

**DETAILS OF EQUIPMENTS/TOOLS OF VARIOUS SHOPS IN WORKSHOP (MECHANICAL ENGG.)**

<b>S.No.</b>	<b>Name of Article</b>
<b><u>Fitting Shop (Workshop)</u></b>	
1	Bench Vice
2	V block
3	Spanner Set
4	File Flat
5	Hacksaw Frame
6	Combination Set
7	Center Punch
8	Dial Indicator
9	Screw Driver
10	Round File
11	Square File
12	Ball Pein Hammer
13	Cross Pein Hammer
14	Magnetic Dial Stand
15	Machine Vice
16	Vernier Height Gauge
17	Die Set
18	Divider
19	Inside Caliper
20	Outside Micrometer
21	V- Block with Clamp
22	Number Punch Set
23	Letter Punch
24	Steel Rule
25	Tap Handle
26	Tap
27	Depth Caliper
28	Thread Gauge
29	Screw Jack
30	Radius Gauge
31	Hollow Punch
32	Drilling M/C
33	Try Square
34	Working Bench
35	Surface Plate
36	Angle Plate
37	Surface Plate Stand
38	Drill Bit
39	Steel Tape
40	Needle File
41	Oil Cane

<b><u>Machine Shop (Workshop)</u></b>	
1	Adjustable spanner
2	Machine Vice
3	Flat File
4	Ball Pein Hammer
5	Cross Pein Hammer
6	File (Different types)
7	Outside Caliper
8	Inside Caliper
9	Dead Center
10	Number Punch
11	Letter Punch
12	Surface Gauge
13	Steel Rule
14	Tool Holder
15	Parting Tool Holder
16	Revolving Center
17	Depth Gauge
18	Bench Drilling M/C
19	Drill Chuck
20	Screw Pitch Gauge
21	Twist Drill Bit
22	Screw Driver
23	Plier
24	CNC Lathe Trainer
25	CNC Milling Trainer
26	Center Lathe
27	Knee Type Universal Milling Machine
28	Common Shaper Machine
29	Double Ended Pedestal Grinding with Constant Motor
30	Power Hacksaw Machine
31	Power Hacksaw
32	Universal Grinding Machine
<b><u>Carpentry Shop (Workshop)</u></b>	
1	G. Clamp
2	Sash Clamp
3	Iron Jack Plane
4	Smoothing Plane
5	Spoke Save Plane
6	Hand Drill M/C
7	Claw Hammer
8	Ball Pein Hammer
9	Cross Pein Hammer
10	Barrel Square 10"
11	Try Square

12	Steel Foot Rule
13	Spring Divider
14	Pincer
15	Saw Set Plier
16	Band Saw Machine
17	Universal Wood Working M/C
18	Hand Saw
19	Tennon Saw
20	Key Hole Saw
21	F/F/Two Foot Rule
22	M/Mortise Gauge
23	Firmer Chisel
24	Mortise Chisel
25	Rasp Cut File
26	Smoothing File
27	Half Round File
28	Flat File
29	Screw Driver
30	Electrical Drill
31	Edge
32	Jig Saw M/C
33	Electrical Power Plane
34	Sander M/C
35	Work Bench
36	Carpentry Bench Vice
37	Sand paper cloth
38	Nails
39	Water Stone
40	Wooden Mallet

**Pattern Making Shop**

1	Rasp Cut File
2	Round File
3	Half Round File
4	Round File
5	Square File
6	Combination Plier
7	Double Ended Spanner Set
8	Half Round Chisel
9	Flat Chisel
10	Triangular Chisel
11	Marking Chisel
12	Outside Caliper
13	Inside Caliper
14	Add Lag Caliper
15	Divider

16	Steel Foot Rule ( 300 mm & 150 mm)
17	Adjustable Wrench
18	Screw Driver
19	Try Square
20	Work Bench
21	Triangular File
22	Water Stone
<b><u>Welding Shop (Workshop)</u></b>	
1	Bench Vice
2	Chipping hammer
3	Number Punch
4	Letter Punch
5	Steel Foot Rule
6	Tong 12"
7	Gas Regulator
8	Sledge Hammer
9	Spot Welding Machine
10	Hammer 250gm
11	Hammer 400gm
12	Are Welding Set (Iron Type)
13	Cut Off Saw
14	Combination Plier
15	Try Square
16	Nose Plier
17	Screw Driver
18	Sledge Hammer ½ kg
19	Sledge Hammer ¾ kg
20	Scriber
21	Snip
22	Gas Welding Plant
23	Hand Grinder
24	Arc Welding Machine Set Ups
25	Grinder ½ HP
26	Hand Drill Machine
27	Leather Apron
28	Safety Screen
29	Drill
30	Dark Glass
<b><u>Sheet Metal Shop (Workshop)</u></b>	
1	Rubber Mallet
2	Wooden Mallet
3	Slip 12", 10"
4	Slip Ordinary
5	Half Moon Stake
6	Side Stake

7	Exiting Stake
8	Cross Stake
9	Funnel Stake
10	Tea & Bottom Stake
11	Stake Holding Stand
12	Combination Plier
13	S.W.G
14	Hand Riveting M/C
15	Spinning Hath 6' with Die
16	Power Hydraulic Press M/C
17	Riveting M/C
18	Round Stake

#### **Foundry Shop (Workshop)**

1	Hand Blow Lamp
2	Clamp(C-G)
3	Triangular File 6"
4	Electric Hand Blower
5	Molding Box
6	Long Nose Tong
7	Hand Rider
8	Hand Rammer
9	Lifter and cleaner
10	Slick
11	Draw Spike
12	Flat File
13	Electric Power Blower
14	Shovel (Big)
15	Melts
16	Trowel

