

Name of the Trade		Tool & Die(Press Tools, Jigs & Fixtures)		
S.No	Name of the Equipment	Std List No	Type of Equip. (Machinery / Tool)	Specifications
(i)	(ii)	(iii)	(iv)	(v)
1	Steel Rule 150 mm English and Metric combined	1	T.Tool Kit	Stainless steel rule 150 mm English and Metric combined
2	Engineer's Square 150 mm with knife edge	2	T.Tool Kit	150 mm with knife edge material tool steel with hardened bevelod edge blade and hardened stock
3	Hacksaw frame adjustable with pistol grip for 200-300mm blade	3	T.Tool Kit	adjustable with pistol grip for 200-300mm material rectangular pipe blade with plastic handle
4	Centre punch 100 mm	4	T.Tool Kit	length 100 mm material high carbon steel
5	Prick punch 150 mm	5	T.Tool Kit	150 mm material high carbon steel
6	File flat bastard 300 mm	6	T.Tool Kit	flat bastard 300 mm material high carbon steel with plastic handle
7	File flat 2nd cut 250 mm	7	T.Tool Kit	flat 2nd cut 250 mm material high carbon steel with plastic handle
8	File flat safe edge 200 mm	8	T.Tool Kit	flat safe edge 200 mm material high carbon steel with plastic handle
9	File triangular smooth 200 mm	9	T.Tool Kit	triangular smooth 200 mm material high carbon steel with plastic handle

B : Tools and Equipments:

10	Caliper inside spring type-150 mm	1	Tool/Eqt.	spring type-150 mm Material mild steel measuring point harded 150 mm spring joint
11	Caliper outside spring type-150 mm	2	Tool/Eqt.	spring type-150 mm Material mild steel measuring point harded 150 mm spring joint
12	Divider spring type – 150 mm	3	Tool/Eqt.	spring type – 150 mm Material mild steel measuring point harded 150 mm spring joint
13	Odd leg caliper firm joint 0- 150 mm	4	Tool/Eqt.	t 0- 150 mm Material mild steel measuring point harded 150 mm spring joint
14	Screw driver – 150 mm	5	Tool/Eqt.	150 mm material cellulose acetate handle high grade s2 steel heat treated blade and tipped hardness HRC 48 - 52
15	Screw driver – 200 mm	6	Tool/Eqt.	200 mm material cellulose acetate handle high grade s2 steel heat treated blade and tipped hardness HRC 48 - 52
16	Centre gauge 550 and 600	8	Tool/Eqt.	550 and 600 tempered and lapped
17	Oil can 250 ml	9	Tool/Eqt.	250 ml pressure delivery
18	File flat smooth 200 mm	10	Tool/Eqt.	flat smooth 200 mm material high carbon steel with plastic handle

19	File flat smooth with safe edge 200 mm	11	Tool/Eqt.	flat smooth with safe edge 200 mm material high carbon steel with plastic handle
20	File half round bastard 300 mm	12	Tool/Eqt.	half round bastard 300 mm material high carbon steel with plastic handle
21	File half round smooth 250 mm	13	Tool/Eqt.	half round smooth 250 mm material high carbon steel with plastic handle
22	File triangular bastard 250 mm	14	Tool/Eqt.	triangular bastard 250 mm material high carbon steel with plastic handle

