

Details of the items/Title of the items	Quantity
(50 kg Mg batch scale) Isolation valves and transfer line pig iron moulds with automatic/motorized movement	1
(acid resistant, marble top, 5' X4', chemical storage bin-3)	01 Nos
1) White Pigment, 2) Red Oxide Pigment, 3) Methyl Ethyl Ketoxine (MEKO)	50 Kg each
1,2-Diaminoanthraquinone	250g
1,4,5,8-Naphthalenetetracarboxylic dianhydride	0.5Kg
1,8-Dichloroanthraquinone	250g
1. Recrystallized alumina crucibles 2. High purity graphite crucibles 3. Alumina tubes 4. Alumina muffle 5. Porcelain crucible	100
100-120 kg of liquid Mg bath system (800-900 deg C), associated vacuum system and controls(0.001 mbar), as per specifications approved by NML	
2-Aminoterephthalic acid	01 set
4-amino-1,2,4 triazole	20 kg
50 PPM,(Sc, Y, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu) in 2% nitric acid, NIST Traceble	500ml
Abrasive blade; Diamond cutting blade; Emery papers-80-4000grit; Polishing cloths; Diamond suspensions-0.25,0.5,1,1.5 micron; Colloidal silica; Alumina suspension;	-
Acetone	200 ltr
Ag / AgCl electrode	250g
Al-Foil	20
Aluminium Foil	02 Nos
Aluminium powder	5 kg
Ammonium niobate oxalate hydrate	5L
Amorphous Boron	5L
Amorphous Sulphur	5L
Antimony chloride	5L
Antimony Powder	4 nos
Antimony sulphide	2pc
Approx: %SiO ₂ : 20 to 50, % Fe ₂ O ₃ : 1 to 20 & Al ₂ O ₃ : 5 to 20	100gm
Approx: %SiO ₂ : 50 to 80, Fe ₂ O ₃ : 1 to 15 & Al ₂ O ₃ : 5 to 20	100gm
Ar-Gas	2 set
Argon gas cylinder-2nos N ₂ gas cylinder -2nos N ₂ gas cylinder -2nos methane gas cylinder-2nos Te Hollow cathode lamp for AAS Se Hollow cathode lamp for AAS	
ARGON gas cylinders	50 Nos
Ar-H ₂ Mix Gas	1
As per CSIR NML generic specification accurate determination of impurities in magnesium metal and for rapid determination of alkalies and other elements in raw materials as well as finished products.	1

Details of the items/Title of the items	Quantity
As per customized design and technical specifications consisting of vacuum charge bin/melt chamber/vaporization chamber/connector/ *tender mode procurement	1
As per technical specifications and designs by CSIR NML two zone vertical furnace system with resistance heating and capable to hold solid magnesium 15 kg and liquid magnesium 15kg at any point of time ,details as per drawings and specifications.	
Ascorbic acid	25 kg
Axolite disk resin paper 14	200 nos
Ball mill – 10 kg capacity	01 No.
Base metals, REEs, PGEs, mixed/multi-element standards	50 Nos
Bead mill – 2 liter capacity	01 No.
Beaker	4 nos.
Benzoic acid CRM	20
Benzoyl peroxide	50 kg
Bismuth powder	2 kg
Boron powder	2 kg
Bromoform	1
Butyl cellosolve	200 kg
Calibration of measuring instruments/sensors	2
Cartridge	05 Nos
Cartridge	4
Central control,logging and monitoring system	
ceramic Al2O3 outlet d2.0 mm, H55, Q=1300	4no.
Cocoamidopropyl betaine	200 kg
Conductive Copper Powder, Colloidal Silica Suspension, Alumina Powder	5 Kg
Copies, log books, register, Pen Drives, Hard disk, Table Top Elevator Writing Desk	20 Nos.
Copper Foil	2kg
Coreless vacuum induction melting for Mg melting with all accessories capacity 50kg liquid Mg	
cranes/chain pulleys/motorized trolley/Screens/transport trolleys/Chain pulleys	
Cu-Foil	250g
Customised tubes for thermocouples	20
Customised/ reputed make	10
Desk Top Computer	1
Dia 150mm Dia 200mm Dia 120mm , High pure low ash	01 set of each
Dial type platform scale to weigh crowns and residues.	
Diethyl Carbonate	1 kg
Diethylene triamine	50 kg
Digital Measuring Instruments- Vernier calliper,micrometre ,height Gauge ,filler Gauge ,thread gauge,etc	As per requirement
Dimethyl Carbonate	As per
Disperse Blue 1	500ml

