

Institute of Mining, Minerology & Metallurgy (IMMM), BCSIR, JOYPURHAT					
Sl. No	Name of Sample	Test Parameter	Instruments Name	Fee (Without VAT)	Working Days
1	Ceramic, coal, coke, charcoal, wood, rice husk, saw dust etc.	Ash	Furnace	3000	7
2	Coal, coke, charcoal, peat, lignite etc.	Calorific Value, Sulfur content	Bomb Calorimeter	3000	7
3	Steel (MS), Alloys	Carburizing	Furnace	6000	7
4	Cast iron, Aluminium, Brass etc.	Casting (Kg)	Sand Casting Setup	500	7
5	All types of Rocks, Minerals, Alloys, Sands, Soil, Stones etc.	Elemental Composition	XRF	10000	7
6	Sand	Compression, Shear, Tensile strength of Green sand, Nobake sand etc	Universal Sand Strength Machine	1000	7
7	Rocks, Minerals, Rod, Concrete cylinder, Bricks, Alloys, Ceramics	Compressive and Tensile strength, modulus of elasticity, poisson's ratio	Universal Testing Machine (UTM)	5000	7
8	Rocks, Minerals, Coals, Ceramics, Sands etc.	Crushing (Kg)	Jaw Crusher: (Feeding size : <200mm, Final size: <10 mm)	3000	7
9	Specimen having both izod and charpy configuration	Energy Test	Impact Tester	2000	7
10	Rocks, Minerals, Soils Coals, Ceramics, Sands etc.	Grinding (Kg)	Disk Mill (Feeding size : <20 mm Final size: 0.1mm-5mm)	3000	7
11	Rocks, Minerals, Soils Coals, Ceramics, Sands etc.	Grinding (100gm)	Mortar Grinder (Feeding size : <8mm, Final size:<0.01mm)	2000	7

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12	Rocks, Minerals, Soils Coals, Ceramics, Sands etc.	Grinding and Mixing (100gm)	Planetary Mill (Feed size: <10mm (Max), Final size: <1mm.)	5000	7
13	Rocks, Minerals, Soils Coals, Ceramics, Sands etc.	Grinding and Mixing (50gm)	E-max Ball Mill (Feed size: <1mm (Max), Final size: <20 nano meter 60%)	10000	7
14	Sand	Hardness Test	Mould Hardness Tester	1000	7
15	Ferrous and non-ferrous materials	Hardness Test	Rockwell Hardness Tester	3000	7
16	Steel (Mold), Alloys	Heat Treatment (100 gm)	Furnace	8000	7
17	Sands	Magnetic Separation (Kg)	High Tension Magnetic Separator	3000	7
18	Sands	Magnetic and Para Magnetic Separation	Induced Roll Magnetic Separator	5000	7
19	Mild Steel	Mat. Joining (Rft)	Arc Welding	500	7
20	S/S	Mat. Joining (Rft)	Arc Welding	800	7
21	Cast Iron	Mat. Joining (Rft)	Arc Welding	800	7
22	Gold, Super Alloys, Steel etc.	Melting (100gm)	Furnace (1800°C)	8000	7
23	Steel, Alloys	Melting and Treatment (100gm)	Tube Furnace	10000	7
24	Metals, Alloys	Melting and Treatment (20gm)	Arc Furnace	15000	7
25	Metals, Alloys	Metallographic Specimen	Cutting device, Mounting device, Polishing wheel	10000	7
26	Rocks, Minerals	Mineralogical Composition	Polarizing and Zoom Microscope	10000	7
27	Ores	Mineralogical Composition	Ore Microscope	10000	7
28	Sand	Moisture % in Raw sand and Green sand.	Moisture Tester	2000	7