23	File triangular smooth 200 mm	15	Tool/Eqt.	triangular smooth 200 mm material high carbon steel with plastic handle
24	File round bastard 250 mm	16	Tool/Eqt.	round bastard 250 mm material high carbon steel with plastic handle
25	File square bastard 300 mm	17	Tool/Eqt.	square bastard 300 mm material high carbon steel with plastic handle
26	File square smooth 250 mm	18	Tool/Eqt.	square smooth 250 mm material high carbon steel with plastic handle
27	Knife edge file 150 mm	19	Tool/Eqt.	150 mm material high carbon steel with plastic handle
28	Needle file assorted (12 nos.) 150 mm	20	Tool/Eqt.	150 mm material high carbon steel
29	File card	21	Tool/Eqt.	wooden handle
30	Scraper flat 250 mm	22	Tool/Eqt.	flat type 250 mm material high carbon steel with plastic handle
31	Hammer Ball Peen 0.5 kg with handle	23	Tool/Eqt.	0.5 kg heat treated hardness HRC 45-55 with wooden handle
32	Hammer Cross Peen 0.75 kg with handle	24	Tool/Eqt.	0.75 kg heat treated hardness HRC 45-55 with wooden handle
33	Chisel cold flat 18 x 150 mm	25	Tool/Eqt.	18 x 150 mm material high carbon steel
34	Chisel Cross Cut 10 x 3 x 200 mm	26	Tool/Eqt.	10 x 3 x 200 mm material high carbon steel
35	Chisel Half Round 10 x 250 mm	27	Tool/Eqt.	10 x 250 mm material high carbon steel
36	Chisel diamond point 10 x 200 mm	28	Tool/Eqt.	10 x 200 mm material high carbon steel
37	Scribing block universal 300 mm	29	Tool/Eqt.	universal type 300 mm wih adjustable vertical spindle
38	Cast Iron Surface plate 300 x 300 mm	30	Tool/Eqt.	300 x 300 mm material closed grain cast iron
39	Granite Surface plate 600 x 600 x 80 mm	31	Tool/Eqt.	600 x 600 x 80 mm material natural black granite stone
40	Tap extractor 3 mm to 12 mm x 1.5 mm (ezzy out)	32	Tool/Eqt.	3 mm to 12 mm x 1.5 mm (ezzy out) material high speed steel
41	Screw extractor sizes 1 to 8	33	Tool/Eqt.	sizes 1 to 8 material high speed steel
42	Taps and dies metric 5 mm to 12 mm complete set in a box	34	Tool/Eqt.	5 mm to 12 mm complete set in a box material high speed steel
43	Twist Drill with St. Shank Ø 5 to Ø 12 mm in steps of 0.5 mm	35	Tool/Eqt.	Twist Drill with St. Shank Ø 5 to Ø 12 mm in steps of 0.5 mm material high speed steel
44	Twist Drill St. Shank Ø 8 mm to Ø 12 mm in steps of 2 mm	36	Tool/Eqt.	Twist Drill St. Shank Ø 8 mm to Ø 12 mm in steps of 2 mm material high speed steel
45	Taper shank drills Ø 6 mm to Ø 20 mm in steps of 1 mm	37	Tool/Eqt.	Taper shank drills Ø 6 mm to Ø 20 mm in steps of 1 mm material high speed steel
46	D.E spanners 3-4 , 6-8, 10-12, 13-14, 15-16, 18-19, 20-22, 24-26 (8 spanners)	38	Tool/Eqt.	3-4 , 6-8, 10-12, 13-14, 15-16, 18-19, 20-22, 24-26 (8 spanners) torque tested with ISO standards, fully heat treated (hardness HRC 38-40)
47	Letter punch 5 mm set	39	Tool/Eqt.	5 mm set material CRV hardness HRC 48-56

48	Number punch 5 mm set	40	Tool/Eqt.	5 mm set material CRV hardness HRC 48-56
49	Drill chuck 12 mm capacity with key	41	Tool/Eqt.	12 mm capacity with key
50	Allen key metric 3 to 12 mm set	42	Tool/Eqt.	metric 3 to 12 mm set heat treated steel
51	Centre drills 3, 4,5 mm	43	Tool/Eqt.	3, 4,5 mm material high speed steel
52	Parallel hand reamer 6 mm to 12 mm in steps of 1 mm	44	Tool/Eqt.	6 mm to 12 mm in steps of 1 mm material high speed steel
53	Star dresser	45	Tool/Eqt.	LENGTH: 300, GRINDING WHEEL DIA: 250 - 400, GRINDING WHEEL FACE: 75, DRESSING FACE: 75
54	Diamond dresser with holder	46	Tool/Eqt.	diamond 3.0 carat and holder mild steel
55	Safety goggles (Personal Protective Equipments)	47	Tool/Eqt.	(Personal Protective Equipments) Goggles (fiber plastic cup) safety glasses (interchangeable glasses)
56	Demagnetizer	48	Tool/Eqt.	Working width 4" to 12", custom working width unlimited, voltage 120-600 VAC, 50 or 60Hz, 1 PH