Details of the items/Title of the items	Quantity
Distillation Unit Condenser	02 Nos
Enamel Tray	1 Kg
Enamel Trey	100 Nos
Epoxy hardener	200 kg
Epoxy resin	200 kg
Equipment sub assembly like melt holders, mechanical fixtures	As per visit requirements
Erbium Standard , 1000 PPM, NIST Traceble	500ml
Ethanol	1 Kg
Ethylene Glycol Monobutyl Ether	300 Ltr
Europium Standard , 1000 PPM, NIST Traceble	500ml
EW setup	1 unit
Executive Table/ laboratory Steel Furniture/meeting table/cafeteria table/executive computer table/steel table/ Modular table	03 Nos.
Fabrication of FCGR samples	60 No
Fabrication of fracture toughness specimens	60 No
Ferric sulfate	25 kg
Ferro alloys for master alloy preparation	Kgs
Ferro Chrome (High Carbon) Approx % Cr: 50 to 90 & % C: 5 to 10	100gm
Ferro Chrome (Low Carbon) Approx % Cr: 50 to 70 & % C: 0.5 to 5	100gm
Ferro Manganese (High Carbon) Approx % Mn: 60 to 90 & % C: 5 to 10	100gm
Ferro Manganese (Low Carbon) Approx % Mn: 50 to 70 & % C: 0.01 to 5	100gm
Ferro Molybdenum (High Molybdenum) Approx,%Mo: 70 to 90	100gm
Ferro Molybdenum (Low Molybdenum) Approx,%Mo: 50 to 60	100gm
Ferro Molybdenum (Medium Molybdenum) Approx,%Mo: 60 to 70	100gm
Ferro Silicon (High Silicon) Approx % Si :75 to 95	100gm
Ferro Silicon (Low Silicon) Approx % Si: 40 % to 55	100gm
Ferro Silicon (Medium Silicon) Approx % Si: 60 % to 70	100gm
Ferro Titanium (High Titanium)	100gm
Ferro Titanium (Low Titanium)	100gm
Ferro Vanadium (High Vanadium)	100gm
Ferro Vanadium (Low Vanadium)	100gm
Ferrocene	1kg
Ferrocene Derivative	30Nos.
FFC Ribbon Flat Cable, Jumper Pins with wire for circuit connection	90 Nos each
Filter Paper	15 Pkts
FILTER PAPER 41	20
FILTER PAPER 42	20
Filter Paper 40	50
Filter Paper 42	20
Filter Paper Grade 1440 - 125	50
Flue Gas analysis/Rotary kiln and furnaces gases analysis	
For drilling of steel parts ,all geared pillar type ,Drilling cap : 60 mm	
For filtration of samples	3 set

Details of the items/Title of the items	Quantity
For grinding of tools and cutters Size :200 MM, dia wheels.	
For ignition of samples in analytical work	
For material handling.	01 Set
For mechanical maintainance and repair work Size : 300 mm stroke .	
For mechanical maintainance and repair work size : cutting cap 200 mm square.	
For mechanical maintainance and repair work Size :170 mm x 1000 mm	
For mechanical maintenance and repair work, size 200 mm	
For repairing and fitting of equipments/ parts	02 set
For the extraction of fumes and dust at the time of discharging and charging the retorts.	
Furnace	01-02 nos/pairs
Gas Diffuser DP27235	2 nos
Germanium(IV) ethoxide	30
Glass bottle	10
Glassware	1
Glassy carbon electrode	500ml
Gloves, office tools, filter sheet, storage container, storage packet/pousches, shoes, pu pipes,	20 Nos
Gold Sputter Target for Hitachi MC 1000 Sputter Coater (Accessory of Hitachi SU7000 FESEM)	01 unit
Graphite electrode	5 units
Hafnium Standard , 1000 PPM, NIST Traceble	500ml
Hardware Tools	1 set
Haynes 230/H230/Alloy H 230 (Ni-Base Superalloy); Haynes 188/H188/Alloy H 188 (Co-Base Superalloy)	-
HF/ H2SO4	As per
HI-ALUMINA INSULATOR	3
High grade Iron Ore (Approx: %Fe 50-69)	100gm
High magnetic energy density and resistance to demagnetization.	01 Set
High purity-Chemical analysis	20
High temp melting, Heat treatment , Sheath	30 nos
High-End Laptop for R&D work	01 unit
Hoechst wax c micro powder ,Tabletting aid for X - Ray Fluorescence Analysis ,	02 kg
Holmium Standard , 1000 PPM, NIST Traceble	500ml
Hydraulic Press 50T	As per
Hydrochloric Acid (Litre)	500
ICP Standard for Co	5 Units
ICP Standard for Cu	5 Units
ICP Standard for Ni	5 Units
Inconel 625 MIG Welding Wire Spool(1.2mm Dia)	15KGs
Indium Standard , 1000 PPM, NIST Traceble	500ml
Indium Standard,1000 PPM,NIST Traceble	500ml
Insulated Jacket Heater Length of heater-120-130 mm Length	01 set
Iolar, XL-grade	10Nos.

