

IST OF EQUIPMENT/ MACHINERIES – TOOL ROOM

Name of Centre: CIPET: CSTS, Dehradun

Sl. No.	Equipment/Machine	Make & Model	Specification				Application
1.	CNC Milling Machine	Macpower CNC Machine Limited, New Delhi, MacPower V-1587	Sl. No.	Specification	Unit	Range/Value	Can perform Slot Milling, Vertical Milling, Side Milling, Form Milling, Face Milling, contour milling, pocket milling, profile machining operations in this machine
			1.	Table			
			1.1	X –Axis	mm	1200	
			1.2	Y- Axis	mm	900	
			1.3	Max. Wight on Table	kg	1000	
			2.	Axis Travel			
			2.1	X-Axis	mm	1050	
			2.2	Y- Axis	mm	865	
			2.3	Z-Axis	mm	670	
			3.	Spindle			
			3.1	Max. Speed	rpm	8000	
			3.2	Taper		BT40	
			4.	Accuracy			
			4.1	Positioning	µm	10	
			4.2	Repeatability	µm	5	



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
2.	CNC Milling Machine	Manav Marketing Pvt. Ltd. Chennai, VF-2	Sl. No.	Specification	Unit	Range/Value	Can perform Slot Milling, Vertical Milling, Side Milling, , Form Milling, Face Milling, contour milling, pocket milling, profile machining operations in this machine
			1.	Table			
			1.1	Table Size	mm	914 x 356	
			2.	Axis Travel			
			2.1	X axis	mm	762	
			2.2	Y axis	mm	406	
			2.3	Z axis	mm	508	
			3.	Spindle			
			4.1	Rating	KW	22	
			4.2	Max. Speed	rpm	8000	
			4.3	Taper		BT40	
			5.	Accuracy			
			5.1	Positioning	µm	5	
			5.2	Repeatability	µm	3	



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
3.	CNC Wire Cut EDM (2 Nos.)	Electronica HiTech Machine Tools Pvt. Ltd Pune, Tool Master 6S	Sl. No.	Specification	Units	Range / Value	It is used for through machining of any holes or shape. It can perform taper through machining of any profile of the materials having any hardness.
			1.	Table Size	mm		
				X × Y	mm	875 × 595	
			2.	Table Travel			
			2.1	X-Y	mm	600 × 400	
			2.2	U-V	mm	100	
			3.	Axis Travel			
			3.1	Z-Axis	mm	360	
			4.	Max. Job Weight	kg	1000	
			5.	Max. Taper Angle	Degree	±15°/100	
6.	Brass Wire Diameter	mm	0.25				
7.	Max. Cutting speed	mm²/min	120				
8.	Min. Finishing (Ra)	µm	1				
9.	Measurement Resolution	µm	5				



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
4.	CNC EDM (2 Nos.)	Makino India Pvt. Ltd., Bangalore, EDGE 3i	Sl. No.	Specification	Units	Range / Value	It is used for machining of intricate parts, small holes, undercuts, sharp edges and other operations of the materials having any hardness.
			1.	Work Tank Size	mm	800 × 550 × 350	
			2.	Axis Travel			
			2.1	X-Axis	mm	450	
			2.2	Y-Axis	mm	300	
			2.3	Z-Axis	mm	320	
			2.4	C-Axis Rotary 360°	Resolution	0.1µm	
					RPM	50-100	
			3.	Measurement resolution	µm	0. 1	
			4.	Axis Positioning Movement		Up to 4 Simul.	
			5.	Axis Linear Interpolation Movement		Up to 4 Simul.	
			6.	Axis Circular Interpolation Movement		Upto 4 Simul.	
			7.	Maximum Job weight	kg	800	
			8.	Max. electrode weight on automatic chuck	kg	50 kg in Std. Head 20 kg on C-Axis	
			9.	Dielectric Unit			
			9.1	Dielectric capacity	Litre	500	
			9.2	Filtration system	µm	6	
			9.3	Flushing Injections	2 Laterals, 1 through the piece, 1 through the electrode, 1 suction		
10.	Generator						
10.1	Max. machining current	A	80				
11.	Performance						
11.1	Minimum surface roughness (Ra)	µm	0.1				
11.2	Max. MRR (Cu – Steel)	mm³/Min	450				
11.3	Max. MRR (Graphite – Steel)	mm³/Min	600				