57	Snips 200 mm blade	49	Tool/Eqt.	200 mm blade
58	Workbench 240 cm x 120 cm x 75 cm with 150 mm vice (Each bench fitted with 4 vices)	50	Tool/Eqt.	240 cm x 120 cm x 75 cm with 150 mm vice with 4 bench vices, 125 mm jaw fitted on table , heavy wooden top
59	Bench Vice 150 mm	51	Tool/Eqt.	150 mm jaw 150mm jaw heavy duty
60	Steel lockers for 16 trainees (Pigeon Cup Board)	52	Tool/Eqt.	(Pigeon Cup Board) Each locker 15x15 inches with 19 inches deep, each locker contains own lock and consist lock of 4 rows and 2 coulumn with sheet size 18 gauge
61	Steel cupboard 180 cm x 60 cm x 45 cm	53	Tool/Eqt.	180 cm x 60 cm x 45 cm MS sheet heavy 22 gauge
62	Metal rack 180 cm x 60 cm x 45 cm	54	Tool/Eqt.	180 cm x 60 cm x 45 cm, MS sheet 22 gauge
63	Fire extinguisher	55	Tool/Eqt.	Capacity 5 kg. ,jet length 2 meter, discharge time 20 to 25 second Hydraulic test pressor 30kg./cm2, contains mono amonium phosphate waist dry chemical powder
64	Fire buckets with stand	56	Tool/Eqt.	5 litres with angle stand of 1.5 inch angle frame stand of height 3 feet approx.
65	Feeler gauge 0.05 mm to 0.3 mm by 0.05 and 0.4 mm to 1 mm by 0.1 mm (13 leaves)	57	Tool/Eqt.	0.05 mm to 0.3 mm by 0.05 and 0.4 mm to 1 mm by 0.1 mm (13 leaves) spring steel
66	Metric Screw pitch gauge-Range 0.4 -6 mm pitch 600 (21 leaves)	58	Tool/Eqt.	Range 0.4 -6 mm pitch 600 (21 leaves) hardend material
67	Radius gauge 1 - 3 mm by 0. 25 mm and 3.5-7mm by 0.5 mm (34 leaves)	59	Tool/Eqt.	1 - 3 mm by 0. 25 mm and 3.5-7mm by 0.5 mm (34 leaves) hardend material
68	Vernier height gauge - Range 300 mm, with 0.02 mm least count	60	Tool/Eqt.	- Range 300 mm, with 0.02 mm least count
69	Universal vernier caliper-Range 200 mm, with 0.02 mm least count	61	Tool/Eqt.	Range 200 mm, with 0.02 mm least count
70	Dial vernier caliper 0-200 mm, with 0.02 mm least count	62	Tool/Eqt.	0-200 mm, with 0.02 mm least count
71	Vernier caliper-Range 300 mm Vernier scale 0.02 mm	63	Tool/Eqt.	Range 300 mm Vernier scale 0.02 mm
72	Vernier bevel protractor-Blade range 150 and 300 mm, dial 10 , least count5' (min.) with head, Acute Angle attachment	64	Tool/Eqt.	Blade range 150 and 300 mm, dial 10 , least count5' (min.) with head, Acute Angle attachment
73	Outside micrometer 0-25 mm, with 0.01 mm least count	65	Tool/Eqt.	0-25 mm, with 0.01 mm least count Anvil/Spindle Material Carbide,Lock Nut Type: Knurled Ring Type least count 0.01mm