Details of the items/Title of the items	Quantity
Isopropyl alcohol	200 ltr
Items fitted in metal distillation systems including mechanical/electrical and electronic parts	02 sets
KANTHAL HEATER DIA 3 mm	A- 3 B-3 C- 2
Laboratory Glassware Bottles (Screw- Neck Bottles as per IS 1388 (part 1) 100 mililiter)	2000 Nos
Lanthanum nitrate	20
Lanthanum Standard , 1000 PPM, NIST Traceble	500ml
Laptop (Intel core)	01 Nos
LiPF6 Electrolyte	100
Lithium acetate	5
Lithium bis(trifluoromethane) sulfonimide (LiTFSI)	500ml
Lithium Hexa Fluoro Phosphate 500g	02 Nos
Lithium Standard,1000 PPM,NIST Traceble	500ml
Lithium Tetraborate 500g	01 No.
Low grade Iron Ore (Approx: %Fe 30 50)	100gm
Lutetium Standard , 1000 PPM, NIST Traceble	500ml
Magnesium Oxide	200 kg
Magnetostrictive sensing device for pipe inspection : MagStrics	Two Unit
Maintenance of vacuum system	01 pump
Maleic resin	100 kg
Malonic acid	100 kg
Manganese carbonate	8 nos
Manganese Ore (Approx: %Mn: 15 to 30),Low Grade	100gm
Manganese Ore (Approx: %Mn: 30 to 60),High Grade	100gm
Manganese sulphate	1 kg
Marker pen	20 kg
Mechanical Tool Kit	As per
Mercuric Chloride- AR Grade, 100 Gm/Pk	15
Mercuric Chloride-AR Grade,100 Gm/pk	15
Mercury Standard,1000 PPM,NIST Traceble	500ml
Metallic pieces (research grade)	5-500 g
MgO basic ramming Mass (Temperature Upto 1950°C)	2 Nos.
Microsoft office	2 Nos.
Mild steel plate	100 kg
Mini Lathe Machine	As per
MS frame structure (As per Annexure)	07 Nos
MS Office Life time license	05 Nos
MS office Lifetime license	05 Nos
Multi element(23 elements in diluted nitric acid) 1000 mg/l: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn standard, NIST Traceble	500 ml
Multielement Standard Soln. For ICP -15 components (10mg/L) 100ml	3 Nos
Multielement Standard Soln. For ICP -20 components (10mg/L) 100ml	3 Nos

Details of the items/Title of the items	Quantity
Multielement Standard Soln. For ICP -3 components P, S,Si (10mg/L) 100ml	10 Nos
Multielement Standard Soln. For ICP -33 components (100mg/L) 100ml	3 Nos
N N Dicyclohexyl carbodiimide	50 kg
NdFeB magnet scrap	100 kg
Neodymium Standard , 1000 PPM, NIST Traceble	500ml
Ni/Fe-Crucible	50 Lit
Nickel Crucible 25 ml,50ml	100
Nickel Crucible 30 ml,40ml	200 Ns
Niobium Standard , 1000 PPM, NIST Traceble	500ml
NIST traceable	200gm
Nitric Acid	300
Nitrile gloves	30 pkt
Nitrile Hand Gloves	30 pkt
Office furniture/cabinets/ working benches/tables,etc, chemical lab,plant working ,workshop and control room.	
Office stationaries	
Office/lab furniture	2
One Time Repairing and Servicing Humidity Chaber	3
Organics mini Pump Sample,Aqueous Mini pump sample tubing ,Organics mini PumpDrain tubing, Aqueous Mini pump sample tubing	10
Orthophosphoric Acid	350
Orthophosphoric acid (KG)	350
Orthophosphoric acid, commercial grade	500 kg
Overhead stirrer	02 No.
P-10 GAS CYLINDER (90 %ARGON +10% METHANE) PURITY 99.99%	1
Packed tower gas scrubber for exhaust gas absorption	1
Palladium Standard , 1000 PPM, NIST Traceble	500ml
Perchloric Acid	10
Peristaltic pump with VFD module flow controller	2 Nos
Perylene-3,4,9,10-tetracarboxylic dianhydride	10
Phosphorus pentasulphide	500ml
PID Controller	05 Nos
Pipe Threading Machine	As per
Plastic jar – 25 liter capacity	100 no.
Plastic Trey	100 Nos
Platinum Standard , 1000 PPM, NIST Traceble	500ml
Polishing cloth and powders, colloidal silica solution, Mounting powders	10 nos. each
Polyurethane hardener	200 kg
Polyurethane resin	200 kg
Polyvinylidene Fluoride(PVDF)	01 set
Polyvinylpyrrolidone	100gm
Portable Plasma Cutters	As per

