

TRADE: FITTER

LIST OF TOOLS & EQUIPMENTS FOR 20 TRAINEES + 1

A : TRAINEES TOOL KIT:-

Sl. No.	Name of the items	Quantity
1	Steel Rule 15 cm with metric graduation	21 nos.
2	Try Square 10 cm blade.	21 nos.
3	Caliper inside 15 cm spring.	21 nos.
4	Caliper 15 cm hermaphrodite	21 nos.
5	Caliper outside 15 cm spring	21 nos.
6	Divider 15 cm spring	21 nos.
7	Straight Scriber 15 cm.	21 nos.
8	Centre Punch 10 cm	21 nos.
9	Screw driver 15 cm	21 nos.
10	Chisel cold flat 10 cm	21 nos.
11	Hammer ball peen 0.45 kg. With handle	21 nos.
12	Hammer ball peen 0.22 kg. With handle.	21 nos.
13	File flat 25 cm. second cut	21 nos.
14	File flat 25 cm. smooth	21 nos.
15	File half round second cut 15 cm.	21 nos.
16	Hacksaw frame fixed 30 cm.	21 nos.
17	Safety goggles.	21 nos.
18	Dot slot punch 10 cm.	21 nos.

B: Instruments & General Shop Outfit

Sl. No.	Name of the items	Quantity
19	Steel Rule 30 cm	4 nos.
20	Steel Rule 60 cm.	4 nos.
21	Straight edge 45 cm steel	2 nos.
22	Surface plate 45 x 45 cm CI / Granite.	2 nos.
23	Marking table 91 x 91 x 122 cm.	1 no.
24	Universal scribing block 22 cm.	2 nos.
25	V-Block pair 7 cm and 15 cm with clamps	2 nos.
26	Square adjustable 15 cm blade.	2 nos.
27	Angle plate 10 x 20 cm.	2 nos.
28	Spirit Level 15 cm metal	1 no.
29	Punch letter 3 mm set.	1 no.
30	Punch number set 3 mm.	1 no.
31	Punch hollow 6 mm to 19 set of 5	2 nos.
32	Punch round 3mm x 4 mm set of 2	2 nos.
33	Portable hand drill (Electric) 0 to 6 mm	2 nos.
34	Drill twist straight shank 1.5 to 12 mm by 0.5 mm	1 Set
35	Drill twist straight shank 8 mm to 15 mm by ½ mm	1 Set
36	Taps and dies complete set in box B.A	1 no.
37	Taps and dies complete set in box with-worth.	1 no.
38	Taps and dies complete set in box 3-18 mm set of 10	1 no.
39	File warding 15 cm smooth	4 nos.
40	File knife edge 15 cm smooth	4 nos.
41	File cut saw 15 cm smooth	4 nos.
42	File feather edge 15 cm smooth	4 nos.
43	File triangular 15 cm smooth	2 nos.
44	File round 20 cm second cut	8 nos.
45	File square 15 cm second cut	4 nos.
46	File square 25 cm second cut	4 nos.
47	Feeler gauge 10 blades	1 set
48	File triangular 20 cm second cut.	8 nos.
49	File flat 30 cm second cut.	8 nos.
50	File flat 20 cm bastard	8 nos.
51	File flat 30 cm bastard.	8 nos.
52	File Swiss type needle set of 12.	2 sets
53	File half round 25 cm second cut.	8 nos.
54	File half round 25 cm bastard.	4 nos.
55	File round 30 cm bastard.	4 nos.
56	File hand 15 cm second cut.	8 nos.
57	Card file.	8 nos.
58	Oil Stone 15 cm x 5 cm x 2.5 cm	4 nos.
59	Stone carborandum 15 cm x 5 cm x 5 cm x 4 cm.	2 nos.

