	ORISSA SCHOOL
Discipline : Mechanical	**Semester: 6th**
Subject : ADVANCE MANUFACTURING PROCESS	**No. of Days / per week class allotted : 4**
Week	**Class Day**
1ST	1st
	2nd
	3rd
	4th
2ND	1st
	2nd
	3rd
	4th
3RD	1st
	2nd
	3rd
	4th
4TH	1st
	2nd
	3rd
	4th
	1st

5TH	2nd
	3rd
	4th

6TH	1st
	2nd
	3rd
	4th

7TH	1st
	2nd
	3rd
	4th

8TH	1st
	2nd
	3rd
	4th

9TH	1st
	2nd
	3rd
	4th

10TH	1st
	2nd
	3rd
	4th

11 TH	1st
	2nd
	3rd
	4th

12 TH	1st
	2nd
	3rd

	4th

13 TH	1st
	2nd
	3rd
	4th

14 TH	1st
	2nd
	3rd
	4th

15 TH	1st
	2nd
	3rd
	4th

OF ENGINEERING

LESSON PLAN

Name of the Teaching Faculty : ER Krushna Chandra Padhy

Semester From date : 16.01.2024 To Date : 26.04.2024

No. of Weeks : 15

Topics
Introduction – comparison with traditional machining.
Ultrasonic Machining: principle, Description of equipment, applications.
Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.
Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.
Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.
Laser Beam Machining: principle, description of equipment, Material removal rate, application.
Electro Chemical Machining: principle, description of equipment, Material removal rate, application.
Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.
Processing of plastics.
Moulding processes: Injection moulding, Compression moulding, Transfer moulding.
Extruding; Casting; Calendering.
Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.
Applications of Plastics.
Introduction, Need for Additive Manufacturing
Fundamentals of Additive Manufacturing, AM Process Chain
Advantages and Limitations of AM, Commonly used Terms
Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.

Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
Web Based Rapid Prototyping Systems.
Concept of Flexible manufacturing process, concurrent engineering, production tools like capstan and turret lathes, rapid prototyping processes.

Concept OF SPM
General elements of SPM
Productivity improvement by SPM
Principles of SPM design.

Types of maintenance
Repair cycle analysis
Repair complexity
Maintenance manual

Maintenance records
Housekeeping. Introduction to Total Productive Maintenance (TPM)
DO
DO

REVISION
DOUBT CLEARING
CLASS TEST
REVISION

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