Details of the items/Title of the items	Quantity
Positioning, Gas furnace and cylinder connections	5 nos
Potassium dihydrogen phosphate	50 kg
Praseodymium Standard , 1000 PPM, NIST Traceble	500ml
Propylene carbonate	200 kg
PTFE stirrer rod Agate pestle mortar Spatula Sample pouches Reactive material Storage container	1 set
Pure Fe, Cr, Mn, Ni, Co, V, Nb	10 Kg
Pyromellitic dianhydride	16
Pyromellitic diimide	10
Red phosphorus	12 Nos.
Re-filling of Argon Gas cylinder(XL Grade)- Purity 99.999%	600
Refilling of Helium Gas Cylinder	10 Nos
Refilling of Hydrogen And Argon Gas mixture Cylinder	10 Nos
Refilling of Nitrogen Gas Cylinder (IOLAR Grade)	150
Refilling of Oxygen Gas Cylinder (XL Grade)	200
Refilling of UHP Oxygen Gas Cylinder	200
Repair of Spot Extractor	01 No.
Repair of Tubular Furnace	1
Repairing and overhauling of 3 HP Electric Motor Pump	01 no.
Repairing of Incubator Shaker	03 Nos
Repairing of LTGK Furnace	6
Reputed make/customised 0-1014 mbar	10
Retort accessories fabrication	20
Rough filter paper	-
Rubidium Standard , 1000 PPM,NIST Traceble	500ml
samarium Standard , 1000 PPM, NIST Traceble	500ml
Sample fabrication (tensile(flat and round), charpy, fracture toughness, wear sample milling and cutting)	50 Nos.
Sample holder, AL or SS flanges, Gas pipe and ducts, bubbler	One Unit
Sample Tube (Plastic) 15ml	2000 Nos
Scandium Standard , 1000 PPM, NIST Traceble	500ml
Seating in Pilot plant	25 units
Selenium Powder	08 Nos.
Selenium Standard , 1000 PPM, NIST Traceble	500ml
Selenium Standard,1000 PPM,NIST Traceble	500ml
Servicing and Repairing of Exhaust Hood	1
Servicing of PLC/electronics/HMI/ communication system/sensors and controllers	2
Silica disk	20 No.
Silicon Manganese (High Manganese) Approx,%Mn: 60 to 80 & %Si: 15 to 30	100gm
Silicon Manganese (Low Manganese) Approx,%Mn: 40 to 60 & %Si: 15 to 40	100gm

Details of the items/Title of the items	Quantity
SO2, Ar, H2, Cl calibrated	2 set
Soda Ash	50 kg
Sodium bromide	01 Nos
Sodium carbonate	10
Sodium Hexa Fluoro Phosphate	100
Sodium hexafluorophosphate	-
Sodium Hydroxide	10 kg
Sodium perchlorate	50 Nos.
Sodium Peroxide AR, 100 Gm/Pk	20
Sodium peroxide AR,100Gm/Pk	20
Sodium sulphide	10 Nos.
Solvents	20 kg
Spare: Magnet Power supply, Lakeshore USA. Model 643	03 Unit
Spares for EW cell	5 units
Spares for Rotary Evaporator	2 units
Spent Batteries	15ton
Spot Extractor	01 set
Standalone exhaust system	As per
Steel balls	200 kg
Storage of RM/briquettes and Mg with vacuum pump and gauges < 10mbar	3
Strontium Standard , 1000 PPM, NIST Traceble	500ml
Sulfur Standard , 1000 PPM, NIST Traceble	500ml
Surgical Face Mark Class 3	5000 Nos
Table Top Elevator	1
Tannic acid	50 kg
Tantalum butoxide	4 Nos.
Tantalum chloride	1 kg
Tantalum Electrolytic Capacitors(0.0-1F)	08 kg
Tantalum metal powder	50-200 g packing (min)
Tantalum Standard , 1000 PPM, NIST Traceble	500ml
Teflon Sheet (50 mtr/pk)	1
Tellurium Standard , 1000 PPM, NIST Traceble	500ml
Terbium Standard , 1000 PPM, NIST Traceble	500ml
Test Facility to evalute erosion-corrosion properties of metals/alloys in high tempreture corrosive enviroment	1 No
Thiourea	100gm
Thorium Standard, 1000 PPM, NIST Traceble	500ml
Thulium Standard , 1000 PPM, NIST Traceble	500ml
Tin acetate	100gm
Tin nitrate	0.5-5 Kg
Tin Standard , 1000 PPM, NIST Traceble	500ml
Tissue Paper Roll	1000
Titanium butoxide	100
Titanium dioxide, commercial grade	100 kg
Titanium isopropoxide	5 Nos. each