60	Oil Can 0.25 liters.	2 nos.
61	Pliers combination 15 cm	2 nos.
62	Soldering Iron 350 gm.	2 nos.
63	Blow Lamp 0.50 liters.	2 nos.
64	Spanner D.E. 6 -26 mm set of 10 pcs.	8 nos.
65	Spanner adjustable 15 cm	2 nos.
66	Interchangeable ratchet socket set with a 12 mm driver, sized 10-32 mm set of 18 socket & attachments.	1 set
67	Box spanner set 6-25 mm set of 8 with Tommy bar.	1 set
68	Glass magnifying 7 cm	2 nos.
69	Clamp toolmaker 5 cm and 7.5 cm set of 2.	2 nos.
70	Clamp "C" 5 cm	2 nos.
71	Clamp "C" 10 cm	2 nos.
72	Hand Reamer adjustable cover max 9 ,12,18mm – set of 3	1 set
73	Hand Reamer taper 4 -9mm set of 6 OR 4 -7 mm set of 4.	1 set
74	*Reamer parallel 12 - 16mm set of 5.	1 no.
75	Scraper flat 15 cm.	8 nos.
76	Scraper triangular 15 cm	8 nos.
77	Scraper half round 15cm	8 nos.
78	Chisel cold 9 mm cross cut 9 mm diamond.	8 each
79	Chisel cold 19 mm flat	8 nos.
80	Chisel cold 9 mm round noze.	8 nos.
81	Stud Extractor EZY – out	2 nos.
82	Combination Set 30 cm.	2 nos.
83	Micrometer 0 – 25 mm outside.	2 nos.
84	Micrometer 25 – 50 mm outside.	3 nos.
85	Micrometer 50 –75 mm outside.	2 nos.
86	Micrometer inside 25 - 50 mm with extension rods.	1 no.
87	Vernier caliper 15 cm	1 no.
88	Vernier height gauges 30 cm.	1 no.
89	Vernier bevel protractor.	1 no.
90	Screw pitch gauge.	1 no.
91	Wire gauge, metric standard.	1 no.
92	Drill twist Taper Shank 12 mm to 25 mm x 1.5.	1 no.
93	Drill chuck 12 mm.	1 no.
94	Pipe wrench 40 cm	1 no.
95	Pipe vice 100mm	1 no.
96	Adjustable pipe tap set BSP with die set cover pipe size 15, 20, 25,32,38,50 mm.	1 no.
97	Wheel dresser (One for 4 units).	1 no.
98	Machine vice 10 cm.	1 no.
99	Machine vice 15 cm	1 no.

100	Sleeve drill Morse 0 - 1, 1 - 2, 2 - 3.	1 Set
101	Vice bench 12 cm jaws.	16 nos.
102	Vice leg 10 cm jaw.	2 nos.
103	Bench working 240 x 120 x 90 cm.	4 nos.
104	Almirah 180 x 90 x 45 cm.	2 nos.
105	Lockers with 6 drawers (standard size).	2 nos.
106	Metal rack 182 x 182 x 45 cm	1 no.
107	Instructor Table	1 no.
108	Instructor Chair	1 no.
109	Black board with easel.	1 no.
110	Fire extinguisher (For 4 Units)	2 nos.
111	Fire buckets.	2 nos.
112	Machine vice 100mm.	2 nos.
113	Wing compass 25.4 cm or 30 cm.	2 nos.
114	Hand hammer 1 kg. with handle.	2 nos.
115	Torque wrench (14 to 68 Nm)	1 no.

C: Tools for Allied Trade- Blacksmith & Sheet Metal Work

Sl. No.	Name of the items	Quantity
115	Hammer smith 2 kg. With handle.	2 nos.
116	Tongs roving 350mm.	2 nos.
117	Tongs fiat 350mm.	2 nos.
118	Smith's square 45 cm x 30 cm.	1 no.
119	Cold set rodde 25X200mm.	2 nos.
120	Hot set rodde 25X200mm.	1 no.
121	Swages top & bottom 12 mm /19	1 Each
122	Swage block 35 x 35 x 12 cm.	1 no.
123	Flatters (rodde) 55 mm square.	2 nos.
124	Fuller top & bottom 6 mm 9 mm (Pair).	2 nos.
125	Anvil 50 kg.	2 nos.
126	Anvil stand	2 nos.
127	Shovel.	2 nos.
128	Tammel 30cm.	1 no.
129	Rake.	2 nos.

130	Quenching tank (To be made in the Institute).	1 no.
131	Pocker.	2 nos.
132	Handle.	2 nos.
133	Leather apron.	2 nos.
134	Prick punch	2 nos.
135	Mallet.	2 nos.
136	Snips straight 25 cm.	2 nos.
137	Selling hammers with handle.	2 nos.
138	Planishing hammer.	2 nos.
139	Snip bent 25 cm.	2 nos.
140	Stake hatchet.	2 nos.
141	Stake grooving.	2 nos.
142	Gauge imperial sheet.	1 no.

The specifications of the items in the above list have been given in Metric Units. The items which are available in the market nearest of the specification as mentioned above, if not available as prescribed should be procured Measuring instruments such as steel rule which are graduated both English and Metric Units may be procured, if available.

D : Modified list of tools for the 3rd and 4th semester for fitter trade.

