Government Polytechnic, Tikarpada || Lesson Plan			
Discipline : MECHANICAL ENGG.		Semester: 6th Sem	Name of the Teaching Faculty : Debandra Jena
Subject : Advanced Manufacturing Process		No. of Days / per week class allotted : 04	Semester From date : 14.02.2023 To Date : 23.05.2023
MONTH	Week	Day	Topics
FEBRUARY	3rd	2nd	1.1 Introduction – comparison with traditional machining
		4th	1.2 Ultrasonic Machining: principle, Description of equipment, applications.
	4th	1st	1.3 Electric Discharge Machining: Principle, Description of equipment,
		2nd	Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.
		4th	1.4 Wire cut EDM: Principle, Description of equipment,
		6th	controlling parameters; applications.
	5th	1st	1.5 Abrasive Jet Machining: principle, description of equipment,
		2nd	Material removal rate, application.
MARCH	1st	4th	1.5 Laser Beam Machining: principle, description of equipment,
		6th	Material removal rate, application
	2nd	1st	1.6 Electro Chemical Machining: principle, description of equipment
		4th	Material removal rate, application
		6th	1.7 Plasma Arc Machining – principle, description of equipment,
	3rd	1st	Material removal rate, Process parameters, performance characterization, Applications.
		2nd	1.8 Electron Beam Machining - principle, description of equipment,
		4th	Material removal rate, Process parameters, performance characterization, Applications.
		6th	2.1 Processing of plastics.
	4th	1st	2.2 Moulding processes: Injection moulding,
		2nd	Compression moulding, Transfer moulding.
		4th	2.3 Extruding; Casting; Calendering.
		6th	2.4 Fabrication methods-Sheet forming, Blow moulding,
	5th	1st	Laminating plastics (sheets, rods & tubes), Reinforcing.
		2nd	2.5 Applications of Plastics.
APRIL	2nd	1st	3.1 Introduction, Need for Additive Manufacturing
		2nd	3.2 Fundamentals of Additive Manufacturing, AM Process Chain
		4th	3.3 Advantages and Limitations of AM, Commonly used Terms
		6th	3.4 Classification of AM process, Fundamental Automated Processes,
	3rd	1st	Distinction between AM and CNC, other related technologies
		2nd	3.5 Application –Application in Design, Aerospace Industry, Automotive Industry
		4th	Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
		6th	3.6 Web Based Rapid Prototyping Systems
	4th	1st	3.7 Concept of Flexible manufacturing process, concurrent engineering
		2nd	production tools like capstan and turret lathes, rapid prototyping processes.
		4th	4.0 Special Purpose Machines (SPM):
		6th	4.1 Concept, General elements of SPM,
	5th	1st	Productivity improvement by SPM, Principles of SPM design.
		2nd	5.0 Maintenance of Machine Tools: Introduction
		4th	5.1 Types of maintenance, Repair cycle analysis
		6th	Repair complexity, Maintenance manual, Maintenance records, Housekeeping.
MAY	1st	1st	Introduction to Total Productive Maintenance (TPM).
		2nd	Revision of chapter 01
		4th	Revision of chapter 01
		6th	Revision of chapter 02
	2nd	1st	Revision of chapter 02
		2nd	Revision of chapter 03
		4th	Revision of chapter 03
		6th	Revision of chapter 04
	3rd	1st	Revision of chapter 04
		2nd	Revision of chapter 05
		4th	Revision of chapter 05
		6th	Previous year Question Discussion
	4th	1st	Previous year Question Discussion
		2nd	Previous year Question Discussion