Details of the items/Title of the items	Quantity
Titanium oxide	As per
Titanium propoxide	100
Titanium tetrachloride	100
TMT rebar, 8 mm dia	500 kg
To carry the condensers and crowns .steel trolleys.	
To cast magnesium into pigs C.I Moulds.	10 nos
To Check vacuum upto 10 ⁻⁵ (-5 mbar)	
To crush the oversize from the screen to correct size (+25 -18mm).Double roll crusher with,manganese steel rolls,electric motor drive,etc.	01 set
To Crush the oversize from the screen to correct size (+25-18mm).Double roll crusher with manganese steel rolls,electric motor drive,etc.	1
To cut M.S Sheets and light structural sections Cap : 10 mm	
To melt 1 tonne of magnesium crown in 8 hours. , Type: Mains frequency induction furnace complete with all accessories .	
To melt and cast magnesium metal into pigs ,laddles ,tongs ,scoops,etc.	
To store magnesium pigs and crowns , M.S Construction.	
Toluene	200 kg
Toluene / Sulphure Free Toluene	2 kg
Toner	2 kg
Tungsten Metal powder	200 kg
Tungsten Standard,1000 PPM,NIST Traceble	500ml
Tungstic acid	01 Set
Uranium Standard , 1000 PPM, NIST Traceble	500ml
Vacuum pumps,vacuum piping ,vacuum control valves,Throttle valves>manual valves,SS Bellows, Chiller ,Vacuum upto 0.001 mbar.	
Vacuum system accessories	5
Vacuum system accessories	03 set
Vacuum system accessories	500
Vertical Tubular Furnace (1350 °C)	01 no.
Vinyl trimethoxysilane	50 kg
Volumetric Flask	
Wash Bottle (Plastic)	50 Nos
Water plumbing/repairing/parts	1
Weighing/analytical balance	2
Welding of steel parts with all accessories	
Wide Mouth Sample Container (Plastic) 30ml	500 Nos
Workstation	1 No.
Xanthan gum	50 kg
X-Ray Photoelectron Spectroscopy (XPS) Analysis	30 Nos
XRD/XPS/XRF/SEM of powder samples	50
Ytterbium Standard , 1000 PPM, NIST Traceble	500ml
Yttrium Standard , 1000 PPM, NIST Traceble	500ml
Zinc oxide	5 kg
Zirconium acetate hydroxide	1
Zirconium carbonate	10 units
Zirconium nitrate	
Zirconium Standard , 1000 PPM, NIST Traceble	500ml

Details of the items/Title of the items	Quantity
Zirconium sulphate	0.5Kg
Spark Emission Spectrometer (OES) for Fe, Cu, Pb & Zn base	1
X-ray Fluorescence Spectrometer (XRF)	1
Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)	1
Coal Petrography Microscope	1
Isoperibol Calorimeter (2 Nos)	1
Magnet Power Supply (Model 643, Lakeshore Cryotronics, Inc. USA)	1
Computer Controlled Micro Hardness Tester (Brinell / Knoop / Vickers) with licensed software	1
Humidity Test Chamber	1
SSRT machine for SCC and corrosion fatigue at high temperature and high pressure water environment	1
Dense Media Cyclone Test Rig	1
Solar Panel Delamater System	1
Isothermal Conduction Calorimeter	1
Furnace Gas Analyzer (4-5 channels)	1
Atomic Absorption Spectrophotometer	1
Inline-Particle Size Measurement System (SOPAR)	1
TG.DTA.DSC upto 1700C compatible with 100% H ₂ /CO atmosphere	1
Muffle Furnace (part of molten salt electrolysis setup)	1
Vertical Pit Furnace (part of molten salt electrolysis setup)	1
Servo-Hydraulic Fatigue Test Systems (2 Nos)	1
Laser Source for Lock-in	1
Automatic Broach Machine	1
Portable Plasma Cutter Machine	1
Portable Gas Cutting Machine with accessories	1
CNC Lathe Machine	1
Solidedge License Upgradation	1
Multiparty Endpoint Video Conferencing System with Display	1
Comprehensive Maintenance Contract for Servers, Computers and Networking Components	1
Projector for Lecture Hall / Auditorium / Committee Room / DJ Hall	1
Display for Dias at Auditorium	1
NG Firewall	1
Computers and Printers	1
Fabrication Facilities for Cylindrical Battery	1
MATLAB and Toolboxes Upgradation	1
Impedance Analyzer	1
Vibrating Sample Magnetometer (3T)	1
FTIR Spectrometer	1
Lab Scale Flotation Machine	1
Lab Scale Ball Mill (5-10Kg) with automation	1
Stereo Zoom Trinocular Optical Microscope	1
FESEM with EDS, WDS, CL, Mineral DB and Analysis Software	1
Multistage Leaching Setup with Filtration System	1
X-Ray Diffractometer with stress, texture, heating, and deformation stages	1

