद में भुगतये होगा । बी0 ओ0 क्यू0 की राशि जमा नहीं करने की स्थिति में संस्थान द्वारा निविदा स्वीकार नहीं किया जायेगा ।

20. संस्थान द्वारा पूर्व में प्रकाशित निविदा संख्या 01/2016, 02/2016 एवं 03/2016 में जो निविदादाता निविदा जमा किया था, को पुनः बी0 ओ0 क्यू0 की राशि 500.00 रुपये नहीं देना होगा । वे केवल निविदा जमा करेंगे ।
21. डाक द्वारा निविदा जमा करने वाले निविदादाता को निविदा के साथ अलग से 500.00 रुपये का ड्राफ्ट संलग्न करना होगा । ड्राफ्ट को तकनीकी विड या मूल्य वीड के लिफाफे में न रखें ।
22. निविदा हाथों-हाथ या डाक द्वारा भी जमा किया जा सकता है । डाक द्वारा निविदा जमा करने का पता: प्राचार्य, राजकीय पोलिटेकनिक भागा (बी0 आई0 टी0 सिन्दरी परिसर) पो0: मोतीनगर, जिला: धनबाद, झारखण्ड- 828120 । हाथों-हाथ संस्थान में निविदा संस्थान कार्यालय के प्रधान लिपिक-सह-लेखापाल के पास जमा करेंगे ।
23. 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 ।
24. 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 वेबसाइट से अपलोड किया जा सकता है ।

निविदा से संबंधित आवश्यक तिथियाँ

निविदा जमा करने की अंतिम तिथि :	20.01.2017 (संध्या 5:00 वजे तक)
निविदा खोलने की तिथि :	21.01.2017 (11:00 वजे पूर्वाह्न)

नोट : बी0 ओ0 क्यू0 निविदा से संबंधित शर्तें, प्रपत्र अ एवं ब स्पेशिफिकेशन संस्थान के वेबसाइट www.gpbhaga.com से डाउनलोड किया जा सकता है ।



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 2015-16: _____ 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: _____		

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: प्रपत्र ब (स्पेशिफिकेशन) तकनीकी विड के लिए :

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

Physics 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 (Given by Institute)	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	VERNIER CALLIPERS	Stainless Steel		
2.	SCREW GAUGE	25 mm		
3.	OHM'S LAW VERIFICATION APP	Ammeter (1 amp), Voltmeter (5 V), Galvanometer (30-0-30), Plug Key, Rheostat (80 Ohm's), Connecting Wire (DCC 100 gram Coil), Resistance Wire, Battery (Dry Cell), Battery Eleminator, Pin type, 2-4-6-8-10-12 V DC.		
4.	VERIFICATION OF LAW OF RESISTANCE	Series and Parallel using - Meter bridge with accessories (Galvanometer, Resistance Box (1000 Ohm's), Pencil Jockey, Resistance wire, Connecting Wire, Send Paper, Lechlanche Cell Complete.		
5.	PRINCIPLE OF POTENTIOMETER	Potentiometer (10 wire). Ammeter (1 amp), Voltmeter (5 V), Galvanometer (30-0-30), Rheostat (80 Ohm's), Plug Key One way, Two Way, Pencil Jockey, Connecting Wire, Send Paper, Lechlanche Cell Complete, Denial Cell Complete, Battery Eleminator		
6.	MEASUREMENT OF INTERNAL RESISTANCE BY POTENTIOMETER	Potentiometer 10 wire, Primary Cell, Storage Battery, Galvanometer, Ammeter, Voltmeter, Rheostat (160 Ohm's), Resistance Box (1 ohm		

