Lesson Plan for			
ADVANCE MANUFACTURING PROCESSES - 6th Mechanical			
Sl. No.	**Topics to be Covered**	**Week No.**	**Dates to be Covered**
1.0 Modern Machining Processes:			
1.1	Introduction – comparison with traditional machining.	1st	14/02/23 to 18/02/23
1.2	Ultrasonic Machining: principle, Description of equipment, applications.		
1.3	Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.	2nd	20/02/23 to 25/02/23
1.4	Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.		
1.5	Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.	3rd	27/02/23 to 04/03/23
1.6	Laser Beam Machining: principle, description of equipment, Material removal rate, application.		
1.7	Electro Chemical Machining: principle, description of equipment, Material removal rate, application.	4th	06/03/23 to 11/03/23
1.8	Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.		
2.0 Plastic Processing:			
2.1	Processing of plastics.	5th	13/03/23 to 18/03/23
2.2	Moulding processes: Injection moulding, Compression moulding, Transfer moulding.		
2.3	Extruding; Casting; Calendering.	6th	20/03/23 to 25/03/23
2.4	Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.	7th	27/03/23 to 01/04/23
2.5	Applications of Plastics		
3.0 Additive Manufacturing Process:			
3.1	Introduction, Need for Additive Manufacturing	8th	03/04/23 to 08/04/23
3.2	Fundamentals of Additive Manufacturing, AM Process Chain		
3.3	Advantages and Limitations of AM, Commonly used Terms	9th	10/04/23 to 15/04/23

3.4	Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.	10th	17/04/23 to 22/04/23
3.5	Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.	11th	24/04/23 to 29/04/23
3.6	Web Based Rapid Prototyping Systems.	12th	01/05/23 to 06/05/23
3.7	Concept of Flexible manufacturing process, concurrent engineering, production tools like capstan and turret lathes, rapid prototyping processes.	13th	08/05/23 to 13/05/23
4.0 Special Purpose Machines (SPM):			
4.1	Concept, General elements of SPM, Productivity improvement by SPM, Principles of SPM design.	14th	15/05/23 to 20/05/23
5.0 Design a closed coil helical spring:			
5.1	Types of maintenance, Repair cycle analysis, Repair complexity, Maintenance manual, Maintenance records, Housekeeping. Introduction to Total Productive Maintenance (TPM).	15th	22/05/23 to 23/05/23

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