

**MINING TECHNOLOGY**

**GPI BUNER**

**LIST OF MINING FOR DAE (GPI BUNER)**

<b>S.No</b>	<b>Name of Items/</b>	<b>Qty</b>
01	<p><b><u>Drill Machine for Marble &amp; Granite</u></b>            Air Pressure: 0.4 – 0.63MPa            Air Consumption: ≤9L/s            Impact Energy: ≥51HE</p> <p align="center"><u>Or</u> <u>Equivalent</u></p>	01
02	<p><b><u>Drilling Machine Hole on Marble, Granite</u></b>  <b>Specification:</b>            Speed: 3800 ~ 6500 rpm            Voltage: 220V            Current: 2.5A            Out Power: 1000W</p> <p align="center"><u>Or</u> <u>Equivalent</u></p>	01
03	<p><b><u>Air-Leg Rock Drill</u></b>  <b>Specifications:</b>            Air consumption                      ≤81 l/s            Air hose dia                              25 mm            Water hose dia                          13 mm            Impact frequency                      ≥37 Hz            Bit size                                      34~42 mm            Drilling depth                            5 m            4Shank (hex. xL)                      22×108±1 mm</p> <p align="center"><u>Or</u> <u>Equivalent</u></p>	01
4	<p><b><u>Portable Aneroid Barometer</u></b>            Measuring range 930 to 1,070 h Pa, 700 to 800 mm.            Hg, or wider, accuracy within            + 1h Pa, thermometer            range –5 to 55°C or wider, accuracy with + 1°C</p> <p align="center"><u>Or</u> <u>Equivalent</u></p>	02
5	<p><b><u>Psychomotor</u></b>            For the measurement of            Humidity of mine air.            Measuring range 0 to +            5° C or wider accuracy with            + 0.2 deg. C.</p>	05

	<u>Or</u> <u>Equivalent</u>	
6	<p><b>Electronic Dust Sampler</b> Mass concentration range: 0.02 to 10 mg/m<sup>3</sup> or more, aerosol size measured: 10 µ dia, 98% or better, accuracy: within + 10% of reading.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	01
7	<p><b>Portable CO<sub>2</sub> meter</b> for analyzing the ambient CO<sub>2</sub> concentration in mines, measuring range 0-40% or wider, accuracy: + 0.7 vol. % or better.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	03
8	<p><b>Portable CO detector</b> Measuring range: 0-150 ppm linear, continuing 499 ppm, accuracy: + 10% F.S. o r better (Riken Kenki).</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	03
9	<p>Measuring range: 0 to 30 m/s or wider, accuracy: + 3% FS, resolution: 0.1 m/s or less.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	
10	<p><b>Altimeter</b> (18,000) for measuring height of slope and distance, to be supplied in case.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	02
11	<p><b>Wet &amp; Dry Bulb Hygrometer</b> Digital, measuring range: -10 to + 60 deg. C temp: 20 to 99.9% R.H. at 25 deg. C or wider, accuracy:</p>	05

	<u>Or</u> <u>Equivalent</u>	
12	<p><b>Air velocity monitor</b> Measuring range: 0.1 –4.99 m/s, accuracy 10 to 25 m/s, - 10.0 to 60.0 deg. C, 30 to 98.0% or more accuracy with + 2% R.H.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	02
13	<p><b>Digital Dust Indicator</b> Particle size: 10 m m and below, measuring range: 0-4 mg/m3 (0-400 CPM or more), accuracy: + 10%.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	05
14	<p><b>Total &amp; Respirable Dust Sampler</b> Measuring range: 0.1 –99.99% mg/m3 or more</p>	01
15	<p><b>Digital Manometer</b> Measuring range: 0-2000 mm H2 O or more, accuracy: + 0.2% F.S.</p>	05
16	<p><b>Pitot Tube</b> with differential pressure gauge, capable of ready to 21 Pa.</p>	05
17	<p><b>Diesel Smoke Tester</b> Paper filter reflection system), measuring range: 0-100%, (contamination rae), accuracy: within +3% F.S., one sampling probe, sampling hose (5 m., IPC) paper filter (500 sheets), standard cola paper (5 sheets), spare lamp (IPC)</p>	01
18	<p><b>Luximeter</b> Portable/Photometer (Digital) Measures the intensities of illumination in mines, range for reading from 0.005 to 30 foot candles</p>	05
19	<p><b>Oxygen Breathing Apparatus</b> For underground mines. Self contained, constant flow and lung-governed, closed-circuit compressed O2</p>	01