Signature of Tenderer

Sl. No.	List of items	Specification (Given by Institute)	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		to 1000 ohm) Two way Key, Pencil Jockey, Connecting Wire, Send Paper.		
7.	TO MEASUREMENT OF YOUNG'S MODULES OF ELASTICITY	Searle's apparatus (steel wires 100 gram coil), Full Meter Scale, Screw Gauge, Slotted weight Set with Hanger (5 kg).		
8.	SURFACE TENSION APPRATUS (CAPILLARY ACTION)	Capillary tubes stand (4 tube), Traveling Microscope (two way), Stand Clamp Set, A fine motion adjustable light stand, a flat bottom open dish , Beker (250 ml), Thermometer.		
9.	MEASUREMENT OF VISCOSITY BY STOKE METHOD	Glass Viscosity Appratus with Graduation, Glycerine (2.5 Ltr.) 6 mm steel ball, Screw gauge, Stop clock, Thermometer, Stand Clamp Set.		
10.	VERIFICATION OF BOYL'S LAW	Boyl's law apparatus complete set.		
11.	REFRACTIVE INDEX OF PRISM	- Drwaing board (16"x23"), Glass Prism (50 mm), Drawing Pin, Half Scale.		
12.	STUDY OF BUNSON'S PHOTOMETER	Photometer- Bunson's photometer Compleate Set		
13.	WAVE LENGTH OF SOUND	Resonance tube appratus (Brush Tube), Tunning fork set of eight, Rubber pad, Therometer, Plumb line, Set squre 9", beaker (Poly Lab 500 ml, 1 Ltr, 2 Ltr.)		
14.	PHOTO ELECTRIC CELL	Complete Set		
15.	LINEAR EXPENSION OF THERMAL CO-EFFICIENT -	Pullinger's appratus Complete Set		
16.	MESUREMENT OF 'J' BY ELECTRIC METHOD	Joule's calorimeter Complete Set		

Signature of Tenderer

: 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 1012 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 . 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 $\pm 10\%$ 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		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification												
		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)	<p>Microprocessor based Printer Interface Automatic ignition Automatic gas shut off Calibration curve maximum of 20 standards Storage for 700 samples Optional PC compatibility with RS232C Interface with all accessories.</p> <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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6.	Spectrophotometer (Microprocessor Based)	<table border="1"> <thead> <tr> <th colspan="2">SPECTRAL</th> </tr> </thead> <tbody> <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> </tbody> </table>	SPECTRAL		Range	190 to 1100 nm	Bandwidth	2 nm	Readability	0.1 nm	Accuracy	± 0.5 nm	Repeatability	± 0.2 nm		
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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																								
		<p>PHOTOMETRIC</p> <table border="1" data-bbox="655 261 1360 818"> <tr> <td data-bbox="655 261 968 321">Range</td> <td colspan="2" data-bbox="968 261 1360 321">± 2.500 Abs</td> </tr> <tr> <td data-bbox="655 321 968 440" rowspan="2">Accuracy</td> <td data-bbox="968 321 1142 381">± 0.005 Abs at 1.0 Abs</td> <td data-bbox="1142 321 1360 381"></td> </tr> <tr> <td data-bbox="968 381 1142 440">± 0.010 Abs at 1.5 Abs</td> <td data-bbox="1142 381 1360 440"></td> </tr> <tr> <td data-bbox="655 440 968 500">Repeatability</td> <td colspan="2" data-bbox="968 440 1360 500">± 0.003 Abs at 1.0 Abs</td> </tr> <tr> <td data-bbox="655 500 968 560">Stability (Baseline)</td> <td colspan="2" data-bbox="968 500 1360 560">± 0.003 Abs/hr. after 2 hour warm up</td> </tr> <tr> <td data-bbox="655 560 968 678" rowspan="2">Stray Light</td> <td data-bbox="968 560 1142 620"><1% T at 200 nm with KCl 12g/L</td> <td data-bbox="1142 560 1360 620"></td> </tr> <tr> <td data-bbox="968 620 1142 678"><1% T at 220 nm with NaI 10g/L</td> <td data-bbox="1142 620 1360 678"></td> </tr> <tr> <td data-bbox="655 678 968 818" rowspan="2">Readability</td> <td data-bbox="968 678 1142 738">%T</td> <td data-bbox="1142 678 1360 738">0.01</td> </tr> <tr> <td data-bbox="968 738 1142 818">Abs</td> <td data-bbox="1142 738 1360 818">0.0001</td> </tr> </table>	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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Readability	%T	0.01																										
	Abs	0.0001																										
7.	Digital Balance	<p>Capacity: 320 g Least Count: 0.1 mg Display Type: LCD With Backlight (Single) Calibration Type: Motorised Platter Size (mm): Ø80 mm Platter Type: Circular Features: Complete automatic calibration PSC , Timer calibration function . Counting weight in motor operation . Full digital control function with direct connection to Window.</p>																										

Signature of Tenderer

: प्रपत्र ब (स्पेशिफिकेशन) :

