

List of Mechanical Equipment for the Assistance for Center of Excellence

Sr. No.	Name of Equipment/Machine/Tool	Input in Training
Machine Shop		
1	Manual Lathe Machine	The Machine Shop will be dedicated to taking the idea/concept phase of grassroots innovations and applying it to real solutions. It will become an unmatched resource, accessible to innovators, school, ITI & polytechnic students, research scholars in multiple disciplines.
2	Milling Machine	
3	Shaper Machine	
4	Radial Drilling Machine	
5	Bench Grinding Machine	
6	Tools/ Jigs/Fixtures/Instruments for Machine Shop	
Welding Shop		
7	Tungsten Inert Gas Welding Machine (TIG)	<ul style="list-style-type: none"> • Hand-on Training for up skilling the welding practice to the innovators, ITI & polytechnic students • For giving shape to the idea/concept of the grassroots innovations
8	Metal Arc Welding Machine	
9	Gas Welding Machine	
10	Tools/Filler/Instruments for Welding Shop	
Numerical Control Workstation		
11	VMC Machine with Tools Jig (PX 40)	<ul style="list-style-type: none"> • Advanced machine tools are necessary for more precise & accurate work from proof of concept phase to finalization phase of the innovation. • Hand-on Training for up skilling the welding practice to the innovators, ITI & polytechnic students
12	Tools/ Jigs/Fixtures/Instruments for CNC Workstation	
13	Software for Machine Operating & Designing	
Foundry Shop		
14	Basic Tools/ Instruments for mould preparation	<ul style="list-style-type: none"> • In-house foundry will be helpful for molding the complex parts of grassroots innovations. • Hand-on Training for up skilling the casting practice to the innovators, ITI & polytechnic students
15	Induction Melting Furnace	
Forging/Smithy Shop		

16	Basic Tools / Instrument For hand Forging operation	<ul style="list-style-type: none"> • In-house forging will be helpful for making the complex parts of grassroots innovations. • Hand-on Training for up skilling the forging practice to the innovators, ITI & polytechnic students
17	Furnace	
18	Anvil & Swage Blocks	
Sheet Metal Shop		
19	Shearing Machine Hand Operated	<ul style="list-style-type: none"> • This will be helpful for the makeshift hardware, a scale down version or a product skeleton like proof of concept. • To finish or cover the innovations • Hand-on Training for up skilling the forging practice to the innovators, ITI & polytechnic students
20	Folding Machine Hand Operated	
21	Basic Tools/ Instruments for Sheet Metal Shop	
Metrology Lab		
22	Comparator Stand	<p>The Dimension of innovation has a big impact on the socio-economic market. Metrology lab will play a key role in the developing phase of the innovation.</p>
23	Vernier Caliper (2 Nos.)	
24	Digital Vernier Caliper	
25	Micrometer (2 Nos.)	
26	Digital Micrometer	
27	Digital Height Gauge	
28	Bore Gauge	
29	Dial Indicator (2 Nos.)	
30	Bevel Protector	
31	Magnetic Dial Stand with Fine Adjustment (2 Nos.)	

List of Electronics Equipment for the Assistance for Center of Excellence

Sr. No.	Name of Equipment/Machine/Tool	Input in Training
Rapid Prototyping Lab		
1	3D printing machine	<ul style="list-style-type: none"> • Rapid prototyping helps in fabricating, tooling and manufacturing components, dies, jigs & fixture of any given product in single or less quantity. • Concept generation, visualization, prototype making and even initial level of product can be easily manufactured by these machines.
2	3D scanner machine	
3	Laser cutter	
4	Vacuum Forming Machine	
5	Computer system (6 Nos.)	
Electronics Lab		
1	Micro controller (20 Nos.)	<ul style="list-style-type: none"> • Electronics plays vital role in product design these days. It provides decision making, actuation, controlling, compactness, and measurement capabilities to the products. • Electronics lab will facilitate the varied tools and process to fine tune the product according to the market needs. • Lab will provide range of machines to facilitate innovator, students and student small tools like motor and battery to Oscilloscope and PCB manufacturing machine.
2	Oscilloscope (3 Nos.)	
3	Signal generators (15 Nos.)	
4	DC bench power supply (15 Nos.)	
5	Soldering station & soldering accessories (20 Nos.)	
6	Multimeter (20 Nos.)	
7	Wire stripper , pliers & tweezers (20 kits)	
8	Bread board, soldering board, jumper wire, hook-up wire, capacitor, resistor, potentiometer (20 kits)	
9	Stepper motor, Servo motor, driver for motor, batteries, adaptors (20 kits)	

10	Temperature Sensor, IR Sensor, Ultrasonic Sensor, Touch Sensor, Proximity Sensors, Pressure Sensor, Level Sensors, Smoke and Gas Sensors, and other various sensors (20 kits)	
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