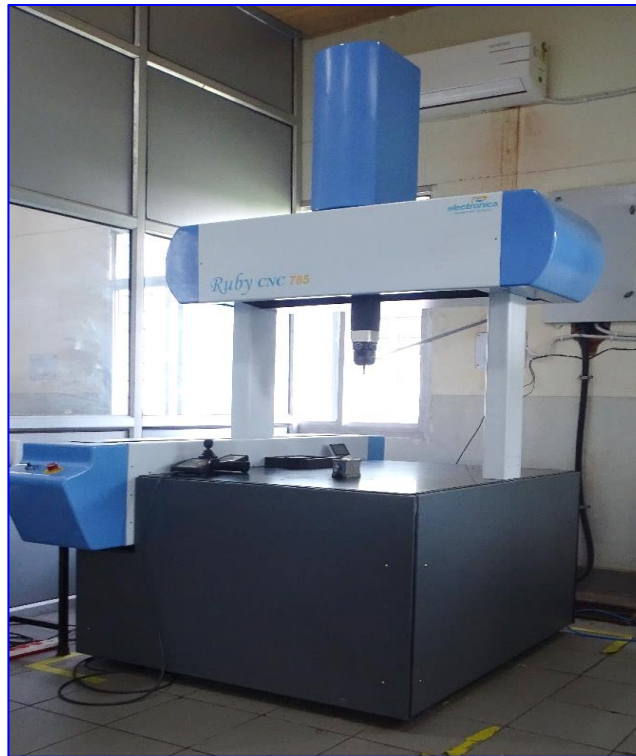


Sl. No.	Equipment/Machine	Make & Model	Specification				Application
5.	CNC Lathe Machine (2 Nos.)	Macpower CNC Machine Limited, New Delhi, VX-200	Sl. No.	Specification	Units	Range / Value	Can perform turning, facing, grooving, parting, threading, drilling, boring, knurling, and tapping operations in this machine.
			1.	Capacity			
			1.1	Swing over bed	mm	450	
			1.2	Swing over carriage	mm	200	
			1.3	Max. turning diameter	mm	250	
			1.4	Max. turning length	mm	650	
			1.5	Distance between centres	mm	750	
			2.	Slides			
			2.1	X-Axis × Z-Axis	mm	250×700	
			2.2	Rapid Feed (X & Z Axis)	mtrs/min	20-25	
			3.	Main Spindle			
			3.1	Spindle motor Power× Max. speed		7.5 kW ×4000 rpm	
			3.2	Spindle Bore	mm	50-60	
			3.3	Spindle Nose		A2-5	
			4.	Feed Rate			
			4.1	Rapid Traverse X axis × Z axis	mts./min	20 ×30	
			4.2	Feed Rate	mm/min	5000	
			5.	Turret			
			5.1	No. of station	nos.	12	
			5.2	Turret indexing		Bi Directional	
			6.	Tailstock			
			6.1	Quill dia	mm	60-80	
			6.2	Quill stroke	mm	100-120	
			6.3	Quill taper	-	MT4	
			7.	CNC System- Controller		Siemens	



Sl. No.	Equipment/Machine	Make & Model	Specification			Application
6.	CNC CMM	Electronica Mechatronica Pvt. Ltd Pune, RUBY CNC 785	Sl. No.	Specification	Unit	Range/Value
			1.	Table		Granite
			2.	Axis Travel		
			2.1	X axis	mm	700
			2.2	Y axis	mm	800
			2.3	Z axis	mm	500
			3.	Accuracy	μm	2.2+L/350
			4.	Scale Resolution	μm	0.1

It can measure the geometries of physical objects. CMM using a probing system detects discrete points on the surfaces of objects.