74	Outside micrometer 25-50 mm, with 0.01 mm least count	66	Tool/Eqt.	25-50 mm, with 0.01 mm least count Anvil/Spindle Material Carbide,Lock Nut Type: Knurled Ring Type least count 0.01mm
75	Outside micrometer 50-75mm, with 0.01 mm least count	67	Tool/Eqt.	50-75mm, with 0.01 mm least count Anvil/Spindle Material Carbide,Lock Nut Type: Knurled Ring Type least count 0.01mm
76	Combination square sets-300 mm blade with square head, centre head, protractor head.	68	Tool/Eqt.	300 mm blade with square head, centre head, protractor head.
77	Telescopic gauge range 8 -150 mm (6 pcs/set)	69	Tool/Eqt.	8 -150 mm (6 pcs/set)
78	Sine bar 150 mm with stopper plate	70	Tool/Eqt.	150 mm with stopper plate
79	Sine table 200 mm length with magnetic bed	71	Tool/Eqt.	200 mm length with magnetic bed
80	Slip Gauge Box (workshop grade) -87 pieces per set	72	Tool/Eqt.	(workshop grade) -87 pieces per set
81	Gauge block accessories consisting holders, half round jaws, scriber point, centre point , triangular straight edge (14 pcs/set)	73	Tool/Eqt.	consisting holders, half round jaws, scriber point, centre point , triangular straight edge (14 pcs/set)
82	Central square – Size 400 x 250 mm blade	74	Tool/Eqt.	Size 400 x 250 mm blade
83	V-Block-Approx. 32 x 32 x 41 mm with clamping capacity of 25 mm with clamps	75	Tool/Eqt.	32 x 32 x 41 mm with clamping capacity of 25 mm with clamps material rectangular steel and cast iron blocks
84	V-Block-Approx 65x65x80 mm with clamping capacity of 50 mm with clamps	76	Tool/Eqt.	65x65x80 mm with clamping capacity of 50 mm with clamps material rectangular steel and cast iron blocks
85	Magnetic V-Block 100x100x125 mm	77	Tool/Eqt.	100x100x125 mm material rectangular steel and cast iron blocks
86	Angle plate 150 x 150 x 200 mm	78	Tool/Eqt.	Angle plate 150 x 150 x 200 mm material closed grain cast iron blocks
87	Angle plate-adjustable 250x250x300 mm	79	Tool/Eqt.	Steel casting adjustable 250x250x300 mm
88	Inside micrometer – Range 50-63 mm with std extension rods upto 200mm..	80	Tool/Eqt.	Range 50-63 mm with std extension rods upto 200mm..Anvil/Spindle Material Carbide,Lock Nut Type: Knurled Ring Type least count 0.01mm
89	Depth micrometer – Range 0-25 mm, accuracy 0.01 mm with std set of extension rod s.	81	Tool/Eqt.	Range 0-25 mm, accuracy 0.01 mm with std set of extension rod s.Anvil/Spindle Material Carbide,Lock Nut Type: Knurled Ring Type least count 0.01mm
90	Magnetic stand with magnetic base 60 x 47.5 mm and with universal swivel clamp, dial holding rod (150 mm) scriber	82	Tool/Eqt.	magnetic base 60 x 47.5 mm and with universal swivel clamp, dial holding rod (150 mm) scriber

91	Dial test indicator-Lever type- Range 0-0.8 mm –Graduation 0.01mm, reading 0-50-0 with accessories	83	Tool/Eqt.	Lever type- Range 0-0.8 mm –Graduation 0.01mm, reading 0-50-0 with accessories
92	Dial test indicator – Plunger type-Range 0-10 mm , Graduation 0.01 mm, Reading 0-100 with revolution counter	84	Tool/Eqt.	Plunger type-Range 0-10 mm , Graduation 0.01 mm, Reading 0-100 with revolution counter
93	Bore gauge with dial indicator (1 mm range, 0-0.01 mm graduation)-Range of bore gauge 18-150 mm	85	Tool/Eqt.	(1 mm range, 0-0.01 mm graduation)-Range of bore gauge 18-150 mm
94	Straight edge-Single beveled-Size 150 mm and 250 mm	86	Tool/Eqt.	Single beveled-Size 150 mm and 250 mm
95	Tool makers clamp 50 mm & 75 mm	87	Tool/Eqt.	50 mm & 75 mm steel
96	C – clamp- 50 mm & 75 mm	88	Tool/Eqt.	aluminium alloy 50 mm & 75 mm