: List of Fire 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.	Portable Fire Extinguisher Foam	Type of Fire Extinguisher: Mechanical Stored Pressure foam Extinguisher with ISI, CE and ISO certified.		
2.		Pressurisation Agent: Nitrogen gas.		
3.		Extinguishant: Mix of AFFF (Aqueas Film Forming Foam) 6% & water.		
4.		Fire Rating: 13 A & 55 B. or better applicable for Fire Classes- 'A' & 'B'		
5.		Fire Extinguisher outer container: All containers shall have Embossed Serial number at the bottom. Color post office Red. Construction shall be of EDD Quality steel (Extra Deep Drawn) Welding shall be Co2 Mig Welding. The outer container shall be coating with Epoxy Polyester. The interior of the container shall be treated / coated with anti corrosive chemical for prevention of corrosion.		
6.		Cylinder can with stand pressure of 30kg/cm2 or, Hydraulic test certified of the cylinder to be submitted.		
7.		Valve: Forged & Machined type.		
8.		Pressure Gauge: Magnetic Type		
9.		Discharge Hose: EPDM Hose.		
10.		Discharge Nozzle shall be either aluminum Alloy or heavy Duty in-inforced Fiber Plastic.		
11.		Minimum Discharge shall be 95% or better of the total solution inside the cylinder.		
12.		Discharge time: 60-70 seconds.		
13.		Range of Throw: Approx 18 feet		
14.		Dealership / Authorization certificate from OEM to be submitted		
15.		Vendor should submit Leaflet/Boucher of the item to be supplied along with Make & Model.		
16.	ABC Dry Powder	Capacity 1 and 2 kg.	Class B 8 B	

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
	Exiting Wisher	4 kg	13 B	
		6 kg	21 B	
		9 kg	34 B	
17.	CO 2 Exiting Wisher	2 kg	8 B	
		3 kg	13 B	
		4.5	13 B	

: 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>		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																																
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>6.7x-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>23mm-267mm</td> </tr> <tr> <td>Field of View</td> <td>1mm-139.5mm with optional lenses</td> </tr> <tr> <td>Zoom Body</td> <td>0.67x-4.5x</td> </tr> <tr> <td>Zoom Ratio</td> <td>1.67</td> </tr> <tr> <td>Interocular Adjustment</td> <td>52mm-75mm</td> </tr> <tr> <td>Eyepiece inclination</td> <td>45° and 90° 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 Barrel Boom Stand Articulating Arm Stand</td> </tr> </tbody> </table>	Specifications		Microscope Body	Dinocular	Standard Zoom	6.7x-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	23mm-267mm	Field of View	1mm-139.5mm with optional lenses	Zoom Body	0.67x-4.5x	Zoom Ratio	1.67	Interocular Adjustment	52mm-75mm	Eyepiece inclination	45° and 90° 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 Barrel Boom Stand Articulating Arm Stand		
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3.	Petrological Micro scope.	<ol style="list-style-type: none"> Stand with 4/5 position centrable Nose piece 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. Trinocular tube, FN20, fixed light pass, Bi/Photo: 50/50, Wide field eyepiece 10X, FN20 . Light Balancing day light filter, 30W LED/Halogen bulb, Power cord, Dust cover. Attachable mechanical stage, graduated for Circular Stage. 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) Microscopic Digital Camera - High resolution Digital Camera with ½" 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 																																		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>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>		
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	<p>Basalt gabbro, Norites, Trctolite Pyroxenites, Diorites Monzonites, Syenite, granites granodiorites, to sandstone, limestone, greywacke, a sandstone, dolomite, chert, porce ironstones, slates, phyllites, schist amphibolites, quartzites, Marble gneisses.</p>		
7.	IUGS/ Double triangle classification of igneous rock	<p>All rocks must be kept in wooden box IUGS/ Double triangle classification. covered with 4 mm transparent fiber plate hang on wall.</p>		
8.	Bowens reaction table	<p>All rocks must be kept in wooden box Bowens reaction principle. Wooden with 4 mm transparent fiber plate. wall.</p>		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
9.	Laser distance meter	<ol style="list-style-type: none"> 1. Measuring accuracy range Capable to measure dist 2. Measuring units m, ft, In 3. Tilt measuring range +_ 4 4. With software and stand accessories with area, volume measurement, Pythagora 		
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		

: 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" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">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> </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		
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Print Speed Black:	27 PPM															

