

**GOVERNMENT I.T.I (GIRLS), VENKATESWARAPURAM, NELLORE**  
**S.P.S.R.NELLORE (DISTRICT)**  
**Available Fitter Trade machinery / Equipment (As per Syllabus)**

**A. TRAINEES TOOL KIT**

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	Steel Rule with metric & British graduation 150 mm, Stainless steel	21 No's	2(1+1)units	42 no's
2	Try Square. 150 mm blade	21 No's	2(1+1)units	42 no's
3	Caliper inside spring type. 150 mm	21 No's	2(1+1)units	42 no's
4	Caliper hermaphrodite spring type 150 mm	21 No's	2(1+1)units	42 no's
5	Caliper outside spring type 150 mm	21 No's	2(1+1)units	42 no's
6	Divider spring type 150 mm	21 No's	2(1+1)units	42 no's
7	Scriber 150 mm	21 No's	2(1+1)units	42 no's
8	Centre Punch 10 mm and Length - 120 mm	21 No's	2(1+1)units	42 no's
9	150mm insulated flat type	21 No's	2(1+1)units	42 no's
10	Chisel cold flat 20 mm X 150 mm High carbon steel	21 No's	2(1+1)units	42 no's
11	Hammer ball peen With handle 450 grams (1 lb)	21 No's	2(1+1)units	42 no's
12	Hammer ball peen With handle. 220 grams (1/2 lb)	21 No's	2(1+1)units	42 no's
13	File flat - second cut 250 mm	21 No's	2(1+1)units	42 no's
14	File flat smooth 250 mm.	21 No's	2(1+1)units	42 no's
15	File half round second cut 150 mm.	21 No's	2(1+1)units	42 no's
16	Hacksaw frame fixed type 300 mm	21 No's	2(1+1)units	42 no's
17	Safety goggles.	21 No's	2(1+1)units	42 no's
18	Dot punch 100 mm	21 No's	2(1+1)units	42 no's
19	Steel Rule Graduated both in Metric and English Unit 300 mm Stainless steel	4 nos.	2(1+1)units	4 nos.
20	Straight edge steel 300 mm or above	2 nos.	2(1+1)units	2 nos.
21	Spirit Level metal Type - 2 300 mm Basic Length Accuracy 0.1mm/Meter	1 no.	2(1+1)units	1 no.
22	Stud Extractor EZY - out Set of 8	2 sets	2(1+1)units	2 sets
23	Combination Set 300 mm	2 nos.	2(1+1)units	2 nos.
24	Micrometer outside. 0 - 25 mm	2 nos.	2(1+1)units	2 nos.
25	Micrometer outside. 25 - 50 mm	2 nos.	2(1+1)units	2 nos.

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
26	Micrometer outside. 50 - 75 mm	2 nos.	2(1+1)units	2 nos.
27	Micrometer inside with extension rods. Accuracy 0.01 mm with extension rods upto 150 mm	1 no.	2(1+1)units	1 no.
28	Vernier caliper 150 mm	4 nos.	2(1+1)units	4 nos.
29	Vernier height gauges 0 - 300 mm with least count = 0.02 mm	1 no.	2(1+1)units	1 no.
30	Vernier bevel protractor. made in japan (LEAST COUNT 5 MINUTES WITH MAGNIFY GLASS)	1 no.	2(1+1)units	1 no.
31	Screw pitch gauge Metric 0.25 to 6 mm	1 no.	2(1+1)units	1 no.
32	Wire gauge, metric standard.	1 no.	2(1+1)units	1 no.
33	Surface plate C.I/Granite with Stand and Cover 600 x 600 mm	1 nos.	2(1+1)units	1 nos.
34	Marking table (Mild steel) 900X900X900 mm	1 no.	2(1+1)units	1 no.
35	Universal scribing block. 220 mm	2 nos.	2(1+1)units	2 nos.
36	V-Block pair with clamps 150 x 100 x 100 mm	2 nos.	2(1+1)units	2 nos.
37	Angle plate 150 X 150 X 250 mm	2 nos.	2(1+1)units	2 nos.
38	Punch letter set. 3 mm	1 no.	2(1+1)units	1 no.
39	Punch number set. 3 mm	1 no.	2(1+1)units	1 no.
40	Portable hand drill (Electric) 0 to 13 mm Capacity	1 no.	2(1+1)units	1 no.
41	Drill twist straight shank 3 mm to 12 mm by 0.5 mm H.S.S.	2 sets	2(1+1)units	2 sets
42	Drill twist Taper shank 8 mm to 20 mm by 0.5 mm H.S.S.	2 sets	2(1+1)units	2 sets
43	Taps and dies complete set in box. Wit-worth	1 no.	2(1+1)units	1 no.
44	Taps and dies complete set 5, 6, 8, 10 & 12 mm set of 5	2 Sets	2(1+1)units	2 Sets
45	File knife edge smooth 150 mm	4 nos.	2(1+1)units	4 nos.
46	File feather edge smooth 150 mm	4 nos.	2(1+1)units	4 nos.
47	File triangular smooth 200 mm	8 nos.	2(1+1)units	8 nos.
48	File round second cut 200 mm	8 nos.	2(1+1)units	8 nos.
49	File square second cut 250 mm	8 nos.	2(1+1)units	8 nos.