C : Cutting Tools :

97	Side and face milling cutter Ø 100 x 10 X Ø 25 mm	1	Cut Tool	HSS Ø 100 x 10 X Ø 25 mm
98	Side and face cutter Ø 80 x 10 X Ø 27 mm	2	Cut Tool	HSS Ø 80 x 10 X Ø 27 mm
99	Cylindrical milling cutter Ø 63 x 70 x Ø 27 mm	3	Cut Tool	HSS Ø 63 x 70 x Ø 27 mm
100	Slitting Saw cutter Ø 75 x 3 X Ø 27 mm	4	Cut Tool	HSS Ø 75 x 3 X Ø 27 mm
101	Slitting Saw cutter Ø 100 x 6 X Ø 27 mm	5	Cut Tool	HSS Ø 100 x 6 X Ø 27 mm
102	Single angle cutter Ø 75 x 16 x Ø 27mm - 600	6	Cut Tool	HSS Ø 75 x 16 x Ø 27mm - 600
103	Single angle cutter Ø 75 x 20 x Ø 27 - 450	7	Cut Tool	HSS Ø 75 x 20 x Ø 27 - 450
104	Equal angle cutter Ø75x 30 x Ø 27 - 900	8	Cut Tool	HSS Ø75x 30 x Ø 27 - 900
105	Shell End Mill Ø 50 x 36 x Ø 22 (preferably inserted tip type)	9	Cut Tool	HSS Ø 50 x 36 x Ø 22 (preferably inserted tip type)
106	Shell End Mill Ø 75 mm x 50 x Ø 22 (preferably inserted tip type)	10	Cut Tool	HSS Ø 75 mm x 50 x Ø 22 (preferably inserted tip type)
107	Parallel shank end mills Ø6, Ø10 and Ø 16 are (double fluted), Ø 20 mm & Ø 25mm (four fluted)	11	Cut Tool	HSS Ø6, Ø10 and Ø 16 are (double fluted), Ø 20 mm & Ø 25mm (four fluted)

108	'T' slot cutter with parallel shank- Ø 17.5 x 8 mm width x dia. of shank 8 mm	12	Cut Tool	HSS Ø 17.5 x 8 mm width x dia. of shank 8 mm
109	Concave Milling cutter Ø 63 x 6 radius x Ø 27 mm	13	Cut Tool	HSS Ø 63 x 6 radius x Ø 27 mm
110	Convex Milling cutter Ø 63 x 6 radius x Ø 27 mm	14	Cut Tool	HSS Ø 63 x 6 radius x Ø 27 mm
111	Disc type form milling cutter (involute form -2 module, 20° pressure angle)	15	Cut Tool	HSS involute form -2 module, 20° pressure angle
112	Tool holder (straight) to suit 6, 8 mm sq. bit size	16	Cut Tool	6, 8 mm sq. bit size
113	Parting tool holders to suit 3 and 4 mm thick tool blade.	17	Cut Tool	3 and 4 mm thick tool blade.
114	Boring bars with holders to accommodate 4, 6 and 8 mm HSS tool bits	18	Cut Tool	4, 6 and 8 mm HSS tool bits
115	Knurling tool (straight & diamond)	19	Cut Tool	HCS (straight & diamond)
116	Tool bits, inserts, carbide tool bits, reamers, special counter bore, counter sink tools(CNC tooling setup)	20	Cut Tool	high quality graded steel ISI marked

