

Tender Document/BOQ

for

Tender Invitation Notice-

02/2018-19



Government Polytechnic, Bhaga, Dhanbad
Earlier known as Mining Institute, Bhaga
(Department of Higher, Technical & Skill Development, Government of Jharkhand)
(BT Sinda Campus, PO: Motinagar, Dist: Dhanbad-826120)
E-mail: gpbdhanbad@gmail.com

: निविदा आमंत्रण सूचना संख्या- 02/2018-19 :

राजकीय पोलिटेक्निक, भागा में पठन-पाठन सुचारु रूप से संचालित करने हेतु उपकरण/उपकरण/मशीन/कार्यालय उपयोग हेतु सामग्री/पुस्तक एवं अन्य सामग्रियों के क्रय हेतु अधिकृत पिकेताओं से नुस्खेद निविदा आमंत्रित की जाती है। पूर्ण बीड ओपन करूँ एवं निविदा से संबंधित आवश्यक शर्तें संस्थान के वेबसाइट www.gpbhaga.com पर दिनांक: 08.10.2018 से डाउनलोड किया जा सकता है।

निविदा से संबंधित आवश्यक तिथियाँ

निविदा जमा करने की अंतिम तिथि : 29.10.2018 (संध्या 5:00 बजे तक)

निविदा खोलने की तिथि : 30.10.2018 (11:00 बजे पूर्वान्ह)

समस्या का समाधान तुरंत टायल करें - 181

प्रमोरी प्रचार्य

PR 192785(Science & Technology) 18-19 #D

राजकीय पोलिटेक्निक, भागा ।



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List of Books (Mining Engineering Branch)

SL	TITLE	AUTHOR NAME	PUBLISHERS
1	Mine Surveying. Vol-1	P.Ranga Swamy	Plante pub
2	Mining Mechinery. Vol-1	Kumar swamy	do
3	PRINCIPLES & PRACTICE OF MODERN COAL MINING.	R.D. SINGH	NEW AGE
4	Mining Mechanery .vol-2	Kumar SWAMY	Plante pub.
5	Mining Geology. Vol -2	S.K RAHMAN	DO
6	INTRODUCTORY MINING ENGINEERING.	HARTMAN	WILEY
7	Mechanized Methods of coal Mining.	Boda Ramesh	Plante.pub
8	Mine Environmental Engineering.	Ramesh	do
9	SURFACE MINING.	MISHRA	DO
10	MINE VENTILATION & ENVIRONMENT.	DO	OUP
11	Rock Mechanics and Strata Control.	Ravinder	Plante
12	MINE DISASTERS & MINE RESCUE.	RAMLU.	U.P
13	MINE ENVIRONMENT & VENTILATION.	PANIGRAHI	
14	Advanced metal Mining Methods.	Sravankumar	Plante.
17	INTRODUCTION TO ROCK MECHANICS.	GOODMAN	WILEY
18	TUNNEL ENGINEERING HANDBOOK.	BOKEL	crc
19	ROCK MECHANICS FOR UNDERGROUND MINING.	BRADY	SP.

SL	TITLE	AUTHOR NAME	PUBLISHERS
20	FUNDAMENTAL OF ROCK MECHANICS.	JAEGER	WILEY
21	COAL GEOLOGY.	THOMAS	DO
25	MINE SURVEYING.	SINGH.	RANDOM
26	Engineering Geology.	Nanda	Discov
27	Fundamental Of Geology.	Pannal lal	do
28	SUSTAINABLE MINING PRACTICES.	RAJARAM	T&F
29	ENVIRONMENT MANAGEMENT IN MINING AREA.	SEXENA	SC
35	ORE GEOLOGY AND MINING GEOLOGY.	J.K.LAL	ANMOL
36	ENGINEERING IN ROCK FOR SLOPE;	RAMAMURTHY	P.H.I
37	USES OF METALS AND METALLIC MINERALS.	CHATTERJEE	NEW AGE
39	Hydrology and water Resource Engineering .	Garg	K.P
41	ELECTRICITY FOR MINES ENGINEERS.	CHAHNABARTI	MTD
42	BLASTING TECHNOLOGY FOR MINING.	SHANKAR	MANGLAM
44	ENGINEERING GEOLOGY FOR THE CIVIL ENGINEERS.	VARGHESE	DO
47	ENGINEERING GEOLOGY LABORATORY MANUAL	WEAVER	DO
48	SURFACE WATER QUALITY MIDELING.	CHAPRA	DO
49	AN INTRODUCTION TO ENGINEERING SURVEYING.	LANDMAN	DO
50	Mine Hoisting.	Ramlu	W.F
51	Mine Disasters & Mine Management.	DO	u.p
52	Fundamental & Application of Rock Mechanics.	Verma	P.H.I
53	Mining Geology.	DO	Random