Sl.NO	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
50	Feeler gauge Gauge Feeler / Thickness - 0.05 mm to 0.3 mm by 0.05 and 0.4 mm to 1 mm by 0.1 mm - 13 leaves	1 set	2(1+1)units	1 set
51	File triangular second cut. 200 mm	8 nos.	2(1+1)units	8 nos.
52	File flat second cut safe edge. 300 mm	8 nos.	2(1+1)units	8 nos.
53	File flat bastard 200 mm	10 nos.	2(1+1)units	10 nos.
54	File flat bastard. 300 mm	10 nos.	2(1+1)units	10 nos.
55	File Swiss type needle Set of 12, Length = 150 mm	2 sets	2(1+1)units	2 sets
56	File half round second cut. 250 mm	10 nos.	2(1+1)units	10 nos.
57	File half round bastard. 250 mm	10 nos.	2(1+1)units	10 nos.
58	File round 30 cm bastard. A Standard file 30cm MATERIAL HIGH CARBON STEEL (ISI)	10 nos.	2(1+1)units	10 nos.
59	File hand second cut. 150 mm	8 nos.	2(1+1)units	8 nos.
60	File card. 3"x5" size, brass or steel wire	8 nos.	2(1+1)units	8 nos.
61	Oil Can 250 ml	2 nos.	2(1+1)units	2 nos.
62	Pliers combination insulated 150 mm	2 nos.	2(1+1)units	2 nos.
63	Wooden handle forged Soldering Iron copper bit. 230V, 250 W, 350 gm	2 nos.	2(1+1)units	2 nos.
64	Blow Lamp 0.5 litre	2 nos.	2(1+1)units	2 nos.
65	Spanner- Double Ended 6x7, 8x9, 10x11, 12x13,14x15, 16x17, 18x19, 20x22	1 set each	2(1+1)units	1 set each
66	Spanner adjustable 150 mm	2 nos.	2(1+1)units	2 nos.
67	Interchangeable ratchet socket set 12 mm driver, sized 10-32 mm set of 18 socket & attachments.	1 set	2(1+1)units	1 set
68	Double Ended tubular Box spanner set with Tommy bar. A/F 6-25 mm set of 10 Tommy Bar Dia 6, 8, 10, 12, 14, 16	1 set	2(1+1)units	1 set