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
7.	Linear Height guage (2D Measurement System)	Innovative Automation Products, Satara (MH), Innovative HM-625	Sl. No. 1.	Specification Measuring Range	Unit mm	Range/Value 825	Can measure the height of various types of engineering objects
			2.	Resolution	mm	0.0005	



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
8.	Surface Grinding Machine	Machine Tools Traders (Madras) Chennai, AKOM	Sl. No.	Specification	Units	Range / Value	Grinding of the Plates, Blocks and other flat parts.
			1.	Working Area	mm	1000X600	
			2.	Longitudinal Travel	mm	1075	
				Cross travel	mm	650	
			3.	Height of the Table to Grinding Wheel	mm	650	
			4.	Spindle Speed	rpm	2500	
			5.	Cross feed, Vertical feed graduation	mm	0.001	
			6.	Table traverse Feed Range	m/min	1.5-15	
			7.	Max. Vertical traverse of Wheel Head spindle from the table	mm	650	
			8.	Cross feed of the table / Auto feed with micrometer graduation	mm / Stroke	0.5 - 10	
9.							



Sl. No.	Equipment/Machine	Make & Model	Specification			Application
9.	Surface Grinding Machine (2 Nos.)	TOP ENGINEERS (Batala) Panjab	Sl. No. 1. Working Area 2. Axis Travel 2.1 X-Axis 2.2 Y- Axis 2.3 Z-Axis 3. Spindle 3.1 Max. Speed 4. Cross Feed Graduation 5. Vertical Feed Graduation	Unit mm mm mm rpm mm mm	Range/Value 500×200 550 200 250 2800 0.001 0.001	Grinding of the Plates, Blocks and other flat parts.



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
10.	Cylindrical Grinding Machine (3 Nos.)	KRISHNA MACHINE TOOLS Secunderabad, CG-500	Sl. No.	Specification	Unit	Range/Value	Grinding of Cylindrical surface of the pin or rod
			1.	Type		Hydraulic	
			2.	Centre Height	mm	125	
			3.	Max. Grinding Diameter	mm	250	
			4.	Admit between centre	mm	500	
			5.	Table Swivel	deg.	+ (5-10)	
			6.	Speed of Work Head	rpm	50-500	
				Spindle			
			7.	Swivel of Work Head		± (30-45)	
			8.	Internal Grinding			
				Attachment			
			8.1	Grinding Spindle Diameter	mm	60	
			8.2	Max. Quill Length	mm	81	
8.3	Quill Diameter	mm	15				
8.4	Min.& Max. dia. of Hole	mm	16-100				
	Grinding						



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
11.	Conventional Lathe Machine (3 Nos.)	J K Machine Tools, Rajkot, Gujarat, JKLM1500-2	Sl. No.	Specification	Unit	Range/Value	Can perform turning, facing, grooving, parting, threading, drilling, boring, knurling, and tapping operations in this machine
			1.	Height of the Center	mm	200	
			2.	Centre distance	mm	1500	
			3.	Maximum Swing over bed	mm	350	
			4.	Swing over cross slide	mm	250	
			5.	Carriage			
			5.1	Cross slide travel	mm	250	
			5.2	Dial Graduation of Cross slide	mm	0.05	
			5.3	Top slide travel	mm	100	
			5.4	Dial Graduation of Top slide	mm	0.05	
			5.5	Angular Swivel graduation	degree	±45	
			5.6	Maximum Tool Section	mm	16x16	
			6.	Tail stock			
			6.1	Spindle travel	mm	100	
			6.2	Spindle dia.	mm	55	
			6.3	Taper in spindle		MT3	
			6.4	Scale of Spindle graduation	mm	1	
			6.5	Hand wheel dia graduation	mm	0.05	
			6.6	Set-over adjustments	degree	45	
			7.	Spindle			
			7.1	Spindle bore dia.	mm	50	
			7.2	Collect capacity	mm	26	
			7.3	Spindle power	kW	minimum 7.5	
			7.4	Spindle speed	rpm	50-3000	
			8.	Feeds & Threads			
			8.1	Longitudinal feeds	mm/min // mm/Rev	240// 0.03-0.7	
8.2	Cross feeds	mm/min // mm/rev	24// 0.015-0.35				
8.3	Metric threads	mm	48/0.15-20				
8.4	US & Whitworth threads	TPI	60/56-1				
8.5	Module threads	mm	40/0.25 to 14				