List of Books (Computer Engineering Branch)

SL	TITLE	AUTHOR NAME	PUBLISHERS
1	Design and analysis of algorithms.	Paneerselvam	P.H.I
2	Introduction to artificial Intelligence.	Akerkar	do
3	Introduction to Fuzzy Sets and Fuzzy Logic.	Ganesh	do
4	Fundamental of artificial Neural Networks.	hASSOUN	do
5	Artificial Intelligence.	Mishra	do
6	Introduction to Fuzzy Logic.	Shinghal	do
7	Cloud Computing Based Project Using Distributed Architecture.	Das gupta	do
8	Cloud Computing.	Pachghare	do
9	Cloud Computing.	Rao	do
10	Compiler Design.	Chattopadhyay	do
11	Computer Organization and architechture.	Rajraman	Do
12	Introduction to Digital Computer Design.	Do	Do
13	Computer Systems Architecture.	Rao	do
14	Data Communication and Computer Networks.	Gupta	Do
15	Fundamental of Computer Networks.	Kundu	do
16	Microsoft word 2016 step by step.	Lambert	Do
17	Microsoft office 2016 step by step.	Do	Do
18	Computer Basic and C programming .	Rajaraman	do
19	All of C	Ghosh	do
20	Computer Programming in C.	Rajaraman	Do
21	MATLAB: Easy way of Learning.	Kumar	Do
22	Computer Graphics.	Alavala	Do
23	Computer Graphics.	Desai	Do



SL	TITLE	AUTHOR NAME	PUBLISHERS
24	First Course in Numerical Methods.	Ascher	Do
25	Computer Oriented Numerical Methods .	Rajaraman	do
26	Systems Simulation with Digital Computer.	Deo	Do
27	Data Base Management Systems.	Narang	Do
28	Computing for Management.	Bansal	Do
29	Introduction to Information Technology.	Rajaraman	Do
30	TCP/IP Illustrated.	Gopalan	Do
31	Management Information Systems.	Chatterjee	Do
32	Decision Support Systems.	Janakiraman	Do
33	C++ and object oriented programming paradigm.	Jana	Do
34	Computer Hardware.	James	Do
35	VLSI DESIGN.	DAS	OUP
36	NETWORKS ANALYSIS AND SYNTHESIS.	PANDAY	ANE
37	ANALOG AND DIGITAL COMMUNICATION.	HSU	TMH
38	Introduction to Parallel Computing.	Petrsen.	OUP
39	IBM Mainframe Handbook.	Leon.	
40	Concepts of information theory & coding.	satyanayan	Mt
41	Programming Languages.	Partt.	P.E
43	DIGITAL SIGNAL PROCESSING.	PALANI	DO
44	DIGITAL SIGNAL PROCESSING:WITH EXAMPLES IN MATLAB	STERNS	DO
45	TEXTBOOK OF DIGITAL ELECTRONICS.	VASUDEVA	DO
46	LOW -POWER DIGITAL VLSI DESIGN .	RAMAMUR	MT
47	VHDL MODELING FOR DIGITAL DESIGN SYNTHESIS.	DO	DO

SL	TITLE	AUTHOR NAME	PUBLISHERS
48	Data Structure Lab Experiment with C.	Salanke G.R	DO
49	Logic Design	Allurkar	Cbs.
50	Formal Language :Automata Theory.	Anuradha	do
51	Operting Systems.	Chaitanya	do

List of Books (Food Technology Branch)

1. Essentials of Food and Nutrition by Swaminathan Vol. I and II, Health Kalyani publishers, New Delhi
2. Food Chemistry by LH Meyer, Van Nostrand Reinhold Co. New York ...
3. Hand book of Analysis of Fruits and Vegetables by S. Ranganna, Tata Me Graw-Hill. Publishing Company, New Delhi
4. Biochemistry by Mohinder Singh, Sejwal Publisher. New Delhi
5. Introduction to Biochemistry by Braverman, Elsevier Scientific Publishing
6. Food Chemistry by Linhinger, CBS Publishers, Delhi ...
7. Food Chemistry by FANNEMA,
8. Hand Book of Food & Nutrition by Swaminathan, Narosa Publishing House, New Delhi
9. A Text Book of Biochemistry A.V.S.S. Rama Rao, U B S Publishers, New Delhi
10. A Text Book of Biochemistry A.K.Berry, Narosa Publishing House
11. Nutrition & Dietetics by Joshi, Tata McGraw-Hill Education, New Delhi
12. Clinical Dietetics and Nutrition by Antia & Abraham, Oxford University Press, USA
13. Chemical Changes in Food During Processing by Richardson, John W. Finley ... Avi Publishing Co Inc.
14. Fundamentals of Food & Nutrition by Sumati R. Mudambi, Published by New Age International (P) Ltd.,
15. Nutrition & Dietetics by Rose
16. Food science by Sri Laxmi, New Age International Publishers, New Delhi
17. Food chemistry (Narosa publication) by H.K. Chopra and P.S. Panesar (2010), Published By Morgan & Claypool