#### **Smithy Shop (Workshop)**

1	Steel Foot Rule
2	Flatter
3	Holding Bitt Tong
4	Chisel Holding Tong
5	Vertical Mouth Tong
6	Hacksaw
7	Number Punch
8	Flat Tong
9	Pinner Tong
10	Anvil
11	Pick Up Tong

#### **RAC Lab.**

1	Ref. test rig (Dual control)
2	Water cooler test rig
3	Laboratory ice plant

4	Window type air conditioning test rig
5	Cut section model of Ref. compressor (Rotary)
6	Cut section model of (reciprocating ) ref comp.
7	Air conditioning test rig
8	Digital Thermometer
<b><u>Fluid Mechanics Lab.</u></b>	
1	Metacentric height apparatus
2	Co-efficient of friction in pipe
3	Orificemeter apparatus
4	Combined Orificemeter and Venturimeter apparatus
5	Reynolds apparatus
6	Pitot tube
7	Impact of jet apparatus
8	Apparatus for minor losses
9	Bernoulli's theorem apparatus
10	Discharge/ Notch apparatus
<b><u>SOM Lab.</u></b>	
1	Computerized UTM
2	Impact testing machine
<b><u>CAD Lab.</u></b>	
1	Computers HP LE1851w (25 Nos.)
2	Printer
3	Projector
4	Autocad
5	NX 10.0 (Licensed 5 Users)
6	SolidEdge (Licensed 20 Users)
<b><u>Automobile Lab.</u></b>	
1	Single and multi plate clutch model
2	Constant synchromesh gear model
3	Rear and front wheel drive line model
4	Starting and ignition system model
5	Rack and pinion power steering model
6	Charging system model (battery charge & testing system)
7	Bleeding in brake shoe model
<b><u>Metrology Lab.</u></b>	
1	Surface plate with pointed angle iron stand granite (630X630X25) mm
2	Sine bar 300mm siggs/ radium or equivalent
3	Spring caliper outside 6"8"12"
4	Vernier caliper size 0.300mm 12" LC-0.02mm
5	Digital vernier caliper 0-150mm 6"LC 0.01mm
6	Micrometer (inside)5-30mm
7	Vernier height gauge 0-300mm
8	Sine center range 0-200mm
9	Optical flat dia 25mm
10	Optical flat dia 50mm

11	Screw thread $\mu$ meter 0-25mm (Micrometer External)
12	Bore gauge with 10-18mm LC 0.01mm working of dial to 3mm
13	Slip gauge set M-122(set of Pcs 122)
14	Adjustable snap gauge (6-13)
15	Radius gauge range 1mm to 7mm
16	Screw pitch gauge 0.4mm to 7mm
17	Outside $\mu$ meter 0.25mm LCo 0.01mm
18	Profile projector with 10X, Lens (complete set with accessories)
19	Monochromatic light source
20	Angle gauge set (13 pcs) Deg. Min. and sec.
21	Filler gauge (26)pcs Range 0.03mm to 1mm
22	Plain gauge GO/NO/E10 plug dia 20mm (double ended plug gauge)
23	Gear tooth vernier 1-26 module
24	Dial indicator
<b><u>Measurement &amp; Control Lab.</u></b>	
1	Strain gauge
2	Calibration of thermocouple
3	Calibration of pitot tube apparatus
4	Bourdon type pressure gauge with manometer for calibration and measurement of pressure
<b><u>KOM Lab.</u></b>	
1	Cyclodial gear model
2	Rack and pinion model
3	Single stage bevel gears models
4	Two stage spur gear model
5	Steering mechanism model (Ackerman)
6	Epicyclic gear train (Sun and Planet)
7	Single stage spur gear model
8	Single stage spiral gear model
9	Single stage helical gear model
10	Cam analysis apparatus
11	Slip and Creep apparatus
12	Cam and follower models
	a. Translating followers
	b. Flat face reciprocating follower
	c. End cam with trainability follower
	d. Knife edge follower
	e. Oscillatory follower
13	Compound gear wheel train
14	Slider crank mechanism (reciprocating ending mechanism)
15	Worm and worm wheel model
16	Differential gear (cut model)
<b><u>Heat Transfer Lab.</u></b>	
1	Thermal conductivity (metal bar apparatus)
2	Thermal conductivity (insulating powder apparatus)
3	Thermal conductivity (guarded hot plate method)

4	Forced convection apparatus
5	Natural convection apparatus
6	Emissivity measurement apparatus
7	Parallel/counter flow heat exchanger apparatus
8	Pin fin apparatus
9	Stefan Boltzmann's apparatus
<b><u>I.C.Engines Lab.</u></b>	
1	Two stroke petrol engine (cut model)
2	Four stroke petrol engine (cut model)
3	Four stroke single cylinder diesel engine (cut model)
4	Four stroke four cylinder diesel engine (cut model)
5	Orsat apparatus
6	Four stroke petrol engine test rig
7	Multi cylinder petrol engine test rig (ISUZU)
<b><u>Fluid Machines Lab.</u></b>	
1	Pelton wheel turbine test rig
2	Francis turbine test rig
3	Kaplan turbine test rig
4	Hydraulic RAM test rig
5	Centrifugal pump test rig
6	Reciprocating pump test rig
7	Pelton wheel turbine runner model
8	Francis runner model
9	Counter weights of turbine
<b><u>Material Science</u></b>	
1	Micro hardness tester
2	Inverted metallurgical microscope
3	Double disk grinding machine (Polishing Apparatus)
4	Muffle furnace
5	Belt grinding machine