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
12.	Conventional Lathe Machine (3 Nos.)	J K Machine Tools, Rajkot, Gujarat, JKLM2000-3	Sl. No.	Specification	Unit	Range/Value	Can perform turning, facing, grooving, parting, threading, drilling, boring, knurling, and tapping operations in this machine
			1.	Height of the Center	mm	300	
			2.	Centre distance	mm	2000	
			3.	Maximum Swing over bed	mm	550	
			4.	Swing over cross slide	mm	350	
			5.	Carriage			
			5.1	Cross slide travel	mm	300	
			5.2	Dial Graduation of Cross slide	mm	0.05	
			5.3	Top slide travel	mm	150	
			5.4	Dial Graduation of Top slide	mm	0.05	
			5.5	Angular Swivel graduation	degree	±45	
			5.6	Maximum Tool Section	mm	16x16	
			6.	Tailstock			
			6.1	Spindle travel	mm	150	
			6.2	Spindle dia.	mm	60	
			6.3	Taper in spindle		MT3	
			6.4	Scale of Spindle graduation	mm	1	
			6.5	Hand wheel dia graduation	mm	0.05	
			6.6	Set-over adjustments	degree	45	
			7.	Spindle			
			7.1	Spindle bore dia.	mm	60	
			7.2	Collect capacity	mm	32	
			7.3	Spindle power	kw	Mini. 7.5	
			7.4	Spindle speed	rpm	50-3000	
			8.	Feeds & Threads			
			8.1	Longitudinal feeds	mm/rev	60 /0.04-2.24	
			8.2	Cross feeds	mm/rev	60/0.2-1.12	
			8.3	Metric threads	mm	48/0.15-20	
8.4	US & Whitworth threads	TPI	60/56-1				
8.5	Module threads	mm	40/0.25 to 14				



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
13.	Universal Milling Machine (3 Nos.)	KRISHNA MACHINE TOOLS Secunderabad, UM-2	Sl. No.	Specification	Unit	Range/Value	Can perform Slot Milling, Vertical Milling, Horizontal Milling, Side Milling, Straddle Milling, Up (and Down) Milling, Form Milling, Face Milling operations in this machine
			1.	Table			
			1.1	X –Axis	mm	1220	
			1.2	Y- Axis	mm	280	
			1.3	Max. Weight on Table	kg	600	
			1.4	Swivel Range of table to Both Sides	deg.	45	
			2.	Axis Travel			
			2.1	X-Axis	mm	600	
			2.2	Y- Axis	mm	230	
			2.3	Z-Axis	mm	400	
			3.	Spindle			
			3.1	Max. Speed (Rpm)	rpm	45-1800	
			3.2	Taper		iso-40	
			4.	No. of Feed	Nos.	18	
			5.	Feed range			
			5.1	Longitudinal	mm/min	16-800	
			5.2	Traverse	mm/min	16-800	
			5.3	Vertical	mm/min	4-200	
6.	Rapid Transverse						
6.1	Longitudinal	mm/min	2500				
6.2	Traverse	mm/min	2500				
6.3	Vertical	mm/min	630				



