

**NM INSTITUTE OF ENGINEERING & TECHNOLOGY
BHUBANESWAR**

Mechanical Engineering Department



Education for a World Stage

**LESSON PLAN
Session 2022-2023**

Semester: 6th

Subject : ADVANCE MANUFACTURING PROCESSES

Faculty Name: OM PRAKASH NARAYAN KAR

Subject: AMPNo of Days/per week class allotted: 04Semester from date : 15.09.22 to date: 21.01.23 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

Om Prakash
Marapen kar
 Signature of Faculty

Subject: AMP

No of Days/per week class allotted: 04

Semester from date : 15.09.22 to date: 21.01.23 No. of Weeks: 15

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

*Oom Prakash
narayan kar*

Signature of Faculty