List of books Food Micro biology

1. Essentials of Microbiology by KS Bilgrami; CBS
2. Food Microbiology by WC Frazier; Tata McGraw Hill
3. Modern Food Microbiology by James M Jay; CBS
4. Bacteriology by Sale
5. Standard Methods for Waste Water Analysis by APHA
6. Basic Food Microbiology: Bennett , Chapman and Hall
7. Food Microbiology by M.R. Adams

8. Hand Book of Microbiology by Bisen

9. Text Book of Fungi by Sharma

List of Books Food Processing

1. Food Science by NN Potter, CBS publishers, New Delhi

2. Technology of Food Preservation by Desrosier, The Avi Publishing Company, Inc., Westport

3. Principles of Food Science Vol. – I by Fennema, Karrel, McGraw-Hill Book Company, New York

4. Preservation of Fruits and Vegetables by Girdhari Lal, Sidhapa and Tandon, CBS Publishers, Delhi

5. Hand book of Analysis of Fruits and Vegetables by S Ranganna, Tata Mc GrawHill. Publishing Company, New Delhi

6. Fruits and Vegetable Processing by Cruss, Oxford and IBH Publishing Co., New Delhi

7. Food Science by Mudambi, New Age International Pvt Ltd Publishers, New Delhi

8. Basic Food Preparation(Manual)

9. Fruit & Vegetable Processing by Bhatt, Verma, Tata Mc Graw Hill Publishing Company Limited,. New Delhi

10. Commercial Vegetable Processing by Woodroof, vannostrand Reinhold, New York

11. Preservation of Fruits & Vegetables by IRRI, Oxford & IBH Publishing, New Delhi

12. Food Canning Technology by Larcousse & Brown

13. Food Composition & Preservation by Bhawna Sabarwal, Commonwealth Publishers 1999, New Delhi.

14. Food Preservation by S.K. Kulshrestha, vikas publishing house Pvt. Ltd., New Delhi

15. Processing Foods by Oliverra, CRC Press, New York

16. Principles & Practices for the Safe Processing of Foods by Heinz, H J Heinz Company, UK

List of Books UNIT OPERATIONS IN FOOD PROCESSING

1. Handling, Transportation and Storage of Fruits and Vegetables by A Lloyd, Ryall Penizer (AVI Publications)
2. Proceedings of Regional Workshop on Warehouse Management of Stored Food Grains by Girish and Ashok Kumar (UNDP)
3. Modern Potato and Vegetable Storage by Volkind and Roslov (Amerind)
4. Controlled Atmospheric Storage of Fruits by Mettel Skilv
5. Food Grains in Tropical and Sub Tropical Areas by Hall
6. Food Storage Part of a system by Sinha and Muir (AVI)
7. Post Harvest Technology of Fruits and Vegetables – Handling, Processing, Fermentation and Waste Management by LR Verma and VK Joshi; Indus Publishing com., New Delhi
8. Drying and Storage of Grains and Oilseeds by Brooker & Hall, CBS

List of Books (General Book)

SL	TITLE	AUTHOR NAME	PUBLISHERS
1	Engineering Mathematics.	H.K.Das	S.Chan
2	Higher Engineering Mathematics.	Grewal	Khanna
3	Basics Engineering Mathematics.	Bird	Rut.
4	Engineering Mathematics.	Vijay	Medtec
5	Applied Mathematics for Polytechnics	Das	CBS
6	Discrete Mathematics.	Zhang	M.T
7	Engineering Physics.	Gour gupta	Dhanpa
8	Modern Engineering Physics.	Vasudeva	S.chand
9	A Text book of Physics.		do
10	Workshop Technology. Vol-1	Khurmi	do
11	Workshop Technology. Vol.2	do	do
12	Workshop Technology. Vol-1	Hazara choudhary	
13	Workshop Technology. Vol-2	do	
14	Workshop Technology. {Manufacturing }	Garg	L.P
15	Solid State Phase Transformation .	Raghavan	P.h.i
	Engineering Chemistry	Jai & Jain	Dhan
18	Fiber Optics Through Experiment.	Shenoy	Viva
19	Textbook of Engineering Chemisty.	Sharma	Medte
20	Advanced Organics Chemistry.	Kar	do
21	Physical Chemistry.	Ying	Do
22	Basics Engineering Mathematics.	Bird	Routladge
23	Mathematics for Engineers .vol-1	Lakshminarayan	Vikas
24	Mathematics for Engineers .vol-2	Lakshminarayan	Vikas