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Spares of Bomb Calorimeter: Annual maintenance kit (Orings, insulators, grease, and other necessary items required for preventive maintenance), solenoid valve, sample cups, ignition thread, fuse wire, insulators, sample holders	1
Spares of TGA: Spindle drive, carousel, Crucible, balance, lid & Annual maintenance kit (Orings, insulators, grease, and other necessary items required for preventive maintenance)	1
Spare for Sulphur Analyzer DI44DR: Thermocouple, Heating Element, Solenoid Valve, Recorder/Printer	1
Spare for CHN: Assay card, porous crucible, crucible, tin foil, moisture absorbent, maintenance kit (O-rings, insulators, grease, and other necessary items required for preventive maintenance)	1
Spare for AFT-701: Thermocouple, furnace element, maintenance kit (O-rings, insulators, grease, and other necessary items required for preventive maintenance)	1
Spare for CSR-CRI: Retort tube	1
Spare for ball mill: cups, grinding balls, belts	1
Spare for Furnace: MD ARIF (LTGK, VM furnace, CSI furnace: heating coils, thermocouples)	1
Spares for ICP-MS: Ucones Electronic board, Roughing pump, PCA, Ar-Mass Flow, controller	1
Spares for Microwave Digestor: Pressure Thermocouple. PTFE tube Temperature Indicator	1

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Spares for tCpbps (iCAP Control pCBA; EMT Duo Torch (Material: Rp Generator Interface pCB _ Spares; Peristaltic purnp Assy; ICAP Water Fitter; Samplinjb_ Ring Kit; iCAp Series Setui Solution	1
Spares for WDXRF Kit detector foil, Al_sputtered, / Spare part kit S4, S8 I+II. Fan coolins unit	1
Spares for aeS@Nos) M Series Drain tube assembly internal gas pipes, gas box, Aa -SnraV chamber, geaa knob assy, Impact bead for AAS spray chamber, spider, Spray chamber overpressure disc kit, Membrane	1
TGA sample carrier sysGm foi large sample quantities, without radiation shield, without crucible, thermocouple type S, temperature range 2S_I 650 °C	1
Universal Calibrated handheld Display unit HSN CODE:9027.9090 UC)/UV QUV Irradiance Smart Sensor	1
Spares of HDPS: (Component force Transducer 01, Control valve for DewCal pre-assembled (set of 3 including hoses and fittings) HS Code no : 8481 .2090 No.0I , Complete mechanical sealing plate assembly of HDPS Gate Valve (for 12144-JA44 ANiL 24 V, drawing no.354879)No.0 I, Sensor for connecting the Molten Metal Bath No.01 , Vacuum Sealing for 12144- JA44-ACU I No.02, Standard cylinder DSNU-1 6- 1 0-P-A No.0I , Specimen Holders with Screw connecting Steel Sheet to bottom of Driving Rod and locking Single Small Pin No.50,etc)	1

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Spares for Rotation Drum Wire caster: Induction Generator output power 2KW, 150-400 KHz, along with remote heat station, Customized Coil, suitable water chiller	1
Transformer and Thyristor	1
PL Fluotar I00X Objective lens	1
Berkovich Diamond Tip	1
1. Standard thermocouple Rtype (1 no.); 2. Quartz protection tube (1 no.); 3. Alumina Sample holder (1 no.)	1
High performance submersible borehole AISI 304 pump	1
1. Heater unit 1.5K 240V c/w RS cut out (riveted)-01 no; 2. Solenoid valve assembly -01 no 3. 45L Canopy Ram 25mm X 525mm -(2 nos in a set) with Piston Rod Clevis -(2 nos in a set) 4. Humidity Probe -CC I 000/ 2000iP. XP- 01 no 5. Solenoid Valve or Coil (24 V)-1 no. 6. Air Drier Filter- 01 no 7 . Hose - ID 50mm (-20o to +125o C) - Superflex Calor - 10 Mtrs -01 no	1
Peristaltic pump with VFD module flow controller	1
1.512.5 liter flotation cell	1