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
69	Glass magnifying 75 mm	2 nos.	2(1+1)units	2 nos.
70	Clamp toolmaker 5 cm and 7.5 cm set of 2.	2 nos.	2(1+1)units	2 nos.
71	Clamp "C" 100 mm	2 nos.	2(1+1)units	2 nos.
72	Clamp "C" 200 mm	2 nos.	2(1+1)units	2 nos.
73	Hand Reamer set (Tapar pin straight flute) Nominal Dia 6, 8, 10, 12, 16mm	1 set	2(1+1)units	1 set
74	Reamer parallel 12 - 16mm set of 5. 12 - 16mm set of 5.MATERIAL HIGH CARBON STEEL (ISI)	1 no.	2(1+1)units	1 no.
75	Scraper flat 150 mm	8 nos.	2(1+1)units	8 nos.
76	Scraper triangular 150 mm	8 nos.	2(1+1)units	8 nos.
77	Scraper half round 150 mm	8 nos.	2(1+1)units	8 nos.
78	Chisel cold cross cut & diamond point. 9 mm X 150 mm	8 each	2(1+1)units	8 each
79	Chisel cold flat 9 mm X 100 mm	8 nos.	2(1+1)units	8 nos.
80	Chisel cold round noze. 9 mm X 100 mm	8 nos.	2(1+1)units	8 nos.
81	Drill chuck with key 12 mm.	1 no.	2(1+1)units	1 no.
82	Pipe wrench 400 mm	1 no.	2(1+1)units	1 no.
83	Pipe vice 100 mm	1 no.	2(1+1)units	1 no.
84	Adjustable pipe die set BSP cover pipe size 1" or 3/4"	1 Set	2(1+1)units	1 Set
85	Wheel dresser (One for 4 units) Star/Dresser with Holder Length 150 mm, diamond point	1 no.	2(1+1)units	1 no.
86	Machine vice - Swivel Base 100 mm	1 no.	2(1+1)units	1 no.
87	Machine vice - Swivel Base 125 mm	1 no.	2(1+1)units	1 no.
88	Sleeve drill Morse No. 0 - 1, 1 - 2, 2 - 3, 3 - 4, 4 - 5	1 Set	2(1+1)units	1 Set
89	Vice bench 150 mm	20 nos.	2(1+1)units	20 nos.

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
90	Bench working. 2400 x 1200 x 900 mm	4 nos.	2(1+1)units	4 nos.
91	Almirah. 1800 x 900 x 450 mm	2 nos.	2(1+1)units	2 nos.
92	Lockers with 8 drawers (standard size). One locker for each trainee	3 nos.	2(1+1)units	3 nos.
93	Metal rack 1820 x 1820 x 450 cm	1 no.	2(1+1)units	1 no.
94	Instructor Table	1 no.	2(1+1)units	1 no.
95	Instructor Chair	1 no.	2(1+1)units	1 no.
96	Black board with easel.	1 no.	2(1+1)units	1 no.
97	Fire extinguisher (For 4 Units) CO2 type, 3 kg capacity	1 no.	2(1+1)units	1 no.
98	Fire buckets.		2(1+1)units	
99	Machine vice. 100mm	2 nos.	2(1+1)units	2 nos.
100	Wing compass. 254 mm or 300 mm	2 nos.	2(1+1)units	2 nos.
101	Hand hammer with handle. 1000 gm	1 nos.	2(1+1)units	1 nos.
102	Torque wrench (Standard/Ratchet type) 14 to 68 Nm	1 no.	2(1+1)units	1 no.
103	Power tools for fastening Capacity 10-18mm	1 No.	2(1+1)units	1 No.
104	Different Profile gauges (Plate type) – For demonstration Metric standard	4 nos	2(1+1)units	4 nos
105	Knurling tool (Diamond, straight & Diagonal)	1 each	2(1+1)units	1 each
106	Indexable boring bar with inserts 1" shank	4 nos.	2(1+1)units	4 nos.
107	Machine maintenance manual for Lathe, Pedestal grinder, Drill machine, Power saw	1 no.	2(1+1)units	1 no.
108	Temperature gauge Range 0 - 150°C	1 each	2(1+1)units	1 each
109	Dowel pin ( straight) Dia. -1" Length -4" (Mat: Stainless Steel)	1 each	2(1+1)units	1 each
110	Standard Tap screws M3, M4, M5, M6, M8, M10, M12, M14, M16	1 each	2(1+1)units	1 each