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: List Equipment of Survey Lab :

Sl. No.	Name of Item	Specification
1.	Digital Planimeter	Type: Roller Type With Computing Function: Single Function Display: Liquid Crystal Symbol: Batt-E, SCALE MEMO, HOLD cm ² , m ² , km ² , in ² , ft ² , acre, etc. Converting Function: Unit and Scale value Accumulated Measuring Value: Maximum 10m ² (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 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
3.	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 DGNS 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)
4.	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

Sl. No.	Name of Item	Specification
5.	Total Station (5 Second)	<p>DESCRIPTION [5 Second]. Accuracy : 5 Second Least Count : 1 Second Dual Axis Compensator Range without Reflector : 100 or higher . Range with Single Prism : 500 M or higher. Internal Memory: 2, 000 or higher. Display: GRAPHIC LCD DISPLAY Keyboard: Alpha numeric keys Screen: Touch Screen Stand: tribrach telescopic Battery: Rechargeable with charger. Software: Download Software. Prism: single prism holder and target plate with reflector pole, On Board Programmes may includes following menu or equivalent menu as for example given below. 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 ACCESSORIES : 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>
6.	Prismatic Compass	Prismatic Compass made of non magnetic metal in a case size -5 inch with Aluminum Stand
7.	Electronic Theodolite	Electronic Theodolite with original Quoted Optic, Erect Image, Magnification 30X to 35 X [Range], Optical Plummet Tribrach, Angular Accuracy of 2 Sec to 5 Sec and Least Count of 1 Sec to 2 Sec, with 1Nos. Rechargeable Batteries, Standard Accessories, User Manual, Rain forced Cover in a Container with Heavy Duty Telescopic Stand.
8.	Auto Level	Auto Level 40 having 20 X to 24 X [any one in between both value] magnification and 2mm or 3 mm accuracy per km. double run leveling with rain forced cover, hexagonal pin with Telescopic Tripod.

Equipments of Engineering Mechanics Lab

Specification:

1- Universal Force Table

Comprising of a circular 40 cm. diameter aluminum disc, graduated into 360 degrees. Complete with leveling screws, clamping device to fix the table at any desired angel, five sliding clamp pulleys, central ring, string and five sets of iron. nickel led slotted weights, each set containing nine weights and one hanger of 50gms. each.

2- Link Polygon Apparatus

The apparatus is provided with five linkages and connectors, having hooks to which pans are hung. These are fixed between two pulleys around which rope is run to connect to two extension type spring balances

3- Parallelogram Of Force Apparatus

A wooden board of 50x60 cm. with wall brackets, two frictionless clamp pulleys, and three set of slotted weights of iron nickel led each set containing four weight and one hanger of 50gms

4- Polygon Of Forces Apparatus

Consisting of wooden board of 75x70cm.size, provided with two wall brackets and four adjustable frictionless aluminum pulleys, complete with four one kilogram weights and one scale Pan.

5- Ball Bearings

Ball Bearings

25 mm size original bearings duly mounted on polished wooden base.

- a) Ball Bearing
- b) Roller Bearing
- c) Taper Bearing.
- d) Thrust Bearing

6- Triangle & Parallelogram Of Forces Apparatus

The black board is made of wood and fixed within a wooden slotted frame of over all size 75x70 cms. Four frictionless pulleys are adjustable in the slots of the frame and the frame is provided with suitable arrangement for fixing it to a wall. The unit is complete with four hangers and 16 iron nickelled slotted weights of 50gms each.

7- Ball Bearings Set

Ball Bearings Set

25 mm size original bearings duly mounted on polished wooden base.

- a) Ball Bearing
- b) Roller Bearing
- c) Taper Bearing.

d) Thrust Bearing

The above four bearings properly mounted on one board.

8- Polygon & Triangle of Forces Apparatus

The black board is made of wood and fixed within a wooden slotted frame of over all size 75x70 cms. Four frictionless pulleys are adjustable in the slots of the frame and the frame is provided with suitable arrangement for fixing it to a wall. The unit is complete with four hangers and 24 iron nickelled slotted weights of 50gms each.

9- Law of Conservation of Mass

(Collision In 2-D Apparatus) The apparatus consists of an attractive and durable curved track grooved in the middle on which rolls a steel ball, can be clamped on the table. A levelling screw is provided under the base to make the lower end of track horizontal. The track carries an adjustable automatic release system to permitting of the ball at exactly the same starting point for multiple runs. An adjustable support attached to base holds the second ball directly in the path of the first, or displaced from the path to cause the collision to occur at different angles and at different distance from the end of the track.