Details of the items/Title of the items	Quantity
Vacuum Distillation spare and repairs: GRAPHITE heaters (02 sets) GRAPHITE Heater feed through assembly (1 No); Inconel 6251800HT condenser chamber (1 No); PLC for melt chamber programming + HMI (1 No); Ammeter/power meter and voltmeter (1 No) K-Type Simplex T/C (05 nos.) (1 No); K type- Duplex Thermometers (08nos) HHV make Pirani sensor (02 Nos); Digital pressure transmitters (0-1014 mbar -5 nos); 1.5 " Throttle valve-servo motor fitted (1No); Communication cables (02 No) Condenser zone=7 split furnace (1000 dee C)	1
Niobium and Tantalum crucible for metal isothermic reduction	1
SS 316 Vessel and Liners for Autoclaves	1
Filters for ultra-water purification unit	1
Upgradation of Vacuum Induction Furnace Panel for 75 kw	1
Upgradation of Direct-Reading Spectrometer (DRS) Software QMatrix 4.0.0 for Windows 10	1
Furnace high purity alumina tube	1
02 nos. Ni-Cr alloy Retorts for Mg	1
Fume exhaust & scrubber	1
Copper cables	1
Chiller, filter, cartridge, coolant, guide ring displacer, sealing ring, o- ring, displacer, repairing of storage tank of In2 plant etc.	1

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FEG Source (10); Vacuum Gauges, Vacuum pump maintenance kit [The file is under the advanced stage for placement of POI	1
Image PB spare for JEOL EPMA	1
Spares and consumables for Zeiss EVO I8 1) W-Filament long life for EVO 18; 2) Connecting Cable for EDS PC with SEM PCZeiss EVOI8 SEM; 3) Rotary Pump Oil-Grade I9	1
Spares and consumables for JXA 8230 EPMA 1) P-10 Gas regulator 2) Tube for N2 gas supply 3) Conducting carbon adhesive tape	1
Upgrade Kit CPU of Bruker D8 Discover X Rav Diffractometer	1
Co-X Ray tube and HV Cable for Rigaku Ultima IV X-Ray Diffractometer	1
Single tilt holder for JEOL 2200F S Transmission electron microscope	1
Dry pump for goniometer	1
Gold Au Sputtering Target	1
Short detector chip + Bewindow with board and box for XSTRESS 3000 Portable X Rav Diffiactometer	1
Encoder Eye Piece and Standard Test Blocks for Brinell Hardness Tester	1
Hydraulic Oil Filters (Load Unit)-02Nos, Hydraulic Oil Filters (Hyd Pump)-INo, Inhibited Propylene Glycol-40Liter, Vacuum Pump oil (Diftusion Pump) - 500m1, Vacuum Pump oil (Diffusion Pump) - 05N0s , Vacuum pump oil- 3Jar	1

Details of the items/Title of the items	Quantity
Renewal of ICDD licenses (02) to PDF 5* version	1
Installation of Wincc s/w for Direct load ATS Machine	1
Data logger fbr creep machines	1
Acceleration cable for Dynamic Loading for Vibrophore 100	1
Robotic MIG spares Contact tip dia 1.2mm :50 nos. 2. Gas Diffuser: 12nos. 3. Gas Saving Nozzle: 04 nos. 4. Torch Nozzle: 04 nos. 5. Filter Output: 02 nos. 6. Feeder Roller 1.2 mm with CMT torch feeder roller : 01 set 7. Metal Liner set dia. 1.2, 1 and 0.8 8. Gas Regulator for Argon:01No. 9. Gas Regulator for Argon +QQ1.g1 No. 1 0. CO2 Regulator with Heater:01 No. 11. C Clamp2,, to 3" :12 nos. 12. Compressed Air Filter: 04 nos. 13. Synergic Lines: 01 Set	1
EDM spares O- RING (1 set), wire diamond guide (1 set), nozzle (1 no), carbide current pick up (1 no), single acting clamping module (1 no), upper & lower ceramic plate (1 no. each), turbine wheel (1 no), upper and low discharge cables, wire tension clutch opb, grease, clamping set, work lamp led, water gun & filter, wire cut-edm filter. edm wire	1
Q8 Magellan Spark emission Spectrometer; 27 .03.2009; Working satisfactorily	1
LECO ON 836, Nitrogen & Oxygen Determinator; 2021; Working satisfactorily	1
LECO RHEN 602,Hydrogen Determinator; 2021 ; Working satisfactorily	1
ELTRA CS-i. Carbon & Sulfur Determinator; 2023 ; Working satisfactorily	1

