

Institute / School Name	Darbhanga College of Engineering, Darbhanga		
Program Name	B.Tech (ME)		
Course Code	PCC-ME303		
Course Name	Manufacturing Processes		
Labs (per week)	3	Course Credits	
Course Coordinator Name	Mr. Rajat Gupta		

Manufacturing Practices

Course Objectives:

1. Develop general machining skills in the students.
2. Develop practical skills for industrial usage.
3. Identify the machine tools and instruments.

Course Outcomes:

1. Model the material removal in various manufacturing processes.
2. Analyze the processes and evaluate the role of each process parameter during Machining of various advanced materials.
3. Solve the various problems for the given profiles to be imparted on the work specimens.
4. Make various joints in the given object with the available work material.
5. Understand requirements to achieve maximum material removal rate and best quality of machined surface while machining various industrial engineering materials.

Manufacturing Processes

List of experiments:

S. No.	Experiment Detail
1	Designing and making a Pattern for given casting drawing.
2	Testing sand properties (permeability and strengths).
3	Preparing arc welding Lap and Butt joint.
4	Preparing spot welded joint
5	Measurement of cutting forces in Milling/ Turning process
6	Performing facing ,plain turning and step turning operations on lathe machine
7	Preparing internal threads and performing boring operation using lathe machine
8	Finishing of a surface using surface grinder machine
9	Machining a block on shaper machine
10	Producing spur gear using milling machine

Instructions to the students:

1. Before starting laboratory works read experiment manual and follow the verbal instructions carefully.
2. Do not hold the hot job with hand. Always use tong to hold the job.
3. Never switch on power supply before ensuring that all the ON/OFF switches given on the panel of equipment are at OFF position.
4. Switch of the power supply to the experimental set up on completion of the experiment.
5. Do not temper measuring instruments.
6. Maintain clean and orderly laboratory and work area.
7. Do not leave experiments running unattended.
8. Do not touch anything without the permission of lab instructor.
9. Report any damages to equipment, hazards, and potential hazards to the laboratory instructor.
10. To avoid injury, the student must take the permission of the laboratory staff before handling any machine. Careless handling of machines may result in serious injury.