Annex-A

S. No	Items	Description
1.	Quartz Tube (3x)	1. Diameter = 80 mm 2. Length = 800 mm 3. High purity, SiO2> 99.99%. 4. Max Temp = 1200 °C 5. Thickness = 3 – 4 mm
2.	Alumina Ceramic tube (2x)	1. Diameter = 60-80 mm 2. Length = 600-800 mm 3. Made up of ceramic materials including Al2O3, 4. Max Temp: 1500 - 1800 °C
3.	Centrifuge (1x)	1. 12000 RPM or above 2. Digital display of time, speed, and temperature. 3. Automatic motorized locking when the lid is almost closed. 4. Able to store both 15 mm and 50 mm diameter centrifuge tubes.
4.	Hydrothermal Autoclave (1x 500 ml 2x 250 ml)	1. Maximum operating temperature: ≤220°C 2. 500 ml volume 3. Safe temperature: – 200°C 4. Working Pressure: ≤3MPa or 30 Bar 5. Heating and Cooling Rate: ≤5°C/min 6. Material: Shell made of high-quality nonmagnetic 316 stainless steel
5.	Ultra Sonic Bath (1x)	1. Operating Mode: Digital control with Timer + Heater 2. Temperature Settings: 0-100°C adjustable 3. Thick stainless steel ultrasonic cleaning tank 4. Frequency = 40 kHz 5. Capacity = 10-15 L
6.	Hot Plates (5x)	1. Temperature Range:40°C to 300°C 2. Plate Diameter: 6.1 inch 3. Maximum stirring Speed: 2000 rpm 4. Addition of Thermocouple 5. Display: LED Digital 6. Stand holder
7.	Vacuum Pump (1x)	1. Max Vacuum pressure = 10^{-3} mbar 2. Vacuum regulator = Yes 3. Oil-free pump
8.	Gamry Multi Purplexer (1x)	1. 8-channel for sequential measurements 2. DC and AC experiments 3. Includes industry-standard multiplexed experiments. 4. 8 Local Potentiostats – Inactive channels can be set to open, short, or polarized. 5. Compatible with Gamry Interface 1010-E/1000 and Reference 600+/620 Potentiostats

		6. Operational Modes = Active, Off, Local Pstat, Shorted 7. Channel switching time = <10 ms 8. Maximum Cell Current = 1 A 9. Current Leakage to active channel pin from any source = < 2 nA 10. Impedance Compliance Current +/- 30 mA (@500 Ω load) 11. Compliance Voltage = +/- 11 V (@1 kΩ load) 12. Applied Voltage Range = +/- 5 V 13. Resolution (16-bit) = 78.125 uV / bit 14. Reference input current = < 50 pA to chassis ground = >500 MΩ || < 20 pF
9.	IR Thermometer (2x)	1. Temperature range = -30°C to 500°C 2. Accuracy = ±1.5°C or ±1.5% of reading 3. Response time = < 500 ms 4. Battery life = 10 hours with laser and backlight on
10.	Analytical Balance (1x)	1. Aluminum alloy body material and stainless-steel platter with a clear glass wind shield 2. LCD 3. Unit conversion between g/ mg/ct/oz. 4. Range: 0.1 mg to 250 grams 5. Stable Time: ≤3 sec 6. Pan Size 100-150 mm 7. Internal Calibration: Automatic or semi-auto 8. Draft Shield: Included (with sliding doors) 9. Taring Range: Full range tare (0–capacity)
11.	Clean Room Fume Hoods (3x)	1. External Size (W*D*H): 1200*840*2150mm 2. Internal Size (W*D*H): 1080*730*745mm 3. Max Opening: 520mm 4. Work Surface Height: 750mm 5. LED Lamp: 12W 6. Front Window: Motorized; 5 mm 7. Material Worktable: Chemical-resistant phenolic resin 8. Water proof Socket: 2 pcs
12.	Tube Furnace (1x)	1. Temperature Up to: 1200°C 2. Tube furnace: 1200 °C, resistance wire 3. Complete Unit with Digital Controller and Flanges. Accessories 4. High-Temperature Alumina End Caps/Flanges 5. Quartz Connectors 6. Ceramic Gaskets/Fiber Gaskets
13.	Keithley 2450 SMU or Equivalent (1x)	1. Voltage Source Range±200 V 2. Current Source Range±1 A DC (±10 A pulsed up to 10 ms) 3. Power Output 20 W continuous (e.g., 200 V × 100 mA or 20 V × 1 A) 4. Voltage Resolution 10 nV 5. Current Resolution 10 pA 6. Voltage Accuracy ±(0.012% + 200 µV) 7. Current Accuracy ±(0.02% + 100 pA) to ±(0.1% + 100 µA) 8. Sampling Speed Up to 100,000 readings/second (fast buffer mode)

		9. Operation Quadrants 4-Quadrant (source/sink both voltage and current) 10. Compliance Control User-settable voltage and current limits 11. Connectivity Interfaces USB, LAN (Ethernet), GPIB, Trigger Link 12. Display 5" capacitive touchscreen, full-color GUI 13. Built-in Scripting TSP® (Test Script Processor) 14. Sweep Modes : Linear, logarithmic, staircase, pulse, custom 15. Data Storage : Internal buffer for 2.5 million readings 16. Remote Sensing 2-wire and 4-wire modes 17. Safety Features: Overvoltage, overcurrent, over overtemperature protection
14.	Muffle furnace (1x)	1. Max. Temp. 1700 °C with Vacuum 2. Heating Rate 0~30°C/min 3. Temp. Uniformity ±5°C 4. Internal material: Ceramic inner chamber 5. Heating Element: Silicon molybdenum rod (MoSi2)
15.	Ball Mailing (1x)	1. Max continuous Operating Time 72 Hours 2. Adjustable Speed Revolution: 35-335rpm; Rotation: 70-670rpm 3. Dimension 700*570*520mm Accessories 4. Ball-Materials of Mill Jars: 316L stainless steel, Zirconia, Alumina ceramic (corundum),

a) Required brands (where applicable, minimum 3x brands).
b) Specify if installation, testing, commissioning and training is required for machinery/equipment. (where applicable)