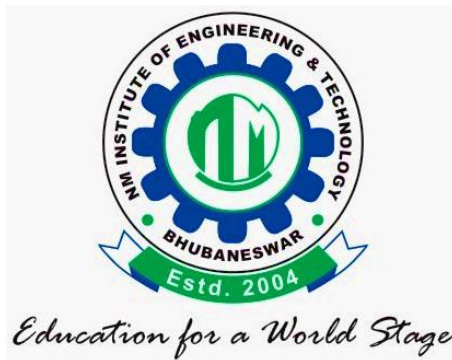


NM INSTITUTE OF ENGINEERING & TECHNOLOGY BHUBANESWAR

Mechanical Engineering Department



LESSON PLAN

Session 2023-2024

Semester: 6th

Subject : ADVANCE MANUFACTURING PROCESSES

Faculty Name: GOPABANDHU SAHU

Subject: AMP No of Days/per week class allotted: 04

Semester from date : 02.01.2024 to date: 23.04.2024 No. of Weeks: 15

Week	Class Day	Theory topics
1	1	Introduction
	2	Comparison Modern Machining Processes with traditional machining.
	3	Ultrasonic Machining: principle
	4	Description of equipment, applications.
2	1	Electric Discharge Machining: Principle
	2	Description of equipment
	3	Dielectric fluid
	4	Process parameters
3	1	Output characteristics, applications
	2	Wire cut EDM: Principle
	3	Description of equipment, controlling parameters; applications
	4	Abrasive Jet Machining: principle
4	1	description of equipment
	2	Material removal rate, application
	3	Laser Beam Machining: principle
	4	description of equipment
5	1	Material removal rate, application.
	2	Electro Chemical Machining: principle
	3	description of equipment
	4	Material removal rate, application
6	1	Plasma Arc Machining – principle
	2	description of equipment,
	3	Material removal rate, Process parameters,
	4	performance characterization, Applications.
7	1	Electron Beam Machining - principle
	2	description of equipment
	3	Material removal rate, Process parameters
	4	performance characterization, Applications

Signature of Faculty

Subject: AMP No of Days/per week class allotted: 04

Semester from date : 02.01.2024 to date: 23.04.2024 No. of Weeks: 15

Week	Class Day	Theory topics
8	1	Processing of plastics
	2	Moulding processes: Injection moulding,
	3	Compression moulding,
	4	Transfer moulding
9	1	Extruding; Casting
	2	Calendering
	3	Fabrication methods- Sheet forming
	4	Blow moulding
10	1	Laminating plastics (sheets, rods & tubes)
	2	Reinforcing
	3	Applications of Plastics.
	4	Introduction to Additive Manufacturing
11	1	Fundamentals of Additive Manufacturing AM Process Chain
	2	Advantages and Limitations of AM Commonly used Terms
	3	Classification of AM process
	4	Fundamental Automated Processes
12	1	Distinction between AM and CNC
	2	Application in Design
	3	Aerospace Industry
	4	Automotive Industry,
13	1	Jewelry Industry, Arts and Architecture
	2	RP Medical and Bioengineering Applications.
	3	Web Based Rapid Prototyping Systems.
	4	Concept of Flexible manufacturing process
14	1	concurrent engineering,
	2	production tools like capstan and turret lathes,
	3	rapid prototyping processes
	4	Concept of Special Purpose Machines (SPM)
15	1	Repair cycle analysis
	2	Repair complexity
	3	Maintenance manual
	4	Maintenance records Housekeeping, Introduction to Total Productive Maintenance (TPM)

Signature of Faculty