10- Parallel Forces Apparatus

(Simple supported beam type supported at its 'ends') For verification of condition of equilibrium of parallel forces, law of lever and forceps on beam etc. consisting of two compressions thrust type 10kg. Tubular spring balances fixed on wooden polished board, a wooden bar with steel back plate. Complete with stirrups, hooks and two 1kg. weights

11- Parallel Forces Apparatus Overhang Beam Type

The apparatus is with two circular dial type 10kg. extension spring balances. Complete with suitable stands, all wooden beam, with scale and slots at regular intervals, four stirrups, hooks and two 1kg. Weights.

12- Bell Crank Lever

A wooden right angled lever with fulcrum at the angle, the horizontal arm is of 75 cm. and vertical arm is of 20 cm., a spring balance with adjustable wing nut is attached to the shorter arm. The lever arm is with scale and grooved at every 5 cm. complete with one sliding weight of 1 kg.

13- Compound Lever

Comprising of two iron beams connected to each other and fitted on two different stands, well balanced with a scale pan. All metal parts fitted on wooden polished base. Complete with 1 kg. weight and a physical iron nickelled weight box 1-50 gms.

14- Cranked Compound Lever

All metal parts, mounted on wooden base with spring balance and a set of slotted weights.

15- Lever Apparatus

(Apparatus for verification of law of Moments) Consisting of an aluminium graduated beam fitted into a pivoted stirrup and spirit level on a metal base, the top of the beam is provided with notches all along for hanger carrying weights. With two set of brass slotted weights each set containing four weight and one hanger of 20 gms.

16- Jointed Roof Truss On Wheels

The apparatus is about 1.2 meter in length and strongly Constructed in all metal, one leg is fitted on a immoveable bracket and the other on rollers. Spring balances show tension on the rod and the compression on rafters. complete with specially made dynamometer, chain and pan, but without weights.

17- Shear Legs Apparatus

Mounted on sturdy wooden base with provision for changing the weight between legs, complete with two tubular compression balances, one tension balance - and scale pan. Without weights

18- Simple Jin Crane

Consisting of a tubular compression balance pivoted about an axis fitted to the base. The tie chain has an adjustable angle bracket and fitted with a 10 kg extension balance. Complete on wooden base with 1.2meter jib without weights

19- Friction Slide Apparatus

Friction Slide Apparatu

Comprising of a 75x15 cm. wooden board and a frictionless pulley at one end, a scale pan with the following accessories but without weights.

1. One set of three wooden carriages with different bottom surface (Wooden, glass and/iron).
2. One carriage with frictionless rollers.
3. *One s'etof1hree different surfaces for friction board-a glass plate, a plywood and felt cloth. .*

20- Friction Slide

Friction Slide

Simple type having a wooden board 75x15 cm. with glass surface, a frictionless pulley is fixed to one end, four sliding boards of different area are provided to determine the force of friction, with scale pan but without weights.

21- Inclined Plane

Inclined Plane

The convenience and versatility of this unit has made it very popular. It consists of a 15x60 cm. wooden board with glass top hinged on an Iron base to which a sector with graduated arc and vertical scale is provided. The plane may be clamped at any angle upto 45 degree. A 5cm dia frictionless pulley is attached to the end by means of a clamp adjustable to any necessary position. Complete with brass roller, cart and pan but without weights.

22- Inclined Plane 2

Inclined Plane

Consisting of 75x20 wooden plane with glass top hinged to another base board to which a sector with graduated arc and vertical scale is attached. The plane may be clamped at any angle upto 45 degree. The unit is complete with frictionless pulley, roller, carriage and scale pan but without weights

23- Coil Friction Apparatus

Coil Friction Apparatu

It consists of aluminum drum and three frictionless pulleys mounted on wooden board 60x75cm. in size. The pulleys Can be fixed to give a lap of $\frac{1}{4}$ or $\frac{3}{4}$ full circumference of the drum, complete with cord and two scale pans, but without weights.

24- Combined Coil and Belt Friction Apparatus

It consists of a metallic pulley of 30cm. diameter with two grooves one for rope and the other for belt. At back a circular sturdy wooden disc graduated at 10 degrees Interval is provided. A rotating pulley is fixed at the circumference of the scale. Complete with one belt and rope. The whole apparatus is mounted on it heavy vertical stand, weights e not Included.

Mine environment equipment

1 Assmann Psychrometer

Measuring Range -30°C to $+50^{\circ}\text{C}$

Accuracy 0.2°C typical

Resolution 0.2°C

2 Whirling Hygrometer or Sling Psychrometer

Bulb Type Spirit

Range -5 to $+50^{\circ}\text{C}$

Resolution 0.5°C

3 Wall Mounted Type Hygrometer

0 D Cel to 50 D Cel

wall mounted

100% relative humidity





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Tender Invitation Notice- 02-130817

Rock Mechanics& Ground Control Lab

Department of Mining Engineering

Sl. No.	List of items	Specification
1.	Compression Testing Machine	1500-2000 KN (Range) Capacity Ram Travel:- 40-50mm (Range) 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.