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29	Solid Fuel: Coal, coke, charcoal, wood, rice husk, saw dust etc.	Moisture Content	Furnace	2000	7
30	Metals, Alloys	Ore/Metallic Composition	Ore/Metallurgical Microscope	6000	7
31	Sands	Particle Size Distribution	Sieve Analyzer	2000	7
32	Sands, Soils (nano size)	Particle Size Analysis	Particle Size Analyzer	10000	7
33	Rocks, Minerals, Ores etc.	Petrographic Slide	Petrological Sample Preparation Equipment	2000	7
34	Clay/Feldspar/Quartz/Refractory/Minerals/Ceramic materials/ Enamel / Cement	Phase Analysis	X-ray Diffractometer	8000	7
35	Sands	Porosity in Raw sand, Green, Nobake sand.	Permeability Tester	1500	7
36	Organic/Inorganic Material	Pulverizing (100 gm)	Pulverizer/Press	1500	7
37	Glass Materials, Oil, Water, Honey etc.	Refractive Index	Refractometer	1500	7
38	Ceramic/Enamel Slips	Rheology Study	Viscometer, Circulator	3000	7
39	Rocks, Minerals, Soils Coals, Ceramics, Sands etc.	Separation of ferrous and non-ferrous materials (100 gm)	Floatation Cell	3000	7
40	Rocks, Minerals, Alloys or any suspension.	Trace metals (Al, Mg, Mn, Fe, Cu, Ti, As, Zn, Co, Ni etc. per element)	Titrametric /Gravimetric /Colorimetric/	3000	7
41	Water, Waste Water or any suspension.	Trace metals (Pd, Hg, As, Cl, SO ₄ , NO ₃ , NO ₂ , Al, Mg, Mn, Fe, Cu, Ti, As, Zn, Co, Ni etc. per element))	Titrametric /Gravimetric /Colorimetric/	3000	7
42	Water, Waste Water or any suspension.	BOD and COD	Instrumental	3000	7
43	Water, Waste Water or any suspension.	(DO, pH, EC, TDS and Turbidity)	Instrumental	3000	7

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44	Water, Waste Water or any suspension, Rocks, Minerals, Alloys or any suspension.	Trace metals (multi element)	ICP-MS	20000	7
45	Ferrous and non-ferrous materials	Turning/threading facing/boring (hour)	Lathe, Drilling m/c, Grinding M/c etc.	500	7
46	Liquid Fuels/Liquid Hydrocarbon: petrol, disel, grease, kerosin, tar, bitumen, engine oil	Viscosity Index	Viscometer, Circulator	3000	7
47	Mine Field	Support Design	Mining Software, Phase2 6.0	Negotiable	7
48	Mine Field	3D Stress Analysis	Mining Software, Examine3D 4.0	Negotiable	7
49	Mine Field	Underground Wedge	Mining Software Unwedge	Negotiable	7
50	Mine Field	Support Estimation	Mining Software Rocsupport 3.0	Negotiable	7
51	Mine Field	Pillar Stability	Mining Software Cpillar 3.0	Negotiable	7
52	Mine Field	Slope Stability	Mining Software Slide 5.0 & Rocplane 2.0	Negotiable	7
53	Liquids, solutions etc.	Na, K and Ca concentration	Flame Photometer	3000	7
54	Organic material, polymer, peat, wood, biomass, food etc	C H N S O content	Elemental analyzer	10000	7
55	Sands	Separation of low level impurities (250 gm)	Electrostatic plate separator	5000	7
56	Sands	Separation of light and heavy minerals (Kg)	Shaking Table	2000	7
57	Sands	Separation and volume % of individual mineral in sands	Isodynamic separator	10000	7

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58	Sands	Gravitational Separation (Magnetic, Non-magnetic and Light Minerals, per Ton)	Mineral Processing Plant Equipment (Wet)	10000	7
59	Sands (Out put of above item No. 58)	Individual Minerals (Ilmenite, Rutile, Zircon, Garnet, Magnetite etc.)	Mineral Processing Plant Equipment (Dry)	20000	7
60	Powder Samples	Characterize multiple thermal properties of a sample	TG-DTA (upto 1600°C)	6000	7
61	Rocks, Minerals, Ores, Sands, Metals, Alloys etc.	Scanning, Picture and EDS Composition (upto 10 Lakh Magnification)	FE-SEM with EDS	20000	7
62	Rocks, Minerals, Ores, Sands, Metals, Alloys etc.	Scanning, Picture, EDS and WDX Composition (upto 10 Lakh Magnification)	FE-SEM with WDX and EDS	30000	7
63	Rocks, Minerals, Ores, Sands,	Scanning, Picture and EDS Composition (upto 10 Lakh Magnification)	FE-SEM with WDX and EDS with Mineralogic Software	40000	7
64	Rock	Cutting and coring	Rock cutting and coring machine	10000	7
65	Rock	Compressive strength	Rock automatic testing machine	10000	7
66	Soil	Triaxial Testing System	Geotechnical Instrument	25000	7
67	Soil, Sands etc.	Geophysical Borehole Logging with Gamma-SP-SPR- Resistivity Probe function	Geophysical Logging Instrument	20000	7

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68	Area Mapping	ArcGIS Desktop Advance license, 3D Analyst, Geostatistical Analyst, Spatial Analyst, Image Analyst, Envi with Feature Extraction and SarScape with InSAR	ArcGIS Software	25000	7
69	Area Mapping	RockWorks is a comprehensive software program for creating 2D and 3D maps, logs and cross sections, geological models, volume reports, and general geology diagrams for the environmental, geotechnical, mining, and petroleum industries.	RockWorks	15000	7