Signature of Tenderer

Sl. No.	Name of Item	Remarks		Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		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		
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	<p>Scan and copy</p> <table border="1"> <tr> <td>Enhanced resolution</td> <td>6000 dpi</td> </tr> <tr> <td>Optical resolution</td> <td>1200 dpi</td> </tr> <tr> <td>Imaging technology</td> <td>CIS scanning technology</td> </tr> <tr> <td>Accuracy</td> <td>± 0.1% ± 1 pixel</td> </tr> <tr> <td>Data capture (bit/m/line)</td> <td>48 bit/16 bits</td> </tr> <tr> <td>Maximum scan width</td> <td>1118 mm (44 in)</td> </tr> <tr> <td>Supported file formats</td> <td>PDF, TIF, PNG, JPEG, multi-page PDF generation</td> </tr> <tr> <td>Scan to Settings</td> <td>File, email, USB, HDD, network folder, FTP, print</td> </tr> <tr> <td>Color speed (set)</td> <td>Print mode, output size, paper type, copies, page order, collate, printer output destination, folder, save time, file name, selection, handling, delay, selection</td> </tr> <tr> <td>Maximum scan size</td> <td>0.91 x 26 m (36 x 1204 in); 0.6 x 37.9 m (24 x 1491 in); 0.3 x 75.6 m (12 x 2981 in)</td> </tr> <tr> <td>Maximum resolution</td> <td></td> </tr> <tr> <td>Batch</td> <td>Available with scan and copy</td> </tr> <tr> <td>Preview</td> <td>Scan, copy and print after previewing the original in the advanced management interface</td> </tr> <tr> <td>Scan operation</td> <td>Automatic with selected or Manual key start or also possible</td> </tr> <tr> <td>Applications</td> <td>Line drawings, Maps, Office Graphics, Posters, Presentations</td> </tr> <tr> <td>Media</td> <td>Six-page letter size paper, 8 1/2 x 11 sheet and color based images for setup, form, copy, research, review, in front case document return guide for front return</td> </tr> <tr> <td>Types</td> <td>Letterhead, newspaper, special graphics, plastic, plastic laminate, fabric, card, and board, news paper</td> </tr> <tr> <td>Size</td> <td>Length 1168 mm (46 in) wide</td> </tr> <tr> <td>Thickness</td> <td>1.2 mm (0.047 in)</td> </tr> </table>	Enhanced resolution	6000 dpi	Optical resolution	1200 dpi	Imaging technology	CIS scanning technology	Accuracy	± 0.1% ± 1 pixel	Data capture (bit/m/line)	48 bit/16 bits	Maximum scan width	1118 mm (44 in)	Supported file formats	PDF, TIF, PNG, JPEG, multi-page PDF generation	Scan to Settings	File, email, USB, HDD, network folder, FTP, print	Color speed (set)	Print mode, output size, paper type, copies, page order, collate, printer output destination, folder, save time, file name, selection, handling, delay, selection	Maximum scan size	0.91 x 26 m (36 x 1204 in); 0.6 x 37.9 m (24 x 1491 in); 0.3 x 75.6 m (12 x 2981 in)	Maximum resolution		Batch	Available with scan and copy	Preview	Scan, copy and print after previewing the original in the advanced management interface	Scan operation	Automatic with selected or Manual key start or also possible	Applications	Line drawings, Maps, Office Graphics, Posters, Presentations	Media	Six-page letter size paper, 8 1/2 x 11 sheet and color based images for setup, form, copy, research, review, in front case document return guide for front return	Types	Letterhead, newspaper, special graphics, plastic, plastic laminate, fabric, card, and board, news paper	Size	Length 1168 mm (46 in) wide	Thickness	1.2 mm (0.047 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>																																								

Signature of Tenderer

Sl. No.	Name of Item	Remarks	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification																																				
		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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Capacity	500GB																																							
Bundled Software																																								
Operating System	Free DOS																																							
Peripherhals																																								
Keyboard	PS2 Keyboard																																							
Mouse	USB Mouse																																							
After Sales Service																																								
Warranty Period	9 Months																																							

Signature of Tenderer

Sl. No.	Name of Item	Remarks	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
6.	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.		
7.	Online UPS Battery (Backup time ½ hours)	7 AH/ 12 Volt., Maintenance Free Battery		
8.	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		