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: List of Equipment Mining Geology :

Sl. No.	Name of Item	Specification																																
1.	Brunton Compass	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																																
2.	Zoom binocular microscope	<table><tr><th colspan="2">Specifications</th></tr><tr><td>Microscope Body</td><td>Binocular</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>32.8mm 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-287mm</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>Interpupillary 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 Barrel Boom Stand Articulating Arm Stand</td></tr></table>	Specifications		Microscope Body	Binocular	Standard Zoom	6.7x-45x with 10x eye pieces included	Standard Field of View	32.8mm to 4.9mm	Standard Working Distance	100mm (3.93")	Optional Zoom	2x-270x with optional lenses	Working Distance	26mm-287mm	Field of View	1mm-109.5mm with optional lenses	Zoom Body	0.67x-4.5x	Zoom Ratio	1:6.7	Interpupillary 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 Barrel Boom Stand Articulating Arm Stand
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3.	Petrological Microscope.	1 Stand with 4/5 position centrable Nose piece 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. 3. Trinocular tube, FN20, fixed light pass, Bi/Photo: 50/50, Wide field eyepiece 10X, FN20 . 4. Light Balancing day light filter, 30W LED/Halogen bulb, Power cord, Dust cover. 5. Attachable mechanical stage, graduated for Circular Stage. 6. Polarizing Objectives :-																																

Sl. No.	Name of Item	Specification
		<p>Achromat polarising objective 10X/0.25, WD 6 mm</p> <p>Achromat polarising objective 4X/0.1, WD 18.5 mm</p> <p>Achromat polarising objective 20X/0.4, WD 3 mm</p> <p>Achromat polarising objective 40X/0.65, WD 0.45mm (spring)</p> <p>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</p> <p>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>
4.	Hardness Pencil for moh's scale 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 by moh's
6.	Laser distance meter	<ol style="list-style-type: none"> 1. Measuring accuracy range ± 1.5 mm to Capable to measure distance upto 100 mm. 2. Measuring units m, ft, in 3. Tilt measuring range ± 45 or 360° 4. With software and stand (Tripod) and all accessories with area, volume measurement, Pythagoras functions.
7.	Magnifying Lens.	<p>Hand lens and Jewelers Loupe, with a 10x magnification and a diameter of 18mm. Viewing field. 10x magnification</p> <p>Diameter of 18mm</p> <p>Chrome plated lens</p> <p>Plastic weather resistant case</p>



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

Workshop Items

Sl. No.	Name of items with specification
Plumbing Section	
1.	Pipe Wrench: Size 14"/24"
2.	Sly Wrench (Big Size)
3.	Tota Player
4.	Screw Driver Set
5.	Union: Size 1"/1.25"/2"
6.	Gate Volve: Size 1"/1.25"/1.5"/2"
7.	PVC Water Section Pipe: Size ½"
8.	Submersible Water Pipe: Size 1.25"
9.	Taplon Tap
10.	Water Prove Kaccha Rabar
11.	Holtight
12.	Dia with bit (Size: 1"/1.25"/1.5"/2")
13.	Hacksaw Frame
14.	GI Nipple (Size: 1"/6")
15.	GI Nipple (Size: 1.25"/6")
16.	GI Nipple (Size: 1.5"/6")
17.	GI Nipple (Size: 2"/6")

18.	Reducer (Size: 1"/ 1.25"/ 1.5")
19.	Tee (Size: 1"/ 1.25"/ 1.5" / 2")
20.	Elbo (Size: 1"/ 1.25"/ 1.5" / 2")
21.	Waste Pipe
22.	Waste Pipe Socket
23.	Sink Dom
24.	Waste Jali
25.	GI Socket (Size: 1"/ 1.25"/ 1.5" / 2")
26.	PVC Rain Water Draining Pipe: (Size: 3"/ 4")
27.	PVC Socket (Size: 3"/ 4")
28.	PVC Band (Size: 3"/ 4")
29.	Sulation Paste
30.	M Seal Paste
31.	GI Tank Nipple (Size: 1.25")
32.	PVC Water Tank (5000 Litter)
33.	PVC Water Tank (10000 Litter)
34.	PVC Garden Irrigation Pipe (Size: 1")
Carpentry Section	
35.	Steel scale 6"
36.	Divider
37.	Wood Working vice(6")
38.	Hand saw 12"
39.	Hand saw 18"
40.	Dove Tail saw
41.	Pad saw
42.	Firmer chisel with handle 1"
43.	Firmer chisel with handle 0.5"

