

MP LECTURE PLAN [ETME 107]

MANUFACTURING PROCESS [CODE : ETME 107]		No. of hrs.
UNIT-1	CASTING PROCESSES	6
	Principles of metal casting	
	Pattern materials, types and allowance	
	Study of moulding	
	sand moulding, tools	
	moulding materials, classification of moulds & core	
	elements of gating system,	
	casting defects,	
	description and operation of cupola:	
	special casting processes e.g.	
	# die-casting, #permanent mould casting,	
	#centrifugal casting, #investment casting.	
UNIT-2	Smithy and Forging	6
	Basic operation e.g.	
	Upsetting, fullering, flattening, drawing,	
	Swaging, tools and appliances	
	drop forging, press forging	
	Bench Work and Fitting	
	Fitting, sawing, chipping, thread cutting (die), tapping;	
	Study of hand tools, Marking and marking tools.	
UNIT-3	Metal joining	6
	Welding principles,	
	Classification of welding techniques:	
	Oxyacetylene Gas welding,	
	Equipment and field of application,	
	Arc-welding, Metal arc, Carbon arc,	
	Submerged arc and atomic hydrogen welding,	
	Electric resistance welding:	
	spot, seam, butt, and percussion welding;	
	Flux: composition, properties and function	
	Electrodes, Types of joints and edge preparation,	
	Brazing and soldering.	
UNIT-4	Sheet Metal Work	5
	Common processes, tools and equipments;	
	metals used for sheets, standard specification for sheets,	
	spinning, bending, embossing and coining.	

Text Books:

1. Manufacturing Process by Raghuvanshi.
2. Manufacturing Technology by P.N.Rao (TMH publications)

Reference Books:

1. K. R. Gopalakrishna, *Engineering Drawings*, Subhas Stores, Bangalore, 2001.
2. Workshop Technology by Hazra-Chowdhary
3. Production Engineering by R.K.Jain

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