: 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	Spares for Velox GL50 Safety Lamp (with integral extinguisher) Description of Items Gasket (a packet contains of 100 Nos.) Wick (a roll contains of 13 mtr.) Inner Gauge Outer Gauge Glass Seat Snuffer Tube Device (Extinguisher) Fuel Vessel (Oil Fount) With Snuffer Tube Device (Extinguisher) Double skinned shield with frame Glass Cylinder Accessories for above Key for Glass Seat Brush for cleaning glass cylinder Brush for cleaning outer gauge Brush for cleaning inner gauge Brush for cleaning inner shield Wick Trimmer Oil Filling Can Re-wicking Tool Kit for service & maintenance Economic Oil Filling Device Magnet Un locker for opening the lock of lamp Spares for Velox GL7 (Modified) Safety Lamp Gasket (a packet contains of 100 Nns.) Wick (a roll contains of 13 mtr.) Fixed Filament Unit (modified) Spring Contact for Battery Screw of Lid with connector (Brass) Inner Gauge Outer Gauge Lid with positive connector of battery box Glass Seat incorporated with		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		snuffer tube & a measuring scale of pin indicator. Fuel Vessel (Oil Fount) Double skinned shield with frame Glass Cylinder		

MINE VENTILATION LAB

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
1.	Gas testing lab	<p>A gas testing lab flame safety lamps and gas chamber, lpg gas supply system To maintain the Safety Lamp and Gas Chambers some essential Spare and Accessories are needed.</p> <ol style="list-style-type: none"> 1. Outer Gauge 2. Inner Gauge 3. Wick 4. Gasket 5. Filament Unit 6. Tool Box 7. Magnet Unckoker for opening lock of Lamp <p>1 No. 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. Length - 12 inch Breadth - 12 inch Height - 18 inch</p> <p>01 No. GAS CAP INDICATOR BOX (WOODEN) – made of 1 inch thick special quality teak wood. Length - 18 inch Breadth- 6 inch Height - 9 inch (Rubber Buffer- 4 Nos. to be attached with the bottom of wooden box)</p> <p>Front portion of the above Gas Cap Indicator Box to be fitted with 6 mm thickness of special type glass comprising 8 Nos. of flame height of Gas Cap as indicated in the printed literature.</p> <p>The following are provided along with the Chamber:- LP Gas Cylinder, Gas Pipe, Regulator, Gas Socket along with 1 No. Velox GL7 Gas Testing Flame Safety Lamp (DGMS approved)</p> <p>A best quality of one set complete tube light to be fitted inside the chamber for illumination of the length 'Mode Gas Cap'. One tube light is also to be fitted inside the box. A complete electric fitting both inside and outside so also back side of the wooden box including a plug point line. High glossy polish to be coated on the total outside cover area and mat polish inside the area of the wooden box</p>		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification												
2.	High volume sampler model – I	Volumetric flow range: Nominal 45-96m ³ /hr Flow accuracy: Better than ± 1m ³ /hr Vacuum Capability: 140 mBar max Temperature range: 0-50oC Filter size: 250 x 200mm (rectangular element) Power: 200-240V ±10% 50/60 Hz (std)														
3.	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														
4.	Temp, humidity, pressure, wind speed auto recorder	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Wind Speed :</td> <td>Range 0 to 100 Km/hr.</td> </tr> <tr> <td>Wind Direction :</td> <td>Range 0 to 360 degrees with 1 degree resolution</td> </tr> <tr> <td>Temperature & RH :</td> <td>Range 0 to 50 C with resolution of 0.1 C and 0 to 100% RH with 1% resolution.</td> </tr> <tr> <td>Solar Radiation :</td> <td>Li-Cor, USA Solar Radiation Sensor</td> </tr> <tr> <td>Barometric Pressure :</td> <td>Met One, USA Barometric Pressure Sensor</td> </tr> <tr> <td>Rainfall :</td> <td>range 0 to 50 mm/hr with 0.5 mm resolution</td> </tr> </table> <p>The standard system supplied with Sensors for Wind Speed, Direction, Temperature and Relative Humidity. Other sensors for Barometric Pressure, Solar Radiation & Rainfall are optional and can be provided at extra cost.</p> <p>Memory Capacity : at last Forty five days storage of all parameters in non-volatile flash memory.</p> <p>Real Time Sync : Built-in battery backed Real time clock ensures data is synchronized with real-time even</p>	Wind Speed :	Range 0 to 100 Km/hr.	Wind Direction :	Range 0 to 360 degrees with 1 degree resolution	Temperature & RH :	Range 0 to 50 C with resolution of 0.1 C and 0 to 100% RH with 1% resolution.	Solar Radiation :	Li-Cor, USA Solar Radiation Sensor	Barometric Pressure :	Met One, USA Barometric Pressure Sensor	Rainfall :	range 0 to 50 mm/hr with 0.5 mm resolution		
Wind Speed :	Range 0 to 100 Km/hr.															
Wind Direction :	Range 0 to 360 degrees with 1 degree resolution															
Temperature & RH :	Range 0 to 50 C with resolution of 0.1 C and 0 to 100% RH with 1% resolution.															
Solar Radiation :	Li-Cor, USA Solar Radiation Sensor															
Barometric Pressure :	Met One, USA Barometric Pressure Sensor															
Rainfall :	range 0 to 50 mm/hr with 0.5 mm resolution															

