

DEPARTMENT OF MECHANICAL ENGINEERING

DETAILS OF ENGINEERING WORKSHOP

Name of the Laboratory	:	ENGINEERING WORKSHOP
Name of the Lab In-charge	:	Mr. D. Raghurami Reddy
Name of the Lab-Technician In-charge	:	Mr.Prabhakar
Area of the Lab	:	252 Sq.mts
Lab Occupancy	:	60
Description of the Lab	:	The course provides hands-on training in the trades Carpentry, Fitting, House-wiring, Tin Smithy, Foundry. Overview of metal cutting processes, plumbing and welding is provided through live demonstrations.

LIST OF EXERCISES

1.Trades for Exercise:

Any TWO jobs from each trade should be performed by the student.

- a) **Carpentry Shop** : Bridle Joint, Mortise and Tenon Joint, T-Joint, Dove Tail Joint.
- b) **Fitting Shop** : Square Fit and V-Fit, Semi Circular Fit, Dovetail Fit.
- c) **Sheet Metal Shop** : Rectangular tray, Square vessel/cylinder, Funnel
- d) **Foundry** : Preparation of casting using single piece pattern, Preparation of casting using split piece pattern

2. Trades for Demonstration:

- a) **Two-Wheeler**
- b) **Power Tools**
- c) **Plumbing**
- d) **3D Printer**

LIST OF WORKSHOP TOOLS		
S.NO	NAME OF THE TOOL	SPECIFICATION
CARPENTRY TOOLS		
1.	Metal jack plane	6"
2.	Hand saw	12"
3.	Hand saw	18"
4.	Carpentry Try Square	6"
5.	Mortise chisel	1/2"
6.	Steel rule	12"
7.	Half round wood rasp file	12"
8.	Half round wood rasp file	10"
9.	Marking guage	GS
10.	Hand saw	18"
11.	Carpentry vice	6"
12.	Carpentry vice	7"
13.	Needle file set	E16cm
14.	Wooden drill bit	all sizes
15.	Taper saw file	4"
16.	Firmer chisel	25 mm
17.	Jumper bits	GS
18.	Wooden mallets	1'
FITTING		
19.	Hack saw frame	300 mm
20.	Ball peen hammer	500 gm
21.	Ball peen hammer	800 gm

22.	Flat file - rough	250 mm
23.	Flat file - smooth	10"
24.	Square file	250 mm
25.	Square file	150 mm
26.	Triangular file	150 mm
27.	Triangular file	250 mm
28.	Round file	250 mm
29.	Round file	150 mm
30.	Half round file	150 mm
31.	Half round file	250 mm
32.	Cold chisel	12 mm
33.	Steel rule	6"
34.	Vernier height gauge	300 mm
35.	Bench vice	4"
36.	Surface plate	12"x12"
37.	Number punch set	1 to 9
38.	Letter punch set	A to Z
39.	Centre punch	4"
40.	Dot punch	5"
41.	Try square	4"
42.	File card	6"
43.	D/E spanner set	6-32 mm
44.	Ring spanner set	6-32 mm
45.	Screw driver set	All Sizes
46.	Allen key set	4"
47.	Vernier caliper	6"
48.	Hand drilling machine	Medium
49.	Hand lever shearing machine	GS

50.	Hand cutting machine	12"
51.	Pipe die set	1/2" – 1"
52.	Pipe wrench	12"
53.	Baby pipe vice	6"
54.	Angle plate	100x100 mm
55.	C – clamp	2"
56.	Drill bit set	All Sizes
57.	Adjustable spanner	12"
SHEET METAL TOOLS		
58.	Scriber	GS
59.	Tin cutter	6"
60.	Cross peen hammer	50lbs
61.	PVC mallets	2"
62.	Electric soldering iron	GS
63.	Nose plier	6"
64.	Wire guage	GS
65.	Big tin cutter	12"
66.	Curved snips	6"
67.	Divider	6"
HOUSE WIRING		
68.	Screw driver	6"
69.	Cutting plier	8"
70.	Wire stripper	GS
71.	Tester	814
72.	Poker	GS
73.	Electric hand gloves	GS
74.	Screw driver	12"
75.	Screw driver	6"

FORGING TOOLS		
76.	Electric blower	GS
77.	Round bit tongs	GS
78.	Square bit tongs	GS
79.	Pick up tongs	GS
80.	Big hammers with handles	6 lb
81.	Swage block	12"x12"x4"
82.	Swage top & bottom	12"
83.	Flatters	GS
84.	Sledge hammers	2 lb
85.	Flat tongs	18"
WELDING TOOLS		
86.	Chipping chisel	GS
87.	Chipping hammer	GS
88.	Welding hand shields	GS
89.	Welding goggles	GS
90.	Welding face shields	GS
91.	Welding hand glass black	GS
92.	Welding hand glass white	GS
93.	Welding arc holder	GS
94.	Apron	GS
95.	Hand gloves	GS

FOUNDRY TOOLS		
96.	Lifter	GS
97.	Gate cutter	GS
98.	Trowels (Big size)	GS
99.	Runner riser pins	GS
100.	Draw spike	GS
101.	Cope and Drag Boxes	GS
102.	Rammers	GS

GS-General Size



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