44.	Firmer chisel with handle 3/4"
45.	Mortise chisel with handle 1/8" (25mm long)
46.	Mortise chisel with handle 3/8" (25mm long)
47.	Jack Plane(Metal)
48.	Mallet 500g
49.	Rasp cut file 10"
50.	Rasp cut half round file 10"
51.	Steel Rule-12"
52.	Try Square-10"
53.	Tenon Saw-12"
54.	Scriber-6"
55.	Divider-6"
56.	Mallet Wooden
57.	Rasp File 10"
58.	Benck Vice-4"
59.	France Chalk
60.	Farmer Chisel With Handle-1/8"
61.	Ratchet Brace
62.	Marking Gauge 8"
63.	Wood Cutting Tool Set
64.	Jack Plane 10"
65.	Round Nose Chisel-6"
66.	Flat
67.	Ply Board (Size:)
68.	Particle Board
Welding Section	
69.	Gas Welding Set Up

70.	Oxygen Pressure Reg.
71.	DA Pressure Regulator
72.	Gas Cutter
73.	Non Return Valve/02 Reg.
74.	Non Return Valve/Fuel Base Reg.
75.	Non Return Valve/Gas Cutter
76.	Hose Pipe (blue) ID-80mm
77.	Hose Reg ID-8.0mm
78.	Hose Clamp
79.	Goggles With Filter
80.	ARC Welding Set up
81.	Wire Brush
82.	Hand Gloves
83.	Apron
84.	Coverall-11
85.	Metal Plate 12"X12"
86.	Copper Welding Cable
87.	Welding Holder
88.	Welding Shield With White And Colour Glass
Electrical Item	
89.	Inverter (1600 VA)
90.	Inverter Battery (200ah)
91.	Submersible Pump (2 HP) Single Phase, Water Cooled.
92.	Electric Cable for Submersible Pump (Size: 4mm)
93.	Starter (Relay range 13-21 amp)
94.	MCB (16/20/25/32/63 amp)
95.	LED Bulb (40 / 50 watt)

96.	Holder (5 amp)
97.	Electric Wire (Size: 1.5 / 2.5 / 4 mm)
98.	PVC Tape
99.	Switch (5 / 16 / amp)
100.	Soket (5 / 16 amp)
101.	PVC Switch Board (Size: 4x4" / 4x6" / 7x6" / 8x6")
102.	Steel Screw (1.5 inch)
103.	PVC Fasnar (Size 1.5")
104.	GI Fasnar (Size: 3" / 4")
105.	Electronics Fan Regulator
106.	Tube Light (Electrical 40 watt)
107.	Electric Copper Chalk (40 watt)
108.	Floor Grinding Machine
109.	Electric Grass Trimmer Machine
110.	Induction Chulha
111.	Induction Cooker
112.	Tulu Pump (1 HP)
113.	Tulu Pump Section Pipe (30 feet)
Civil Construction Item	
114.	Pavers Block (Including Installation) Size: 6cmX12cmX25cm Zigzag shape +- 1 cm considerable. Colour
115.	Fly ash Cement Brick (Size: 9"x 4"x2.5") or Standard Size.



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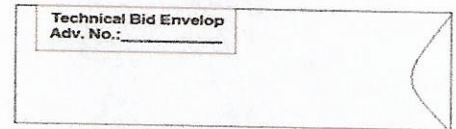
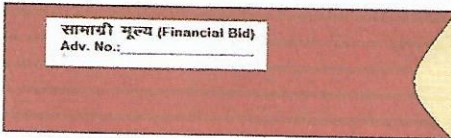
(Department of Higher, Technical & Skill Development, Government of Jharkhand)

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Tender Invitation Notice- 02/2018-19 से संबंधित आवश्यक शर्तें :