Details of the items/Title of the items	Quantity
Thermo AAS iCE3300 with VPI00 GFS33;2010; Working satisfactorily	1
Thermo, AAS iCE3300 with VPI 00 GFS33; 2010 Working satisfactorily	1
Direct Mercury Analyzer DMA 80;2021,;Working satisfactorily	1
Leco AF-700 (2013), Sr 44DR (20 r 3), CHN- 628 (201 6), TGA-70 1 (201 9); All working satisfactorily	1
Bomb Cal ori meter (Parr- 6200 I no (2014). Parr-6400 (2Nos); 2019 Parr 6200 (01 No.); 2014	1
ICP-MS; 2020; Working satisfactorily	1
ICP OES;2015; Working satisfactorily	1
WDXRF (S8 TIGER);2012; Working satisfactorily	1
Chiller unit for WDXRF; 2012; Working satisfactorily	1
High Pressure Leaching reactors; 2023, Working	1
Battery dismantling plant; 2023; Operational	1
Induction melting furnace; 2004; Working	1
UHV-Analysis system; 2008; PrR 20080940:	1
Vickers Hardness tester, 2016, Working condition	1
Universal testing machine (UTM); 2009; Working	1
Leica Optical Microscope, 2010, Working	1
3D Optical Profilometer, 2018, Fully Functional	1
CC450ip Cyclic corrosion test (CCT) chamber and air compressor, Ascott Analytical Equipment Ltd. U.K; 2017; Working	1

Details of the items/Title of the items	Quantity
AMC for Temperature modulated Differential Scanning Calorimetry (TMDSC); 2021; PIR No :20211833	1
STA 449 F5 Jupiter simultaneous Thermal Analyzer, high volume TGA/TGA-DSC/DTA apparatus; 2018; Working	1
QUV Accelerated Weathering Tester with Spray; 2010; 4i*g	1
S450xp, 450L Salt Spray Chamber with air Compressor and Comprehensive spares Kit; 2010; working	1
Hot Dip Process Simulator (HDPS) Model Number: HDPS-AV PIR Inventory Number:20160611;2015 (Presently, Not working due to vacuum issue)	1
Hot Dip Process Simulator (HDPS) Model Number: HDPS-AV PIR Inventory Number:20160611;2015; Not working due to vacuum issue	1
High Resolution Confocal Raman Spectroscope Model : Alpha 300M+ Sl. No.: 100-1200-1622 In running condition	1
Leica DM 4500P optical microscope, year of purchase - 2009 & present status-working	1
Coal Plastometer, P14000 and Dilatometer, DL4000 ; 2012; working	1
ICP-OES Spectroscopy, Agilent Make, Model No.5110	1
3D - CMM; Make: Accurate; 30-09-2019 Cost:36.38L; Working	1

Details of the items/Title of the items	Quantity
Fronius Power Source TPS500i CMT and Robot KUKA KR 8 RI610 arc HW; 24-05 -20 9 ; MI c Cost: 3 7. 8L; Working	1
Wire E,DM Make:S&TEcetek Date of Purchase: 20-03-201 8; Cost:53.82L; Working.	1
Wet abrasive cutter Make: Baincut-LP-Auto; 30- 03-2019; Cost:12.44L, Working.Wet abrasive cutter Make: Baincut-LP-Auto; 30- 03-2019; Cost:12.44L, Working.	1
Stereo microscope Make: Leica Model: M-205 C; 09-01-2019; Cost 16.34 L; Status: Working.	1
CNC Lathe; Make: Batliboi; 2013; Cost: 19.2 L: workins	1
Liquid nitrogen plant; 2010, operational.	1
Zeiss EVOI8 SEM; 2021(instal lati on); working PO released on 151212025	1
Zeiss EVOI8 SEM; 2021: working	1
AMC of JEOL JXA8230 EPMA, 2010 (installation) and working	1
One time service repair and calibration of computerised microhardness tester, 2019 (installation) and not working	1
Hi gh performance computing (HPC) Cluster	1
Bruker D8 Discover X Ray Diffractionmeter, 2008, operational	1
Macro Hardness ; 04.1 .2019; Operational	1

Details of the items/Title of the items	Quantity
Hitachi SU7000 Field emission scanning electron microscope as below: 1 . Ultra-High-Resolution Schottky Scanning Electron Microscope- Hitachi SU7000 and associated accessories 2. TEAM Pegasus Integrated EDS-EBSD;2020; Cost of Equipment: 3500 L	1
XSTRESS 3000 Portable X Ray Diffractometer; 2008 Cost : Rs. 80L; Working	1
JEOL 2200FS Transmission electron microscope; 2013; Rs. 5.00Cr, Operational	1
Ion Beam Milling System Year of Purchase: 2019; Rs. 1.00 Cr; Working	1
Gleeble 3800; 2013; Rs. 7.0Cr, Working	1
Universal Hardness Tester,25 I -VRS-A ; 2019 Rs. 30L, Working	1
100kN closed loop control led servo electric	1