D : General Machinery & Installation:

117	Sensitive drilling machine - capacity 12 mm Motorized –with drill chuck and key etc.	1	G. Mach.	capacity 12 mm Motorized –with drill chuck and key etc.
118	Pillar/column type Drilling machine – 25 mm capacity-motorized with drill chuck, key etc.	2	G. Mach.	25 mm capacity-motorized with drill chuck, key etc.
119	Radial Drill machine to drill up to 32 mm diameter.	3	G. Mach.	up to 32 mm diameter.
120	Power hacksaw machine to accommodate 21” or more length blade.	4	G. Mach.	21” or more length blade.
121	Double ended Pedestal Grinder with 178 mm wheels(one fine and one rough wheel)	5	G. Mach.	178 mm wheels(one fine and one rough wheel)

122	SS and SC centre lathe (all geared) with centre height 150 mm and centre distance 1000 mm along with 3 jaws, 4 jaw chuck, auto feed system, taper turning attachment, coolant pump, safety guard, dog carriers, face plate and machine light arrangement.	6	G. Mach.	centre height 150 mm and centre distance 1000 mm along with 3 jaws, 4 jaw chuck, auto feed system, taper turning attachment, coolant pump, safety guard, dog carriers, face plate and machine light arrangement.
123	Shearing machine (lever type)hand operated complete with 300 mm blade length	7	G. Mach.	300 mm blade length
124	Welding Equipment (It is not required if Welding Trade is available in the Institute) Latest welding kits in Die making	8	G. Mach.	Latest welding kits in Die making

(i) Transformer welding set 300 amps-continuous welding current with all accessories and electrode holder	8-(i)	G. Mach.	300 amps-continuous welding current with all accessories and electrode holder
(ii) Welding cable to carry 400 amps 50 meter with flexible rubber cover.	8-(ii)	G. Mach.	400 amps 50 meter with flexible rubber cover.
(iii) Lugs for cable	8-(iii)	G. Mach.	(iii) Copper alloy Lugs for cable
(iv) Earth clamps	8-(iv)	G. Mach.	(iv) Copper alloy Earth clamps
(v) Arc welding table (all metal top) 122cm x 12 cm x 60 cm with positioner	8-(v)	G. Mach.	MS Sheet 18 gauge 122cm x 12 cm x 60 cm with positioner
(vi) Oxy-acetylene gas welding set-equipment with hoses, regulator and other accessories	8-(vi)	G. Mach.	Oxy-acetylene welding equipment with complete accessories (Low & high) Welding Blow Pipe Acetylene Oxygen High Pressure, Cutting Blow Pipe Acetylene Oxygen High Pressure,Pressure Regulators: 2 oxygen Gaug Outlet valve
(vii) Gas welding table with positioner	8-(vii)	G. Mach.	40" X 72", 5/8" thick, and has a 5/16" hole drilled and taped every 5" to clamp down parts to be welded or assembled.
(viii) Welding torch tips of different sizes	8-(viii)	G. Mach.	Tip No. 1,2,3 each copper alloy
(ix) Gas lighter	8-(ix)	G. Mach.	(ix) Gas lighter ISI Marked, spark ignition
(x) Trolley for gas cylinders	8-(x)	G. Mach.	(x) MS Sheet with 3 wheel drive having capacity of 80 Kg cylinders
(xi) Chipping hammer	8-(xi)	G. Mach.	(xi) Toughend steel tip with steel handle and with insulated covering
(xii) Gloves (Leather)	8-(xii)	G. Mach.	(xii) ISI Marked bearing capacity of high temperature approximately 70 C to 90 C
(xiii) Leather apron	8-(xiii)	G. Mach.	(xii) ISI Marked bearing capacity of high temperature approximately 70 C to 90 C
(xiv) Welding torches 5 to 10 nozzles	8-(xiv)	G. Mach.	(xiv) ISI Marked copper alloy with nozzles 0 to 5 numbers
(xv) Spindle key for cylinder valve	8-(xv)	G. Mach.	(xv) vanadium steel
(xvi) Welding goggles	8-(xvi)	G. Mach.	(xvi) Elastic striped with changeable glass ISI marked
(xvii) Welding helmets with coloured glass	8-(xvii)	G. Mach.	(xvii) auto-darkening welding helmet with 3.86" (98.04mm) x 2.17" (55.12mm) viewing area
(xviii) Tip cleaner	8-(xviii)	G. Mach.	(xviii) Made of aluminum construction for lightweight use. Fits all tip sizes.