1. निविदा में अंकित सभी सामाग्रियों मशीनों, उपकरणों एवं अन्य विभिन्न सामाग्री का दर संस्थान तक पहुँचाने एवं स्थापना करने का (जिसमें लागु हो) खर्च सन्निहित होना चाहिए ।
2. निविदादाता या उसके द्वारा अधिकृत बिक्रेता का GST Registration No. संबंधित विभाग से निर्गत होना चाहिए ।
3. पुस्तकालय हेतु पुस्तकें नवीन संस्करण की होनी चाहिए तथा दर पुस्तक पर मुद्रित होना चाहिए । पुस्तकों के लिए आपूर्ति आदेश अधिकतम देय छुट पर दी जायेगी ।
4. 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 ।
5. मशीन एवं उपकरण एवं अन्य सामाग्री के निविदा के साथ पूर्ण स्पेशिफिकेशन, कैटलॉग, नमुना एवं तकनीकी विवरणी यथासंभव संलग्न करना होगा । यदि उपरोक्त सामाग्री आई0 एस0 ओ0 या बी0 आई0 एस0 प्रमाणित है तो उसका भी उल्लेख आवश्यक है । कैटलॉग, नमुना एवं फोटो अलग लिफाफे में डालकर तकनीकी विड बाले लिफाफे में संलग्न करें ।
6. निविदा में तकनीकी बीड (Technical Bid) / सामाग्री मूल्य (Financial Bid) का विवरण अलग-अलग मुहरबंद लिफाफे में जमा करना होगा । सर्व प्रथम तकनीकी बीड (Technical Bid) वाले निविदाओं को खोला जायेगा । जिस निविदा दाता का तकनीकी बीड (Technical Bid) शर्तों के अधीन सही पाया जायेगा उन्ही निविदादाताओं का सामाग्री मूल्य (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 एवं प्रत्येक लिफाफा पर विज्ञापन संख्या अंकित होना चाहिए ।



7. अंतिम तिथि तक संस्थान में प्राप्त निविदाओं पर विचार किया जायेगा । निर्धारित तिथि के उपरांत पहुँची निविदाओं पर कोई विचार नहीं किया जायेगा ।
8. मुहरबंद निविदा कय समिति की बैठक में खोली जायेगी । निविदा खुलने की तिथि कय समिति के अध्यक्ष की परामर्शनुसार परिवर्तित हो सकता है । जिसकी सूचना संस्थानीय सूचना पट्ट/संस्थान के वेबसाईट पर दी जायेगी ।

9. बिना कारण बताये कोई या सभी निविदाएँ रद्द करने का अधिकार अधोहस्ताक्षरी को सुरक्षित होगी ।
10. निविदा दाता निविदा खुलने की तिथि को स्वयं या उनके द्वारा प्राधिकृत व्यक्ति अधोहस्ताक्षरी के कार्यालय में उपस्थित हो सकते हैं ।
11. विभाग के निर्देशानुसार शर्तों, नियमों एवं तिथियों में परिवर्तन हो सकता है । परिवर्तित शर्तों एवं नियमों को संस्थान के सूचना पट्ट/वेबसाइट के नोटिस पेज पर देखा जा सकता है । निविदादाता को संशोधित शर्तें, नियम एवं परिवर्तित तिथियों से संबंधित सूचना अलग से नहीं दी जायेगी ।
- निविदा कार्यालय अवधि में हाथो-हाथ या निम्नलिखित पते पर निबंधित/स्पीड पोस्ट द्वारा भी जमा की जा सकती है । हाथो-हाथ निविदा जमा करने वाले प्रतिष्ठान निविदा जमा करने के उपरांत संस्थान से प्राप्ति रसीद या कॉपी अवश्य प्राप्त कर लें ।

प्राचार्य, राजकीय पोलिटेकनिक भागा, धनबाद (बी० आई० टी० सिन्दरी परिसर)

पो०: मोतीनगर, जिला: धनबाद

झारखण्ड- 828 120

1. The following table is compulsory to be filled by tenderer. Otherwise tender will be treated uncompleted
- a. Specification of items with comparison of institute specification as given below. Fill the following table. Keep it this information in Technical bid.

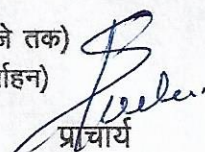
Sl. No.	List of items	Specification	Specification (Given by Tenderer) with Make & Model No.	Deviation (if any) From Institute Specification

- b. Registration of firm / GST Regd. No.: _____
- c. PAN No. [Attached attested copy of pan no.]
- d. Income Tax Return [last two financial year] [attached attested copy ITR]
- e. Past experience of supplying of items [if any]. [Attached attested copy of Past Exp.]
- f. All above certificates must be enclose in Technical envelop.
- g. Price bid must be kept in separate envelop. Specification and make and model must be mentioned with price in this bid.
16. Tenderer must mention Make & Model of the equipments or Propriety Item (Which any one can applicable). Otherwise Tender will be not considered. It is compulsory. Make & model is desirable for equipments of physics, chemistry and geology Lab.
- Note: Training for Operation of equipment will be provided by the firm on his own cost.
- 17- Tenderer must have to submit the authorization latter for their principle or OEM for supplying of equipment of Surveying lab and Rock Mechanics Lab.

निविदा से संबंधित आवश्यक तिथियाँ

निविदा जमा करने की अंतिम तिथि : 29.10.2018 (संघ्या 5:00 वजे तक)

निविदा खोलने की तिथि : 30.10.2018 (11:00 वजे पूर्वाहन)


प्राचार्य

राजकीय पोलिटेकनिक भागा, धनबाद ।