SREE VIDYANIKETHAN ENGINEERING COLLEGE

(AUTONOMOUS)

Sree Sainath Nagar, Tirupati – 517 102, A.P.

DEPARTMENT OF MECHANICAL ENGINEERING

DETAILS OF THE MANUFACTURING TECHNOLOGY LABORATORY

Name of the Laboratory	:	MANUFACTURING TECHNOLOGY
Name of the Lab In-charge	:	Mr. N.Manikandan
Name of the Lab-Technician In-charge	:	Mr. S. Bhaveen
Area of the Lab	:	198 Sq.mts
Lab Occupancy	:	36 Students

Description of the Lab:

Manufacturing Technology Lab chiefly encompasses Metal casting, Welding, Press working and Processing of Plastics. It inculcates knowledge and skill to the students starting from preparing a wooden pattern to completion of a casting which also comprises different Sand testing techniques. Also, students can understand broadly Welding and press working skills employed in Industries. One of the most outstanding features of plastics is the ease with which they can be processed. Manufacturing Technology lab also throws light on processing of plastics by Blow and Injection molding machines.

LIST OF EXPERIMENTS

I.PATTERN & MOULD PREPARATION AND METAL CASTING
1. Preparation of pattern on a wood turning lathe.
2. Preparation of green sand mould using single piece and multi piece pattern with core.
3. Preparation of aluminum casting.
II.SAND TESTING
1.(a) Determination of grain fineness number for sand sample using sieve shaker.
(b) Estimation of clay content and moisture content in a given sample.
2. Determination of permeability of the given sand specimen.
3. Determination of compression, Shear strength of a given sand specimen using Universal sand strength testing machine.
III WELDING
1.Preparation of lap and butt joint using arc welding
2.To study TIG welding equipment and prepare a weld joint
3.To study resistance welding processes and prepare a spot weld.
IV MECHANICAL PRESS WORKING
1. Experimentation of Blanking & piercing on a fly press machine.
2. Experiment of bending operation on a fly press machine.
3. Experimentation of deep drawing and extrusion operation on a hydraulic press.
V PROCESSING OF PLASTICS
1. Study of injection and blow molding machine.
2. Preparation of a specimen on injection molding machine.
3. Preparation of a specimen on a blow molding machine

LIST OF EQUIPMENT MAJOR EQUIPMENT(Above Rs. 50,000)		
S.NO	**Name of the Major Equipment**	**Quantity**
1.	Tig Welding Machine	1
2.	Tilting Furnace	1
3.	Hydraulic Press	1
4.	Fly Press	1
LIST OF EQUIPMENT MINOR EQUIPMENT(Below Rs. 50,000)		
S.NO	**Name of the Minor Equipment**	**Quantity**
1.	Spot Welding Machine	1
2.	Injection Molding Machine	1
3.	Die for Injection Molding	1
4.	Blow Molding Machine	1
5.	Die for Injection mold Machine	1
6.	Arc welding Machine	2
7.	Permeability Tester/Meter	1
8.	Mold Permeability Tester	1
9.	Core permeability Tester	1
10.	Base permeability Tester	1
11.	Die for Hydraulic press	1
12.	Universal strength Machine	1
13.	High Dry strength Attachment	1
14.	Shear strength Attachment	1
15.	Transverse strength Attachment	1
16.	Tensile strength Attachment	1
17.	Splitting strength Attachment	1
18.	Twin Transverse strength Attachment	1
19.	Deformation Attachment	1
20.	Sand Rammer	1
21.	Base Block	1
22.	Tube Filter	1
23.	Tensile Core Box	1
24.	Transverse care box	1
25.	Split Specimen tube	1
26.	Compatibility Tester	1
27.	Flow ability Tester	1
28.	Wood Turing lathe	1
29.	Sand sieves	1
30.	Rapid Moisture Tester	2
31.	Mould Hardness Tester	3
32.	Die for fly press	1
33.	Gate cutter	12
34.	Hand Shovel	06
35.	Hand Rammer	12
36.	Peen Rammer	12
37.	Lifter	12
38.	Heart & Square	12

39.	Hand Riddle	12
40.	Draw Screw & Lifting plate	12
41.	Sand Cutter	12
42.	Wooden mallet	12
43.	Grooved pulley pattern	1
44.	Straight pipe with core box	1
45.	Bend pipe with core box	1
46.	Tee pipe with core box	1
47.	Oxygen cylinder	1
48.	Oxygen Regulator	1
49.	Gas welding gun	1
50.	Gas cutting Torch	1
51.	Carbide Tank	1
52.	Argon gas Cylinder	1

OVERVIEW OF MANUFACTURING TECHNOLOGY LAB

FLYPRESS AND HYDRAULIC PRESS

BLOW MOULDING MACHINE

INJECTION MOULDING MACHINE, SPOT WELDING MACHINE

ARC WELDING MACHINE

WOOD TURNING LATHE