125	Universal Milling Machine	9	G. Mach.	Longitudinal traverse 700 - 800 mm Cross traverse 300 - 400 mm Vertical traverse 200 - 350 mm Swivel of table on either side 450 Speed range rpm 30 to 1800 With universal dividing head, circular table, long arbors, slab arbor, slotting attachment, vertical indexing head, etc.
126	Horizontal and Vertical milling machine	10	G. Mach.	Table Length x width 1350x310 mm Longitudinal traverse 700 - 800 mm Cross traverse 200 - 265 mm Vertical traverse 300 - 400 mm Speed range rpm 20 to 1800

127	Hydraulic Surface Grinding Machine	11	G. Mach.	Table Clamping area 600 x 178 mm Grinding area 400 x 200 mm Distance table-centre of spindle 400 - 500 mm Table speed 1-25 m/min. With standard accessories like dust extractor with water separator, balancing device, table-mounted Radius-tangent wheel dresser, wheel flanges, etc.
128	Tool and Cutter Grinder 1No.	12	G. Mach.	Largest diameter of cutter that can be ground 10-100 mm Max. admit between centers 230 mm Max. length of cutting edges ground 120 mm With standard equipment like adaptor bushes, cutter head holder assembly, adaptors, extension spindle, flanges fro grinding wheel, etc.
129	Universal cylindrical Grinding Machine 1No.	13	G. Mach.	Max. dia ground (effective) 250 mm Max. grinding length 300 mm Height of centre 130 mm Max. distance between centers 340 mm With special accessories like face plate, steady, radius and face dressers, find hand feed attachment etc.
130	Pantograph / Engraving 3D machine	14	G. Mach.	Working area (rectangle) 320 x 145 mm Max. height of work 380 mm Work table traverse: Longitudinal x Transverse 160 x300 mm Work clamping area 360x200 mm With attachment like index head, roll engraving attachment, type template holders, circular table, raised and sunk letters etc.
131	Fly press size 5	15	G. Mach.	size 5, center to back 139mm, base to guide 171mm, double body and pillar type screw press.size

132	Muffle furnace – heating chamber 300 x 300 x 450 mm for 10500 C Quenching tank-600 x600 x 600 mm	16	G. Mach.	heating chamber 300 x 300 x 450 mm for 10500 C quenching tank- 600 x 600 x 600 mm
133	Rockwell hardness testing machine with standard accessories	17	G. Mach.	Rockwell hardness testing machine with standard accessories preliminary test force - 98.07 (10kgf), 29.42 (3kgf) Test force rockwell-588.4N (60kgf), 980.7N (100kgf), 1471N(150kgf) DISPLAY-matrix backlight LCD HARDNESS MINIMUM VALUE - 0.1 HR SCALE CONVERSION-HRC, HRB, HV, HBW, HS, MPAPLUS OFFSET, OK/NG POWER SUPPLY- 120V AC (±10%), 60Hz DIMENSIONS- 523X235X780MM
134	Wire EDM with CAM software	18	G. Mach.	Wire EDM with CAM software X/Y/Z axis travel (mm): 400 x 300 x 250 U/V axis travel (mm): 150 x 150 Work tank dimensions (W x D x H, mm): 850 x 610 Taper angle: ±25° Wire diameter (mm): Ø 0,10~ Ø 0,30 Wire tension (N):3~23 Max. wire speed (mm/sec): 420
135	CAD/CAM software(Standard/latest available in the market)	19	G. Mach.	CAD/CAM software(Standard/latest available in the market)