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
111	Lapping plate Dia. -6"	2 each	2(1+1)units	2 each
112	Medium carbon Heat treated alloy steel Metric Studs and bolts along with nuts (for display) of standard length (May be manufactured in-house) M6, M8, M10, M12, M14, M16 (Standard)	2 each	2(1+1)units	2 each
113	Caps screws M6, M8, M10, M12	2 each	2(1+1)units	2 each
114	Drill gauges Letter drill gauge (A to Z) , Number drill gauge (1 to 60) , Metric drill gauge (1.5mm to 12.5mm, 30 holes)	2 nos.	2(1+1)units	2 nos.
115	Cast Iron Globe Valve (Flanged type) 150NB, Class# 150 Flange:ANSI125-B16.1	2 nos.	2(1+1)units	2 nos.
116	C.I. Sluice / Gate valve (flanged type) 150NB, Class# 150 Flange:ANSI125-B16.1	2 nos.	2(1+1)units	2 nos.
117	Stop cock 25NB (2-way, Threaded end)	2 nos.	2(1+1)units	2 nos.
118	M.S. Pipe 150NB, Sch.40, ERW, IS:1239	as required	2(1+1)units	as required
119	G.I. Pipe 25mm, Sch.40, ERW	as required	2(1+1)units	as required
120	Slip-on Forged steel Flange 150NB, ANSI-B16.5, Class#150	4 nos.	2(1+1)units	4 nos.
121	Bolt & Nut with washer (May be manufactured in-house) M20x2.5x90Long (part thread - Hex. Head)	16 nos.	2(1+1)units	16 nos.
122	Pipe threading die with handle Ratchet type Die head of 1/2" , 3/4" and 1"	2 nos.	2(1+1)units	2 nos.
12	Jigs & Fixture (sample)-For demonstration (May be manufactured in-house)	1 nos.	2(1+1)units	1 nos.
124	M. S. Shaft (May be manufactured in-house) on 300mm one end	2 nos.	2(1+1)units	2 nos.
125	Pulleys (for V-belt or Flat belt) to fit on 50mm dia. Shaft with key slot	1 no.	2(1+1)units	1 no.
126	Steel keys (May be manufactured in-house) to fit with keyslot of shaft & pulley	2 nos.	2(1+1)units	2 nos.
127	Damaged old spur gear to fit 50mm dia. Shaft	2 nos.	2(1+1)units	2 nos.
128	V-belt and Flat belt to fit on pulley	1 each	2(1+1)units	1 each

I.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
129	Packing gasket PTFE gasket roll small size	1 no.	2(1+1)units	1 no.
130	Washer, clutch, keys, jib, cotter & circlip minimum 25mm size, carbon steel material	2 each	2(1+1)units	2 each
131	Hollow punch Straight Shank Hollow Punch Sets 5-12mm	1 set	2(1+1)units	1 set
132	Drill Drift (May be manufactured in-house) 200mm hardened and black finish	2 nos.	2(1+1)units	2 nos.
133	Bearing different types each type of diameter 25mm (min.)	1 each	2(1+1)units	1 each
134	Lifting sling 8mm Nominal Dia. Single leg sling	2 nos.	2(1+1)units	2 nos.
135	Bearing extractor Universal gear puller 2 or 3 jaws adjustable	1 no.	2(1+1)units	1 no.
136	Pulley extractor Universal gear puller 2 or 3 jaws adjustable	1 no.	2(1+1)units	1 no.

### C Tools for Allied Trades

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	Trammel 300 mm	1 no.	2(1+1)units	1 no.
2	Pocker.	2 nos.	2(1+1)units	2 nos.
3	Prick punch 100 mm	2 nos.	2(1+1)units	2 nos.
4	Mallet. Dia 100 mm X 150 mm	2 nos.	2(1+1)units	2 nos.
5	Aviation Snips straight Cut 300 mm	2 nos.	2(1+1)units	2 nos.
6	Flat headed hammers with handle.	2 nos.	2(1+1)units	2 nos.
7	Planishing hammer.	2 nos.	2(1+1)units	2 nos.
8	Snip bent Left Cut 250 mm	2 nos.	2(1+1)units	2 nos.
9	Stake hatchet with Leg. 300 X 200 X 20 mm	2 nos.	2(1+1)units	2 nos.
10	Stake grooving. 100 X 100 X 300 mm	2 nos.	2(1+1)units	2 nos.