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
14.	Vertical Milling Machine (2 Nos.)	Machine Tools Traders (Madras) Chennai, AMAN AMAN1270	Sl. No.	Specification	Unit	Range/Value	Can perform Slot Milling, Vertical Milling, Side Milling, Up (and Down) Milling, Form Milling, Face Milling operations in this machine
			1. Table				
			1.1	X –Axis	mm	1270	
			1.2	Y- Axis	mm	280	
			1.3	Max. Wight on Table	kg	400	
			2. Axis Travel				
			2.1	X-Axis	mm	660	
			2.2	Y- Axis	mm	305	
			2.3	Z-Axis	mm	430	
			3. Spindle				
			3.1	Max. Speed (Rpm)	rpm	45-2000	
			3.2	Taper		iso-40	
			3.3	Quill Travel	mm	80	
			3.4	Vertical Milling Head Swivelling on Both Side	deg.	45	
			4. No of Feed			18	
			5. Feed range				
			5.1	Longitudinal	mm/min	16-800	
			5.2	Traverse	mm/min	16-800	
			5.3	Vertical	mm/min	4-200	
			6. Rapid Transverse				
6.1	Longitudinal	mm/min	4000				
6.2	Traverse	mm/min	4000				
6.3	Vertical	mm/min	1000				



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
15.	Pedestal Grinding Machine (2 Nos.)	Krishna Machine Tools PG - 103	Sl. No.	Specification	Unit	Range/Value	It is used for grinding of hand tools, chisels, Single point cutting tools and sharpening of single point cutting tools and drill bits.
			1.	Wheel Size	mm	250×25×31.75	
			2.	Wheel Centre Distance	mm	600	
			3.	Distance Between Base and wheel spindle	mm	935	
			4.	Speed of Motor	rpm	1400	



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
16.	Shaping Machine (2 Nos.)	Krishna Machine Tools Model: KSM 350	Sl. No.	Specification	Unit	Range/Value	It can cut curves, angles and many other shapes. It is used for slot Cutting, facing and sizing of metal blocks.
			1.	Table Size	mm ²	450×310	
			2.	Length of Stroke	mm	350	
			3.	Vertical Travel of the Table	mm	300	
			4.	Distance Between Table to Ram	mm	300	



Sl. No.	Equipment/Machine	Make & Model	Specification			Application
17.	Radial Drilling Machine (2 Nos.)	Krishna Machine Tools KRD - 40	Sl. No. 1. Max. Drilling Capacity 2. Drilling Radius Max./Min. 3. Base Working Surface 4. Spindle Nose to base Distance 5. Max./Min. 6. Range of Speed 7. Number of Speed 8. Spindle Travel	Unit mm mm mm mm rpm mm	Range/Value 35 800/300 700x625 960/255 70-3000 8 155	It is used for drilling, reaming, boring and tapping operations.



Sl. No.	Equipment/Machine	Make & Model	Specification			Application
18.	Pillar Type Drilling Machine (2 Nos.)	Top Engineers TPD 25	Sl. No. Specification 1. Drilling Capacity 1.1 In Mild Steel 1.2 In Cast iron 2. Spindle Nose to Table distance 3. Spindle Nose to Base Distance 4. Distance from Spindle Centre to Pillar Face 5. Range of Speed 6. Table Size 7. Spindle Travel	Unit mm mm mm mm rpm mm mm	Range/Value 25 32 550 1000 240 100-2000 450 125	It is used for drilling, reaming, boring and tapping operations.



Sl. No.	Equipment/Machine	Make & Model	Specification				Application
19.	Power Hacksaw	Top Engineers THM 300	Sl. No.	Specification	Unit	Range/Value	Power hacksaws are used to cut large sizes (sections) of metals or nonmetals
			1.	Max. Size of Material To be cut			
			1.1	Cap. Of Round Bar	mm	300	
			1.2	Cap. Of Square Bar	mm	250	
			2.	Stroke Length	mm	140	
			3.	Stroke Per Min	mm	80-100	

