



**SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN:: BHIMAVARAM
(AUTONOMOUS)
DEPARTMENT OF MECHANICAL ENGINEERING**

ENGINEERING WORKSHOP

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OBJECTIVE:

The main objective of an engineering workshop in the first year of a Bachelor of Technology (B.Tech) program, which typically includes practical training in areas such as carpentry, fitting, tin smithy, welding, and house wiring, is to provide students with a foundational understanding and hands-on experience in various engineering practices and manufacturing processes. Here are some key goals and objectives of Engineering Work shop are:

1. **Basic Skill Development:** To equip students with fundamental skills in various workshop techniques, which are essential for their engineering studies and future careers. These skills include measuring, marking, cutting, shaping, joining, and finishing different materials.
2. **Understanding of Materials:** To help students learn about the properties and applications of various engineering materials such as metals, wood, and plastics.
3. **Tool Usage and Safety:** To train students in the use and handling of different tools and machines safely and effectively. This includes both hand tools and power tools commonly used in engineering processes.
4. **Practical Application of Theory:** To provide a practical context to theoretical concepts learned in other courses such as physics, chemistry, and material science. This helps in understanding how these principles apply in real-world engineering situations.
5. **Problem Solving and Creativity:** To enhance students' ability to think critically and solve practical problems. Working on hands-on projects encourages creative solutions and helps develop troubleshooting skills.
6. **Quality and Precision:** To instill a sense of quality, accuracy, and precision in engineering tasks. This is critical as even small errors can significantly impact the functionality and safety of engineered products.
7. **Interdisciplinary Learning:** To expose students to different disciplines of engineering, such as mechanical, electrical, and civil engineering, thus broadening their understanding and helping them in choosing their area of specialization in later years.
8. **Teamwork and Communication:** To foster skills in teamwork and communication as students often work in groups during workshop sessions. This collaborative environment mimics real-world engineering projects where effective communication and teamwork are key to success.
9. **Ethics and Professional Practice:** To inculcate a sense of professional ethics and responsible conduct, especially concerning safety, environmental impact, and respecting intellectual property.

The engineering workshop in a B.Tech program serves as an essential introductory platform for engineering students, blending practical skills with theoretical knowledge and preparing them for more advanced studies and professional work in various engineering fields.





Lab Equipment:

S.No.	Name of the Equipment	Qty.	Specifications	Total Cost in Rs.
1	Anvil	2	25 Kgs	4600
2	Brass Rule 12"	2	30 cms.	120
3	Ballpeen hammer 1/2lb	2	1/2 lb	80
4	Ballpeen hammer	6	1lb	480
5	Bench vice	6	6"jaw	7800
6	Bench Grinder	1	0.5hp	3623
7	Bench vice	2	6"jaw	7200
8	Ball peen hammer 1lb	6		570
9	Ball peen hammer 3/4lb	4	1lb	340
10	Ball peen hammer 1/4lb	6	1/4lb	240
11	Carpentry vice	6	8"jaw	3600
12	Claw hammer	2		110
13	Cold chisel	2	6"jaw	70
14	Chisel tongs	2		180
15	Carpentry vice	6	8"jaw	7830
16	Center punch	8		240
17	Dot punch	6		120
18	Dividers	6		240
19	Drilling machine	1	3/4"	4231
20	Drilling machine motor	1		3400
21	Drill vice	1		572

22	Dieset	1		875
23	Firmer chisel	12	1/2"	480
24	Firmer chisel1"	6	1"	480
25	Flat file rough	12	12"	648
26	Flat filesmooth	12	6"	516
27	Flat tongs	3	18'	270
28	Firmer chisel	12	6''	360
29	Flat file rough	12	12"	1040
30	Flat file rough	12	8"	480
31	Flat file smooth	12	12"	1728
32	Flat file smooth	12	8"	780
33	Hand saw	12	1ft	198
34	Half round file rough	12	10"	1110
35	Half round file smooth	12	10"	1350
36	Hack saw frames	12	1'	390
37	Hack saw frames	12	1'	490
38	Hand saw	12	1'	360
39	Half round file	12	12"	1116
40	Hacksaw frames	12	12"	760
41	Hack saw frames 12"	6	12"	160
42	Inside Caliper	8		320
43	metal jackplane	6		1650
44	metal jackplane	6		2850
45	Knife edge file	6	10"	1290
46	leg caliper	6		156
47	Marking gauge	6		210
48	mortise chisel	6	1/4"	630
49	Mallet	10		600
50	Mictrometer	1		450
51	Mortise chisel	12	6''	210
52	Nose pleir	5		570
53	Number punch set	1	1/4"	150
54	Nose pleir	3		300
55	Outside caliper	8	8"	320
56	Power blower	1		2500
57	pipe vice	1		1800
58	Round file	6	10"	720
59	Round tongs	3	18"	270
60	Steel rule	18	12"	450
61	Sledge hammer	2	1kg	180
62	sledge hammer 2kg	2	2kg	290
63	sledge hammer 3kg	1	3kg	215
64	Screw driver	1	12"	55
65	Square file 10"	5	12"	750
66	Scriber	15		540

67	Surface plate	1	1'x1'	1675
68	Straight snip	6	12"	540
69	Straight snip	6	10"	275
70	Snip Pleir	6		275
71	Stake	1	Round	490
72	Stake	1	Hatchet	620
73	Stake	1	Square	490
74	Stake	1	Knife edge	1000
75	Swage block	1		2300
76	Scribers	6		228
77	Steel rule	16		400
78	Square files	3	8"	390
79	Straight snip	4		140
80	Curved snip	4		960
81	Sledge hammer	2	2 pounds	240
82	Screw pitch gauge	4		480
83	Spanner set	1	flat	620
84	Spanner bit box	1		3100
85	Try square	11	8"	440
86	Try square (fitting)	6		750
87	Triangular file	6	4"	270
88	Try square set	10	6"	500
89	Tryangular files	6	4"	760
90	Tongs (square)	4		480
91	Tongs(flat)	4		480
92	Tongs (round)	4		480
93	Vernier caliper	1		450
94	Wood turning lathe	1		7500
95	Wood turning lathe motor	1		3300
96	Wood rasp files	3		753
97	Work benches	3		25000

List of Experiments:

S.NO	NAME OF THE EXPERIMENT
CARPENTRY	
1.	To prepare a T-lap joint on the given work piece.
2.	To prepare a cross lap joint on the given work piece.
FITTING	
3.	To prepare a v-fit on the given work piece.
4.	To prepare a square fit on the given work piece.
TIN SMITHY	
5.	To prepare a taper tray on the given work piece.
6.	To prepare a rectangular box without lid on the given work piece.
WELDING	
7.	To prepare a Lap Joint
8.	To Prepare a Butt Joint
PLUMBING	
9.	To prepare a external treads on the given work piece.
HOUSE WIRING	
10.	To make a circuit for parallel / series connection of three bulbs.
11.	To make a circuit connection for staircase wiring.
12.	To make a circuit to connect the given fluorescent lamp to the rated supply by using starter and choke.
13.	To make a circuit to control one lamp with two SPDT switches.
3D-Printing	
14.	Study of 3D- Printing
IC-Engine	
15.	Study of IC Engine