

LESSON PLAN								
Academic Session :- SUMMER 2024								
Subject :- Advance Manufacturing Processes , Subject code - Th-4 (b)						Total Period :- 60 per Sem		
Teacher : CHANDRA SEKHAR DASH (GUEST FACULTY, MECHANICAL ENGINEERING DEPT.)						Theory :- 4p/week		
W.E.F: 16/01/2024						SEMESTER:-6th		
Month	Week	Class Day	UNIT NO/PERIOD	Syllabus to be covered	Syllabus actually covered	Short fall	Signature	
J A N U A R Y	1st	1st	20	1.0 Modern Machining Processes: 1.1 Introduction – comparison with traditional machining.				
		2nd		1.1 Introduction – comparison with traditional machining.				
		3rd		1.1 Introduction – comparison with traditional machining.				
		4th		1.2 Ultrasonic Machining: principle, Description of equipment, applications.				
	2nd	1st		1.2 Ultrasonic Machining: principle, Description of equipment, applications.				
		2nd		1.2 Ultrasonic Machining: principle, Description of equipment, applications.				
		3rd		1.3 Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.				
		4th		1.3 Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.				
	3rd	1st		1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.				
		2nd		1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.				
		3rd		1.5 Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.				
		4th		1.5 Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.				
	F E B R	4th		1st	1.5 Laser Beam Machining: principle, description of equipment, Material removal rate, application.			
				2nd	1.5 Laser Beam Machining: principle, description of equipment, Material removal rate, application.			
				3rd	1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.			
				4th	1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.			
5th		1st	1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.					
		2nd	1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.					
		3rd	1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.					
		4th	1.8 Electron Beam Machining - principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications					
	1st		2.0 Plastic Processing: 2.1 Processing of plastics.					

K U A R Y	6th	2nd	10	2.2 Moulding processes: Injection moulding, Compression moulding, Transfer moulding.					
		3rd		2.3 Extruding; Casting; Calendering.					
		4th		2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.					
	7th	1st		2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.					
		2nd		2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.					
		3rd		2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.					
		4th		2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.					
	8th	1st		2.5 Applications of Plastics.					
		2nd		2.5 Applications of Plastics.					
		3rd		3.0 Additive Manufacturing Process					
		4th		3.1 Introduction, Need for Additive Manufacturing					
	M A R C H	9th		1st	15	Need for Additive Manufacturing			
				2nd		Need for Additive Manufacturing			
				3rd		3.2 Fundamentals of Additive Manufacturing, AM Process Chain			
				4th		3.3 Advantages and Limitations of AM, Commonly used Terms			
		10th		1st		3.3 Advantages and Limitations of AM, Commonly used Terms			
2nd			3.4 Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies						
3rd			3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.						
4th			3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.						
11th		1st	3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.						
		2nd	3.6 Web Based Rapid Prototyping Systems.						
		3rd	3.6 Web Based Rapid Prototyping Systems.						
		4th	3.6 Web Based Rapid Prototyping Systems.						
12th	1st	3.7 Concept of Flexible manufacturing process, concurrent engineering, production tools							
	2nd	4.0 Special Purpose Machines (SPM)							
	3rd	Special Purpose Machines (SPM)							
	4th	Productivity improvement by SPM							
13th	1st	Productivity improvement by SPM	7	Productivity improvement by SPM					
	2nd	Principles of SPM design.		Principles of SPM design.					
	3rd	Principles of SPM design.		Principles of SPM design.					
	4th	General elements of SPM, Productivity improvement by SPM, Principles of SPM design.		General elements of SPM, Productivity improvement by SPM, Principles of SPM design.					

A P R I L	14th	1st	8	5.0 Maintenance of Machine Tools			
		2nd		5.1 Types of maintenance			
		3rd		Repair cycle analysis,			
		4th		Repair complexity			
	15th	1st		Maintenance manual			
		2nd		Maintenance records			
		3rd		Housekeeping			
		4th		Introduction to Total Productive Maintenance (TPM).			

Chandrasekhar Dash