**Modified List of Tools for the 3<sup>rd</sup> and IV<sup>th</sup> Semester**

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	Slip Gauge as Johnson metric set. 87 Pieces Set	1 Set	2(1+1)units	1 Set
2	Gauge snap Go and Not Go 25 to 50 mm by 5 mm, Set of 6 pieces	1 Set	2(1+1)units	1 Set
3	Gauge plug Single ended 5 to 55 by 5 mm. Set of 11 pcs.	1 Set	2(1+1)units	1 Set
4	Gauge telescopic set. 8 - 150 mm	1 no.	2(1+1)units	1 no.
5	Dial test indicator on stand 0.01 mm least count	1 no.	2(1+1)units	1 no.
6	Sine bar 125 mm	1 no.	2(1+1)units	1 no.
7	Dial verniercaliper. (Universal type) 0 - 300 mm, LC 0.05 mm	1 no.	2(1+1)units	1 no.
8	Screw thread micrometer with interchangeable. Pitch anvils for checking metric threads 60. 0 - 25 mm LC 0.01 mm	1 no.	2(1+1)units	1 no.
9	Depth micrometer. 0-25 mm Accuracy 0.01 mm with standard set of extension rods upto 200 mm	1 no.	2(1+1)units	1 no.
10	Vernier caliper. 0 - 150 mm with least count 0.02mm	1 no.	2(1+1)units	1 no.
11	Digital Micrometer outside. 0 - 25 mm L.C. 0.001 mm.	1 no.	2(1+1)units	1 no.
12	Comparators Gauge - Dial Indication with Stand and Bracket. LC 0.01mm	1 no.	2(1+1)units	1 no.
13	Engineer's try square (knife-edge) 150 mm Blade	1 no.	2(1+1)units	1 no.
14	Surface roughness comparison plates N1 - N12 Grade	1 Set	2(1+1)units	1 Set
15	Digital Vernier caliper 0 - 200 mm L.C. 0.01 mm (Optional)	1no.	2(1+1)units	1no.
16	Vernier Bevel protector Range 360deg, LC. : 5min(150mm blade)	1no.	2(1+1)units	1no.



### General shop outfit

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
17	Carbide Wear Block. 1 mm - 2 mm	2 each	2(1+1)units	2 each
18	Lathe tools H.S.S. tipped set.	2 nos.	2(1+1)units	2 nos.
19	Lathe tools bit. 6 mm x 75 mm HSS/Carbide	4 nos.	2(1+1)units	4 nos.
20	Lathe tools bit. 8 mm x 75 mm HSS/Carbide	4 nos.	2(1+1)units	4 nos.
21	Lathe tools bit. 10 mm x 75 mm HSS/Carbide	4 nos.	2(1+1)units	4 nos.
22	Arm strong type tool bit holder. Right hand	2 nos.	2(1+1)units	2 nos.
23	Arm strong type tool bit holder. Left hand	2 nos.	2(1+1)units	2 nos.
24	Arm strong type tool bit holder. Straight	2 nos.	2(1+1)units	2 nos.
25	Stilson wrenches 250 mm	2 nos.	2(1+1)units	2 nos.
26	Pipe cutter wheel type. 6 mm to 25 mm	1 no.	2(1+1)units	1 no.
27	Pipe bender machine spool type with stand manually operated. up to 25 mm cold bending	1 no.	2(1+1)units	1 no.
28	Adjustable pipe chain tonge to take pipes up to 300 mm	1 no.	2(1+1)units	1 no.
29	Adjustable spanner. 380 mm long	1 no.	2(1+1)units	1 no.

### E GENERAL MACHINERY INSTALLATION

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	SS and SC centre lathe (all geared) with minimum specification Centre height 150 mm and centre distance 1000 mm along with 3 & 4 jaw chucks, auto feed system, safety guard, taper turning attachment, motorized coolant system, lighting arrangement & standard accessories.	2 Nos.	2(1+1)units	2 Nos.
2	Pillar Type Drilling machine Sensitive 0-20 mm cap. with swivel table motorised with chuck & key.	1 no.	2(1+1)units	1 no.
3	Drilling machine bench Sensitive 0-12 mm cap motorised with chuck and key.	2 nos.	2(1+1)units	2 nos.
4	D.E. pedestal Grinding machine with wheels rough and smooth 2 H.P.- 3Phase-415V, 1500 rpm,250 Dia wheel	1 no.	2(1+1)units	1 no.

