MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

DEPARTMENT OF MECHANICAL ENGINEERING

2040375 PRODUCTION TECHNOLOGY LAB

B.Tech.II Year-II Sem **L/T/P/C 0/0/2/1**

VISION

The Mechanical Engineering Department strives for immense success in the field of education, research and development by nurturing the budding minds of young engineers inventing sets of new designs and new products which may be envisaged as the modalities to bring about a green future for humanity"

MISSION

Equipping the students with manifold technical knowledge to make them efficient and independent thinkers and designers in national and international arena. Encouraging students and faculties to be creative and to develop analytical abilities and efficiency in applying theories into practice, to develop and to disseminate new knowledge. Pursuing collaborative work in research and development organizations, industrial enterprises, research and academic institutions of national and international standards, to introduce new knowledge and methods in engineering teaching and research in order to orient young minds towards industrial development.

LIST OF EXPERIMENTS

1. Preparation of green sand by using sand Muller to measure permeability of green sand specimen.
2. To measure the hardness of green sand specimen by using hardness tester to measure shear and compressive strength of green sand.
3. Preparation of wooden pattern by using wood turning lathe machine.
4. Preparation of mould cavity by using dumbbell & stepped pulley pattern.
5. Melting of aluminium and casting in the prepared mould cavity
6. Arc Welding –Butt joint & Lap joint.
7. Spot welding –Lap joint & Plasma welding, Plasma cutting.
8. Gas Welding & Brazing.
9. MIG Welding & TIG Welding.
10. Preparation of blanking component by using fly press, extruded part by using hydraulic press.
11. Preparation of key chain by using Injection moulding machine.
12. Preparation of bottle by using Blow moulding machine.

COURSE OUTCOMES

CO	Course outcome
ME 375.1	Understanding the properties of moulding sands and pattern making.
ME 375.2	Fabricate joints using gas welding and arc welding.
ME 375.3	Evaluate the quality of welded joints.
ME 375.4	Understanding the various metal forming process like stamping, drawing etc.
ME 375.5	Basic idea of press working tools.
ME375.6	Perform moulding studies on plastics and their products.

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PROGRAM EDUCATIONAL OBJECTIVES

PEO1	Graduates shall emerge as successful Mechanical engineer's as their career progress
PEO2	**G**raduates apply fundamentals of engineering, in practical applications and engage in active research.
PEO3	**Mechanical Graduates** shall have the ability to design products with interdisciplinary skills.
PEO4	**G**raduates will serve the society with their professional skills

PROGRAM SPECIFIC OUTCOMES

PSO1- Students acquire necessary technical skills in mechanical engineering that make them employable graduate.
PSO2- An ability to impart technological inputs towards development of society by becoming an entrepreneur.

LIST OF EQUIPMENTS

1. Permeability Testing Equipment
2. Sand strength machine
3. Hot Air Oven
4. Wood turning lathe for pattern making
5. Foundry tools, viz., rammer, runner, gate cutting etc.
6. Cope and drag with sweeps
7. Different patterns
8. Core boxes
9. Open Hearth Furnace for metal
10. Arc Welding Machine
11. Spot Welding Machine
12. Plasma Welding Machine
13. Brazing Setup
14. MIG Welding Machine
15. TIG Welding Machine
16. Simple, compound and progressive press
17. Hydraulic press
18. Punch & Dies
19. Injection Moulding Machine
20. Blow Moulding Machine

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Do's

- Enter laboratory with appropriate laboratory uniform and shoes.
- Keep all your belongings in the book rack or at the place suggested by lab instructor.
- Bring the laboratory manual, observation and record without fail.
- Collect the instruments and check for damage if any before carrying out the experiment.
- Eliminate potentially dangerous chemical reactions by thoroughly washing beakers, test tubes, flasks
- and other glassware before and after use. Always add concentrated chemical (e.g. acid or base) to water NOT water to concentrated chemical.
- Make sure that all tools/equipment is clean and returned to its original place after performing experiments.
- Turn off all heating apparatus, gas valves, and water faucets when not in use.
- Wear disposable gloves, as provided in the laboratory, when handling hazardous materials.
- Remove the gloves before exiting the laboratory.

Don'ts

- Don't place glassware near edge of laboratory bench.
- Don't let water drip onto power strips.
- Never point the open end of a test tube containing a substance at yourself or others.
- Don't use mobile phones during laboratory hours.
- Don't fool around in the laboratory.
- Don't come with long hair, dangling jewelry and loose or baggy clothing which are a hazard in the laboratory.