

MANUFACTURING PROCESS LABORATORY

III Semester: ME								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
AMEB06	Core	L	T	P	C	CIA	SEE	Total
		-	-	2	1	30	70	100
Contact Classes: Nil		Tutorial Classes: Nil		Practical Classes: 42		Total Classes: 42		
<p>COURSE OBJECTIVES: The course should enable the students to:</p> <ol style="list-style-type: none"> I. Understand practical orientation of manufacturing processes. II. Knowledge on different kinds of production processes and practices available for shaping or molding several daily used parts for industries.. III. Prepare assembly drawings, sectional views and bill of materials for selection of equipments for various manufacturing processes will be understood.. <p>COURSE LEARNING OUTCOMES (CLOs):</p> <ol style="list-style-type: none"> 1. Understand the Pattern design and making, casting drawing 2. Utilize and determination of Sand properties testing for strengths and permeability 3. Demonstrate practical understanding molding and melting and casting 4. Demonstrate practical understanding of ARC welding lap and butt joint 5. Demonstrate practical understanding of Spot welding, TIG welding 6. Demonstrate practical understanding of Plasma welding and brazing (water plasma device). 7. Understand Blanking and piercing, operation and study of simple, compound and progressive press tool. 8. Demonstrate practical understanding of Hydraulic press, deep drawing and extrusion operation. 9. Understand the Bending and other operation. 10. Demonstrate practical understanding Injection molding process. 11. Demonstrate practical understanding Blow molding process. 12. Demonstrate practical understanding MIG welding exercises and Riveting of plates. 								
LIST OF EXPERIMENTS								
Expt. 1	PATTERN MAKING							
Pattern design and making, casting drawing.								
Expt. 2	SAND PROPERTIES TESTING							
Sand properties testing for strengths and permeability.								

Expt. 3	METAL CASTING
Moulding, melting and casting	
Expt. 4	ARC WELDING
ARC welding lap and butt joint	
Expt. 5	SPOT WELDING
Spot welding, TIG welding.	
Expt. 6	PLASMA WELDING AND BRAZING
Plasma welding and brazing (water plasma device).	
Expt. 7	APPLICATION OF SIMPLE AND COMPOUND DIE
Blanking and piercing	
Expt. 8	APPLICATION OF PROGRESSIVE DIE
Hydraulic press: Operation and study of simple, compound and progressive press tool	
Expt. 9	MECHANICAL PRESS WORKING
Bending and other operation	
Expt.10	PROCESSING OF PLASTICS
Injection moulding	
Expt. 11	PROCESSING OF PLASTICS
Blow moulding	
Expt. 12	BEYOND SYLLABUS
Riveting of a plates	
Expt. 13	EXAMINATIONS
Reference Books:	
<ol style="list-style-type: none"> 1. R. K. Jain, "Production Technology", Khanna Publishers, 18th Edition, 2013. 2. T. V. RamanaRao, "Metal Casting", New Age, 1st Edition, 2010. 3. Philips Rosenthal, "Principles of Metal Castings", TMH, 2nd Edition, 2001. 4. B. S.Raghuwamshi, "A Course in Workshop Technology", DhanpatRai& Sons, 2014. 5. Kalpakjin S, "Manufacturing Engineering and Technology", Pearson Education, 7th edition,2014. 6. HMT, "Production Technology", McGraw-Hill Education, 1st Edition, 20 	
Web References:	
<ol style="list-style-type: none"> 1. https://www.iare.ac.in 	