	supply type, or equivalent, duration: approx: 2 hours.	
20	<p><b>Self Rescue</b> Duration: 30 min approx, O<sub>2</sub> supply: constant flow 1.2 litre/ min or more with manual supply valve; initial O<sub>2</sub> supply 5 litre, shoulder type.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	03
21	<p><b>Radon Detector</b> (Monitor, detector, printer), background rate: approx 0.4 counts per min. Counting rate: 106 counts per sec. Max. number of runs more than 80, dot matrix printer (standard).</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	03
22	<p><b>Geiger counter</b> Measuring range: Survey (Dose rate) 0-0.01, 0.1, 1, 10 m Sv/h or wider. Dosimeter (Dose), 0.001-9.99 msv; 0.001-0.99 m sv – 0.001 m sv/digit, 1.00 –9.99 m/sv – 0.01 sv/digit or wider, accumulated accuracy: + 10 % or better</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	01
23	<p><b>Mines Safety Helmets</b> High density polyethene with removable polyethylene(adustable), (150x170mm</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	60
24	<p><b>Portable Gas Detector</b> . Measuring range: approx 0-1 .8% LPG by volume 0-1.4%, accuracy: + 5% F.S. or better</p>	02

25	<p><b>Multi Toxic Gas Monitor</b>  Measuring range (O2): 0-25.0  vol. %2 or more  accuracy + 0.7 vol %, Measuring range (combustible gas)  : 0-100%, LEL accuracy  within + 5% LEL, Measuring  range (H2S): 0-30 ppm,  accuracy within 1.5 ppm,  Measuring range (CO):0-100  Ppm</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	02
26	<p><b>Single Gas H2S Personal Monitor</b>  . Measuring range:  0-30ppm Linear, continuing</p>	05
27	<p><b>Explosimeter</b>  Measuring range: 0 to 100  LEL, resolution 1% LEL 0  to 5 vol.% CH4, resolution  0.01 vl% 5% CH4,  resolution 1 vol. % CH4,  vol% autoranging.</p>	03
28	<p><b>Sound Level Meter</b>  measurements:  30-70db, 50 to 90 dB, 70 to  110 dB, 90 to 130 dB or  better.</p> <p style="text-align: center;"><u>Or</u> <u>Equivalent</u></p>	02
29	<p><b>Self Rescuer Respirator</b>  (Emergency Protection against CO) Service life: 60 min. against 1% CO  at continuous flow rate of 32 liter/min., effective life: more than 10 years,  consist of outer course dust filter, and inner dust filter.</p>	60
30	<p><b>Self Rescuer Training</b></p> <p><b>Model</b>  Training model of item No.13 should be  cleaned, reassembled and  used again.</p>	50
31	<p><b>Snake and insect Bite Kit</b>  Should have a vacuum pump of atleast 75 millibars of  suction capacity, should  include Bandages, safety</p>	03

	razor, antiseptic etc.	
32	<b>Resuscitation Training</b>  Model Life size, foam – filled, life-size manikin for teaching mouth to mouth resuscitation and external cardiac compression	03
33	<b>Triangular bandages</b>	100
34	<b>Dragger Detectors</b> With pump for measuring CH4, (0-15%) and CO range 0-200 ppm, along with detector tube.	02
35	<b>Composite Flame Safety lamp.</b>	10
36	<b>Electric Hand Lamp (Alkaline Battery).</b>	10
37	<b>Electric Self Service Cap lamp.</b>	10
38	<b>Davy Safety Lamp.</b>	10
39	<b>First Aid Kit</b>	10
40	<b>Stretchers</b>	10
41	<b>Ventilation Fans</b>	02
42	<b>Mine Telephone</b>	01
43	<b>Lightening Detector</b> Range 10 to 100 mile, 4 step switch selectable or more.  <u>Or</u> <u>Equivalent</u>	05
44	<b>Inert Samples Of Explosive &amp; Associated</b> Accessories manufactured by Wah Noble, displayed on wall mounted board. (Gratis-to be requested for).	01
45	<b>Inert Samples Of Explosive &amp; Associated</b> Accessories manufactured by BiafoIndustied, displayed on wall mounted board. (Gratis-to be requested for).	01
46	<b>Cap Crimper</b> (Hand Type) for cap and fuse assembly.	10
47	<b>Moh's Hardness Test set (hardness ranging from 1-9)</b>	03
48	<b>Contour Model for topographical mapping.</b>	02
49	<b>Short Scleroscope with calibration blocks.</b>	02
50	<b>Schmidt Impact Hammer (Rock) along with calibration anvil)</b>	01