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		after periods of prolonged power failure. Software : Windows XP compatible, software is provided for data download to a PC and analysis. MetLog supports communication via PSTN, GSM modems and direct cable connection to RS232 / USB ports. Analysis tools include export to MS Excel, Graphs, Monthly Averages & Windrose Diagrams.		
5.	Noise Level Meter	LCD digital display, Analog bar indicator, Rs232c interface Computer record graph software Backlight Low power indication.		
6.	Methanometer/Gas Detector	MSA D-6 Digital Methanometer with extendable probe		
7.	Velometer	DGMS Approved		
8.	Lux Meter	Intrinsically Safe DGMS Approved		
9.	Konimeter	with All Accessories, Battery Driven and Backup Battery		
10.	Multigas detector	For detection of CO, O2, H2S and Explosive gas e.g. CH4 Detecting Range: 0-100% LCD Digital Alarm Indication (Long Extendable Probe)		

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		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		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		
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		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
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.)		
7.	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 Max. Range: 10-200KN ± 0.5 KN Min. Range: 0-20KN ± 0.02 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) Pair of compression plates dia 120 mm		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>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</p> <p>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>		
8.	Point Load Testing Apparatus	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		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<p>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>		
9.	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: 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>		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
12.				
13.	Multi-Point Borehole Extensometers	Suitable for 76mm diameter downward bore holes from the surface, Length of the hole 100 to 200m for each extensometer (to be quoted on per m basis; length will be depending on the site requirements) with 5 groutable anchors with each extensometer; and steel rods & pipes of suitable length, and a mouth headpiece Read-out unit compatible with the above grouted type extensometers using dial calliper (range: 200mm; accuracy +/- 0.2mm)		
15.	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. Excitation Voltage: 2.5V. .</p> <p>Accessories Included with the SM02 unit is:</p>		

Signature of Tenderer

Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		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> <tr> <td>Protection</td> <td>Overload, deep discharge, short-circuit, Battery low cut off</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	Protection	Overload, deep discharge, short-circuit, Battery low cut off))
Wave Type	Pure Sine Wave																			
Rated Capacity	850 VA																			
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Charge Controller Rating	30 Amp/ 12V																			
DC Load Output	12 V upto 20 Amp																			
Protection	Overload, deep discharge, short-circuit, Battery low cut off																			

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		<ul style="list-style-type: none">) Battery Selection Type – Tubular/ Flat / Gel or VLRA) Charging selection type – Intelligent charging / Normal Charging) Voltage regulation mode – Eco / UPS) Inverter reset key - Yes) Mains available - yes) Battery Charging through Mains - yes) Battery Charging through Solar Panel – yes) Voltage regulation display – yes) Power savings - yes) Load output through Battery - yes) Low Battery Indication – yes) Overload Indication – yes <p>Battery 12V / (135 Ah – 180Ah)</p>		

: **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, 8-digit Figures Symbol: Batt-E,SCALE MEMO,HOLD cm2,m2, km2,in2, ft2,acre,etc.		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		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 Accuracy: Within +/-0.3%(Within +/-2/1000pluses) Power Supply: Built-in NiCd Battery(rechargeable through AC Adapter) AC Adapter 100-240V (Auto-power-off function is provided.) Operating Duration: Approx. 30 hours of continuous operation Battery Charging Time: Approx. 20 hours Accessories: Supplied AC Adapter.		
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. Leveling accuracy @ 16 ft: ± 1/16" Self-leveling range: 4° ± 0.8° Accuracy of horizontal line @ 16 ft: ± 1/16" Vertical accuracy @ 10 ftline length: ± 1/40" Number of laser lines: 2 Beam direction: vertical, horizontal Laser type: 635 nm, laser class II		