- **F. ADDITIONAL TOOLS FOR ALLIED trades**

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	Transformer welding set - continuous welding current, with all accessories and electrode holder 60% Duty Cycle with Standard Accessories 300 A, OCV 60 - 100 V,	1 Set	2(1+1)units	1 Set
2	Welder cable Able to carry 300 amps. With flexible rubber cover	20 Meter	2(1+1)units	20 Meter
3	Lugs for cable	12 Nos.	2(1+1)units	12 Nos.
4	Earth clamps.	2 Nos.	2(1+1)units	2 Nos.
5	Arc welding table (all metal top) with positioner. 1200 X 1200 X 750 mm	1 No.	2(1+1)units	1 No.
6	Oxy - acetylene gas welding set equipment with hoses, Oxygen & Acetylene cylinders, regulator and other accessories.	1 Set.	2(1+1)units	1 Set.
7	Gas welding table with positioner with Fire Bricks 900 X 600 X 750 mm	1 No	2(1+1)units	1 No
8	Welding torch tips of different sizes for Oxy - acetylene gas welding To fit nozzle no. 1, 2, & 3	1 Set	2(1+1)units	1 Set
9	Gas lighter.	2 Nos	2(1+1)units	2 Nos
10	Trolley for gas cylinders.	1 No	2(1+1)units	1 No
11	Chipping hammer.	2 Nos	2(1+1)units	2 Nos
12	Gloves (Leather)	2 Pairs	2(1+1)units	2 Pairs
13	Leather apron.	2 Nos	2(1+1)units	2 Nos
14	Spindle key for cylinder valve.	2 Nos.	2(1+1)units	2 Nos.
15	Welding torches. Nozzles no. 1, 2, & 3	1 Set.	2(1+1)units	1 Set.
16	Welding goggles	4 Pairs.	2(1+1)units	4 Pairs.
17	Welding helmet with coloured flame retardent glass	2 Nos.	2(1+1)units	2 Nos.
18	Tip cleaner	5 Sets.	2(1+1)units	5 Sets.

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
1	Compressor unit suitable for Pressure: 8 bar, Delivery: 50 lpm (or more), Reservoir capacity: 24 Litres (or more), 230V, 50 Hz, with pressure regulator and water separator	1 No.	2(1+1)units	1 No.
2	Pneumatic Trainer Kit, each consisting of the following matching components and accessories:	01 sets	2(1+1)units	01 sets
3	I.Single acting cylinder Max. stroke length 50 mm, Bore dia 20 mm	1 No	2(1+1)units	1 No
4	II.Double acting cylinder Max. stroke length 100 mm, Bore dia 20 mm, magnetic type	1 No	2(1+1)units	1 No
5	III.3/2-way valve manually-actuated, Normally Closed	2 Nos	2(1+1)units	2 Nos
6	IV.3/2-way valve pneumatically-actuated, spring return	1 No	2(1+1)units	1 No
7	V.One-way flow control valve	2 Nos	2(1+1)units	2 Nos
8	VI.5/2-way valve with manually-operated switch	1 No	2(1+1)units	1 No
9	VII.5/2-way valve pneumatically-actuated, spring return	1 No	2(1+1)units	1 No
10	VIII.5/2-way pneumatic actuated valve double pilot	1 No	2(1+1)units	1 No
11	IX.3/2-way roller lever valve direct actuation Normally Closed	2 Nos	2(1+1)units	2 Nos
12	X.Shuttle valve (OR)	1 No	2(1+1)units	1 No
13	XI.Two-pressure valve (AND)	1 No	2(1+1)units	1 No
14	XII.Pressure gauge 0-16 bar	1 Nos	2(1+1)units	1 Nos
15	XIII.Manifold with self-closing NRV, 6-way	1 No	2(1+1)units	1 No
16	XIV.Pushbutton station for electrical signal input with 3 illuminated momentary- contact switches (1 NO + 1 NC) and 1 illuminated maintained-contact switch (1 NO + 1 NC), Contact load 2A	1 No	2(1+1)units	1 No
17	XV.Relay station with 3 relays each with 4 contact sets (3NO+1NC or Change-over type), 5 A	1 No	2(1+1)units	1 No
18	XVI.3/2-way single solenoid valve with LED	1 No	2(1+1)units	1 No
19	XVII.5/2-way single solenoid valve with manual override and LED	1 No	2(1+1)units	1 No
20	XVIII.5/2-way double solenoid valve with manual override and LED	1 No	2(1+1)units	1 No
21	XIX.Power supply unit, Input voltage 85 – 265 V AC, Output voltage: 24 V DC, Output current: max. 4.5 A, short-circuit- proof.	1 No	2(1+1)units	1 No
22	XX.Profile plate, Anodised Aluminium 1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the pneumatic	1 sets	2(1+1)units	1 sets