Sl.No.	Name of the Tools & Equipment	Quantity
*1.	Slip Gauge as Johnson metric set.	1 Set
2.	Carbide Wear Block 1 mm – 2 mm.	2 each
*3.	Gauge snap Go and Not Go 25 to 50 mm by 5mm. Set of 6	1 Set
*4.	Change plug single 3 ended 5 to 55 by 5 mm. Set of 11 pcs.	1 Set
**5.	Change telescopic upto 150 mm.	1 no.
6.	Dial test indicator .01 mm on stand	1 no.
7.	Sine bar 125 mm.	1 no.
8.	Sine bar 250 mm.	1 no.
9.	Machine tools H.S.S. tipped set.	2 nos.
10.	Machine tools bit 6 mm x 75 mm.	4 nos.
11.	Machine tools bit 8 mm x 75 mm.	4 nos.
12.	Machine tools bit 10 mm x 85mm.	4 nos.
13.	Arm strong type tool bit holder R.H.	2 nos.
14.	Arm strong type tool bit holder L.H.	2 nos.
15.	Arm strong type tool bit holder straight.	2 nos.
16.	Johnson wrenches 25 cm	2 nos.
17.	Pipe cutter 6 mm to 50 mm wheel type.	1 no.
18.	Pipe bender spool type up to 25 mm. with stand manually operated.	1 no.
19.	Adjustable pipe chain tonge to take pipes up to 300 mm.	1 no.

20.	Adjustable spanner 38 cm long.	1 no.
*21.	Universal vernier caliper 0 – 200 mm LCO 0.05 mm. (Universal type).	1 no.
*22.	Deep thread micrometer with interchangeable 0-25mm. High anvils for checking metric threads 60.	1 no.
23.	Depth micrometer 0-25 mm. 0.01 mm.	1 no.
*24.	Vernier caliper 0-150 mm. L.C. 0.02 mm.	1 no.
*25.	Digital Micrometer 0 – 25 mm outside. L.C. 0.001 mm.	1 no.
*26.	Comparators stand with dial indicator LC 0.01mm.	1 no.
27.	Engineer's try square (knife-edge) 150 mm blade.	1 no.
*28.	Surface roughness comparison plates N1-N12 grade	1 Set
29.	Digital Vernier caliper 0-150 mm. L.C. 0.001 mm.(Optional)	1no.

E : General Machinery Installations –

Sl. No.	Name & Description of Machines	Quantity
*1.	SS and SC centre lathe (all geared) with Minimum centre height 6"/150 mm & length 4.5'/ 1400 mm along with 3, 4 jaw chuck, auto feed system, coolant arrangement, lightening bar, taper turning attachment, safety guard & standard tool boxes.	2 Nos.
2	Drilling machine pillar sensitive 0-20 mm cap with swivel table motorised with chuck & key.	1 no.
3	Drilling machine bench sensitive 0-12 mm cap motorised with chuck and key.	2 nos.
4	Portable hand blower 38 cm to 45 cm.	1 no.
5	Pedestal Grinding machine with 200mm diameter wheels rough and smooth with twist drill grinding attachment.	1 no.

Note: - (* No additional number of items are required to be provided up to four batches of trainees in two batches in the first shift and two in the second shift.

F: List of additional tools for allied trade in welding

Sl. No.	Name & Description of Machines	Quantity
1.	Transformer welding set 150 amps. – continuous welding current, with all accessories and electrode holder.	1 Set
2.	Welding cable to carry 200 amps. With flexible rubber cover.	20 Meter
3.	Links for cable	12 Nos.
4.	Earth clamps.	2 Nos.
5.	Arm welding table (all metal top) 122 cm X 12 cm X 60 cm with positioner.	1 No.
6.	Oxy-acetylene gas welding set equipment with hoses, regulator and other accessories.	1 Set.
7.	Gas welding table with positioner	1 No
8.	Welding torch tips of different sizes	1 Set
9.	Candle lighter.	2 Nos
10.	Tool for gas cylinders.	1 No
11.	Chipping hammer.	2 Nos
12.	Gloves (Leather)	2 Pairs
13.	Leather apron.	2 Nos
14.	Spanner key for cylinder valve.	2 Nos.
15.	Welding torches 5 to 10 nozzles.	1 Set.
16.	Welding goggles	4 Pairs.
17.	Welding helmet with coloured glass	2 Nos.
18.	Tip holder	10 Sets.

Note: - These additional items are to be provided for the Allied Trade Training where the welding trade does not exist.