Signature of Tenderer

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
		Batteries: type AA 3 × 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		
8.	Total Station	DESCRIPTION 5" DR TOTAL STATION with GRAPHIC LCD DISPLAY with 25 Alpha numeric keys and/ or touch screen interfaces. Magnification : 33X Angular Accuracy : 5" Least Count : 1" Dual Axis Compensator : +/- 5' Range without Reflector : 200 or higher m. Range with Single Prism : 2000 M 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
		<p>Distance accuracy with Prism : Distance accuracy without Prism : 3mm+ -5 ppm</p> <p>Internal Memory : 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. Data downloading cable: 2 No. Single Circular Prism: 2 No. High Precision Mini Prism with pole: 2 No. Graduated Telescopic Range Pole: 2 No. Tripod: 2 No.</p>		

: 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	320 mm	49 mm (1.929 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
		<p>50 mm blade width - for staircasemaking and general carpentry (12.598 in.)</p> <p>chisel made by Two Cherries with fibre-coated beechwood handle, 40 mm blade width - for general carpentry (no longer available) 333 mm 37 mm (1.457 in.) (13.110 in.)</p> <p>Mortise chisel made by Two Cherries, 12 mm blade width - for deep mortises 378 mm 49 mm (1.929 in.) (14.882 in.)</p> <p>Mortise chisel made by ECE, 14 mm blade width - for deep mortises 370 mm 40 mm (1.575 in.) (14.567 in.)</p> <p>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 26 mm (1.024 in.) (9.843 in.)</p> <p>Chisel made by Two Cherries, 28 mm blade width - for general cabinetmaking specially larger objects. This size is representative for western type chisels of this blade width. 298 mm 32 mm (1.260 in.) (11.732 in.)</p> <p>Japanese Chisel (Oire Nomi) standard size, blade width 30 mm - for general cabinetmaking L 228 mm 25 mm /0.984 in.) (8.976 in.)</p> <p>Japanese Firmer Chisel (Tataki Nomi), blade width 36 mm - for general carpentry 294 mm 27 mm (1.063 in.) (11.575 in.)</p>		
2.	Circular Saw	<p>Application For cutting different shapes of material.</p> <p>Bore Diameter 25.4 mm</p> <p>Capacity 355 mm</p>		

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
		<p>Disc Diameter 355 mm</p> <p>Max Cutting Capacity 90 ° 185 x 85 mm</p> <p>No Load Speed 3500 RPM</p>		
3.	Drill machine tool kit	<p>Chuck Size 13 mm</p> <p>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 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</p> <p>Drill Capacity Concrete: 13 mm Steel : 13 mm Wood : 25 mm Frequency 50 Hz</p>		

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										
		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 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" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">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													
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Effective cover width (mm)	Nominal 1015													
Overall width (mm)	Nominal 1072													
Min. Roof Slope (Degree)	3													
7.	Welding machine single phase	Type of Product Arc Welding Machine Supply Voltage 230 V Frequency 50/60 Hz												

Signature of Tenderer

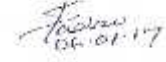
Carpentry Section

Sl. No.	Name of Item	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification
	arc	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 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	1. Hand Shear 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)	4.	5.

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
		Maximum Cut Flat Steel: 2-3/4 (in) x 1/4 (in) (70 x 6mm), Maximum Cut Rod Steel: 1/2 (in) (13mm) 2. <u>Metal Cutting Shear</u> Cutting Capacity 18 gauge mild steel, 22 gauge stainless steel Speed: 1800 SPM 3. <u>THROATLESS ROTARY SHEAR PLATE CUTTER</u> Shearing Thickness Capacity: 1.5mm Shearing Width: No Limit		
13.	Core Drilling Machine	20 mm to 50 mm diameter core drilling in rock & steel.		



प्रभारी प्राचार्य
राजकीय पोलिटेकनिक भागा, धनबाद ।

Signature of Tenderer