136	Desktop computers with latest configuration suitable for CAD/CAM software with necessary furniture	20	G. Mach.	latest configuration suitable for CAD/CAM software with necessary furniture
137	Spark Erosion EDM (Optional)		G. Mach.	Spark Erosion EDM (Optional) 4axis Wire Edm with auto wire threading and EF11 for anti electrolysis cutting for finer finishes and is very well suited to machining carbide. Wire used is mainly 0.25mm diameter which can reach 0.15mm internal radii. Table movements are 320mm x 200mm x 150mm high.
138	CNC vertical milling machine (Optional)	22	G. Mach.	CNC vertical milling machine (Optional) table size - 500x250mm, Travel x-axis x Y-axis x Z-axis : 300x150x250mm, Auto tool changer : 8nos. Spindle power 3.7kw (continuous rating) with popular control system like Fanuc/Siemens or equivalent along with motorized coolant system.
139	CNC lathe (optional)	23	G. Mach.	CNC lathe (optional) Max, swing over bed: 500 Max, turning dia. of workpiece 300 Spindle bore 82mm Max, length of workpiece 750/1000 Cone of spindle bore, Morse Taper 90 1:20 spindle speeds, infinitely variable 30-250 100-500 320-1600 or variable speed: 150-1600rpm Dia of tail stock sleeve 75mm Stroke of tail stock sleeve 150mm Bore taper of tail stock sleeve MT5 Power of the main drive motor 7.5KW

140	Co-ordinate measuring machine (Optional)	24	G. Mach.	Co-ordinate measuring machine (Optional) measuring range x: 78.9" (2005mm) , y: 118.3" (3005mm), z: 78.9" (2005mm), Measuring error MPEE (μm) L: measuring length (mm): [TP200] (9+7L/1000) [SP25M] (7+7L/1000)
141	Profile projector (Optional)	25	G. Mach.	Profile projector (Optional) SCREEN Opaque glass screen with 90° cross line Fitted with graduated rotary ring (0-360°) operated by knob, L.C. 1min. OPTICS 25X, 50X, 100X RESOLUTION 5/1/0.5 μm POWER SUPPLY 110/220V AC, 50/60Hz
142	Unit height master (Optional)	26	G. Mach.	Unit height master (Optional) Range: 3-310mm block arrangment: staggered block step: 20mm graduation: 0.001 mm block pitch accuracy: $\pm 1.5\mu\text{m}$ parallelum of block: $\pm 1\mu\text{m}$ micrometer heat accouracy: $\pm 1\mu\text{m}$

143	Polishing kits (Optional)	27	G. Mach.	<p>Finishinfg/ polishing equipment power module UF-2600 Frequency of vibration 20.0 – 30.0 KHz Amplitude (stroke) 4 to 40 microns (.00016 to .0016") Frequency adjustment Automatic feedback system Power output ultrasonic 45 watts max. Accessories Polishing kits (Optional) 4 diamond files 3 resin bonded , diamond stones , 2 ea. of 6 ceramic stones , 2 wooden laps , 3 diamond stones 5 tool clamps, 1 adapter – 6mm to , 4mm thread , 1 ultrasonic handpiece , 4 wrenches: 8mm, (2) 10mm & 12mm , 1 allen key, 1 replacement fuse , 1 power cord , 1 handpiece rest 1 set of protective, ear plugs , 1 plastic toolbox , 2 protective sleeves for the handpiece 1 wooden case for the handpiece, 1 power cord</p>
144	Hydraulic press 16T with all safety measures (Optional)	28	G. Mach.	<p>Hydraulic press 16T with all safety measures (Optional) Power: 2HP,115/230 Volts Bore: 8" Stroke: 12" Ram Speed (sec/inch): advance-4 press-16</p>