

Course Number and Name	
BME505 – MANUFACTURING TECHNOLOGY II	
Credits and Contact Hours	
3&45	
Course Coordinator's Name	
Mr.V.P.Durai Raj	
Text Books and References	
TEXT BOOKS:	
1. P.C. Sharma, A Text Book of Production Technology, S.Chand & Company Ltd, New Delhi, 2007	
2. Hajra Chowdary S.K. The Fundamentals of Work Shop Technology. Vol. I & II, Media Publishers, 1997	
REFERENCES:	
1. W.A.J.Chapman - Work shop technology, vol I,II& III, 1975, ELBS.	
2. Roy.A.Lindberg, Processes and Material Manufacture, PHI, 1995	
3. Kalpakjian, Manufacturing Engineering and Technology, Addison Wesley, 2005	
3. P.N.Rao. Manufacturing Technology - Foundry Forging & Welding, TMH., New Delhi –2009.	
4. www.studynama.com/.../301-Manufacturing-Technology-1-lecture-notes..	
Course Description	
To understand the concept and basic mechanics of metal cutting, working of standard machine tools such as lathe, shaping and allied machines, milling, drilling and allied machines, grinding and allied machines and broaching	
To understand the basic concepts of non-traditional machining processes.	
Prerequisites	Co-requisites
MANUFACTURING TECHNOLOGY -I	Nil
required, elective, or selected elective (as per Table 5-1)	
Required	
Course Outcomes (COs)	
CO1	Learn about surface finishing process
CO2	Learn gear and gear manufacturing process
CO3	Study about non traditional machining techniques
CO4	Upon completion of this course, the students can able to understand high energy rate forming
CO5	Learn the basic concepts of NTM.
CO6	Learn plastic material and its process
Student Outcomes (SOs) from Criterion 3 covered by this Course	

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1	H	M	H			L	L	L	L	L	L	H
CO2	H	M	H			L	L	L	L			H
CO3	H	M	M									
CO4	H	M	H			L	L	L	L			
CO5	H	M	H									H
CO6	H	M	H			L	L	L	L			H

List of Topics Covered

UNIT I SURFACE FINISHING PROCESS

9

Surface finishing processes: grinding process, types of grinding machine, work holding devices, grinding wheels and specification. Mounting and balancing of grinding wheel. Fine finishing processes: honing, super finishing, polishing, buffing, metal spraying, galvanizing and electroplating.

UNIT II GEAR AND GEAR MANUFACTURING

9

Gear milling, gear shaping, gear planning, gear hobbing. Gear broaching for various types of gears. gear stamping process, cold drawing process, rolling process, sintering process, gear finishing-gear shaving, gear grinding, gear lapping, gear honing.

UNIT III NON-TRADITIONAL MACHINING PROCESSES

9

Non-traditional machining techniques, classification. Abrasive jet machining, Electrical Discharge machining, E.D wire cutting, Electro chemical machining, Electron Beam Machining, Laser Beam Machining, Ultrasonic Machining – process parameters, process capabilities, application.

UNIT IV HIGH ENERGY RATE FORMING PROCESS (HERF)

9

Explosive forming, Electro hydraulic, Electro magnetic forming, Dynapack machine – process parameters, process capabilities, application.

UNIT V PLASTIC MATERIALS AND PROCESSES

9

Types of plastics, types of Moulding, compression Moulding, transfer Moulding, injection Moulding, blow Moulding, film and sheet forming, thermo forming, reinforced plastic, laminated plastics.