	workstation)			
23	Pneumatic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide: (1) Work Table – Size(Approx.) L1200mmXW900mmXH900mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.) - L470mmxW495mmxH825mm and (3) Drawer slide height (Approx.) 85mm.	1 No	2(1+1)units	1 No
24	Carrier for mounting components, such as PB & relay boxes.	1 No	2(1+1)units	1 No
25	Cut section model for pneumatic components	1 set	2(1+1)units	1 set

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
25	Hydraulic Trainer Kit, each consisting of the following matching components and accessories:	01 set	2(1+1)units	01 set
26	I.Hydraulic Power pack with (1) external gear pump having a delivery rate of 2.5 lpm, (approx.) @ 1400 rpm operating pressure 60 bar, coupled to a single-phase AC motor (230 V AC) having start capacitor and ON/OFF switch and overload protection, (2) pressure relief valve adjustable from 0 – 60 bar, (3) oil reservoir, ≥5 litres capacity having sight glass, drain screw, air filter, and P and T ports.	1 No.	2(1+1)units	1 No.
27	II.Pressure relief valve pilot-operated		2(1+1)units	
28	III.Drip tray, steel size 1160 mm x 760 mm.	1 No	2(1+1)units	1 No
29	IV.Pressure Gauge Glycerin-damped, Indication range of: 0 – 100 bar	1 No.	2(1+1)units	1 No.
30	V.Four-Way distributor with five ports, equipped with a pressure gauge	1 No.	2(1+1)units	1 No.
31	VI.Double acting hydraulic cylinder with a control cam, Piston diameter 16 mm, Piston rod diameter 10 mm, Stroke length 200 mm.	1 No.	2(1+1)units	1 No.
32	VII.Suitable Weight for vertical loading of hydraulic cylinder	1 No.	2(1+1)units	1 No.
33	VIII.Mounting kit for weight for realizing pulling and pushing load.	1 No.	2(1+1)units	1 No.
34	IX.3/2-way directional control valve with hand lever actuation.	1 No.	2(1+1)units	1 No.
35	X.4/2-way directional control valve with hand lever actuation.	1 No.	2(1+1)units	1 No.
36	XI.4/3-way directional control valve closed-centre position, with hand lever actuation.	1 No.	2(1+1)units	1 No.
37	XII.Non-return valve.	1 No.	2(1+1)units	1 No.
38	XIII.Pilot-operated check valve pilot to open.	1 No.	2(1+1)units	1 No.
39	XIV.One-way flow control valve with integrated check valve.	1 No.	2(1+1)units	1 No.

Sl.No	Name of the Tools/Equipment/Machinery	Quantity per Unit	No. of Units	Total Quantity
40	XV.T-Connector with self sealing coupling nipples (2 Nos.) and quick coupling socket (1 No.).	1 No.	2(1+1)units	1 No.
41	XVI.Profile plate, Anodised Aluminium, 1100x700 mm, with carriers, mounting frames and mounting accessories (To be fitted onto the Hydraulic workstation)	2 Nos.	2(1+1)units	2 Nos.
42	Hydraulic Workstation with 40 square mm aluminium profile legs, wooden work surface, and one pedestal drawer unit having 5 drawers, each with handles and individual locks, on metallic full panel drawer slide: (1) Work Table – Size(Approx.) L1200mmXW900mmXH900mm, with four castor wheels including two lockable wheels at the front side, (2) Drawer – Size (Approx.) – L460mmxW495mm xH158mm each, and overall size of Drawer unit (Approx.) - L470mmxW495mmxH825mm and (3) Drawer slide height (Approx.) 85mm.	1 set	2(1+1)units	1 set
43	Cut-section models for hydraulic components	1 No	2(1+1)units	1 No