51	<b>Schmidt Impact Hammer (concrete)</b>	02
52	<b>Geologic Fault</b> Model (3D model for demonstrating various types of faults), made from wood or medium density fibre board, multiple layered sections, viewing window to strata movement.	01
53	<b>Geological Hammer</b> Hardened steel head with chisel edge on a steel shaft, that is rubber sleeved, Head: 120 mm length, hammer face: 20x25 mm, shaft length: 310 mm mass: 800 g (approx).  <u>Or</u> <u>Equivalent</u>	05
54	<b>Streak plates</b> (for use in mineral scratch tests) Ceramic, 50x50 mm  <u>Or</u> <u>Equivalent</u>	60
55	<b>Common Rock forming Minerals</b> Set of about 50 specimens, (25x40 mm approx), consisting of major ores, industrial minerals and common rock forming silicates.	05
56	<b>Pocket Magnifiers</b> Multile lenses mounted in folding Case, magnification (x8).	60
57	<b>Rock Identification Set</b> Sets of common igneous, sedimentary and metamorphic rocks approx: 10 rocks samples in each set	05
58	<b>Silver Ranger Compasses (1500x300mm).</b>	02
59	<b>Abney Hand level</b> Measure slope upto 50°, Scale graduated from 0 to 100%, dimension (193x45x76mm).  <u>Or</u> <u>Equivalent</u>	24
60	<b>Measuring tape (steel) 50 ft (15m).</b>	12
61	<b>Measuring tape (steel) 100 ft (30m).</b>	12
62	<b>Measuring tape (fibre glass) 50 ft (15m).</b>	12
63	<b>Measuring chain 66ft with ten Arrows (Engineers chain)</b>	02



64	<b>Measuring chain 66ft with ten Arrows (Gunters chain).</b>	02
65	<b>Survey Umbrella 60 inch diameter, double cloth &amp; full steel rod.</b>	02
66	<b>Staff stadia 0.3 – 5 meters.</b>	02
67	<b>Planimeter Digital.</b>	02
68	<b>Brunton compass</b> 2½ dia with one discular& one tubular bubble with wooden adjustable stand.	05
69	<b>Clinometer, rectangular shape</b>	
70	<b>Ranging rods wooden (2 meter)</b>	24
71	<b>Telescopic Alidade with platable U-Fork</b>	02
72	<b>Plane table cover (canvass)</b>	05
73	<b>Plumbob brass (200 gram).</b>	24
74	<b>Dumpy level</b>  <b>Magn</b> 25 x with original aluminum stand & other standard	02
75	<b>Cross Staff/stand.</b>	10
76	<b>Theodolite,</b> Magn: 30x20, seconds direct reading with micro meter, on ball & socket base, with original aluminum stand & other accessories  <u>Or</u> <u>Equivalent</u>	05
77	Post for base line Measurement & Stretching devices.	02
78	<b>Internal Gear Rotary Pump</b> 1½ suction in 40gpm, motor – 2hp, 3 phase, 1500 rpm, 50 hz.  <u>Or</u> <u>Equivalent</u>	01
79	<b>Centrifugal Plump</b> 2½ in suction line, 2 in discharge line motor – 3 hp, e phase, 1500 rpm, 50 hz.  <u>Or</u> <u>Equivalent</u>	01
80	Flow Meter for measuring the flow of water capable of measuring upto 200gpm	01
81	Pressure Relief Valve, for positive displacement pump.	02
82	Pressure Gauge, capable of measuring water pressure upto 100 psig.	02
83	Wattmeter, 3 phase, accuracy 0.5%.	05
84	Drawing Boards 24” x 36”	60

85	Drawing Tee square 36"	60
86	Pencils sharpener table type	60
87	Drawing Board Clearing Brush (nylon hair)	60
88	<b>Drawing instrument set</b> complete for classroom (Black board use)	05
89	<b>Black board portable with stand (3' x 6')</b>	05
90	<b>Drawing table 30" x 42"</b>	60
91	<b>Drawing stool 14" dia top 3ft height</b>	60