

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING



LESSON PLAN

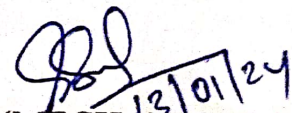
SUBJECT: Advance Manufacturing Processes(TH-4)

FACULTY: CHIRANJEEVI PATTNAIK

ACCADEMIC SESSION: 2023-24

SEMESTER: 6TH

SEC: A


H O D (MECHANICAL ENGG.)



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Discipline: Mechanical Engineering	Semester: 6TH	Section-A	Name of the teaching faculty: Chiranjeevi Pattnaik
Subject: Advance Manufacturing Processes	No. of Days/ per week class allotted: 04 periods per week (Mon-1 period, Tue-1 period, Wed-1 period, Fri-1 period)		Semester From Date: 16-01-2024 To Date: 26-04-2024 No. of weeks: 15 weeks
Week	Class Day	No of period available	Theory Topics
1ST	16/01/2024	1	3.0 Additive Manufacturing Process: 3.1 Introduction, Need for Additive Manufacturing
	17/01/2024	1	3.2 Fundamentals of Additive Manufacturing
	19/01/2024	1	3.2 AM Process Chains
2ND	24/01/2024	1	3.3 Advantages and Limitations of AM, Commonly used Terms
3RD	29/01/2024	1	3.4 Classification of AM process,
	30/01/2024	1	3.4 Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.
	31/01/2024	1	3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP

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			Medical and Bioengineering Applications
	02/02/2024	1	3.6 Web Based Rapid Prototyping Systems
4 TH	05/02/2024	1	3.7 Concept of Flexible manufacturing process
	06/02/2024	1	3.7 concurrent engineering, production tools like capstan and turret lathes,
	07/02/2024	1	3.7 rapid prototyping processes Monthly Class test-1
	09/02/2024	1	4.0 Special Purpose Machines (SPM): 4.1 Concept
	12/02/2024	1	4.1 General elements of SPM
5 TH	13/02/2024	1	4.1 Productivity improvement by SPM,
	16/02/2024	1	4.1 Principles of SPM design.
	19/02/2024	1	5.0 Maintenance of Machine Tools: 5.1 Types of maintenance,
6 TH	20/02/2024	1	5.1 Repair cycle analysis,
	21/02/2024	1	5.1 Repair complexity
	23/02/2024	1	5.1 Maintenance manuals Maintenance records, Housekeeping.
	26/02/2024	1	5.1 Introduction to Total Productive Maintenance (TPM)
7 TH	27/02/2024		2.0 Plastic Processing: 2.1 Processing of plastics.
	28/02/2024	1	2.2 Moulding processes: Injection moulding,

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8 TH	01/03/2024	1	2.2 Compression moulding
	04/03/2024	1	2.2 Transfer moulding
	06/03/2024	1	2.3 Extruding
	11/03/2024	1	2.3 Casting
	12/03/2024	1	2.3 Calendering
			2.4 Fabrication methods -Sheet forming,
9 TH	13/03/2024	1	2.4 Blow moulding 2.4 Laminating plastics (sheets, rods & tubes), 2.4 Reinforcing 2.5 Applications of Plastics.
	15/03/2024	1	1.0 Modern Machining Processes: 1.1 Introduction – comparison with traditional machining. 1.2 Ultrasonic Machining: principle, Description of equipment, applications
10 TH	18/03/2024	1	1.3 Electric Discharge Machining: Principle, Description of equipment, 1.3 Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.
	19/03/2024	1	1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications
	20/03/2024	1	1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications 1.5 Abrasive Jet Machining: principle, description of equipment,

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			Material removal rate, application
	22/03/2024	1	1.6 Electro-Chemical Machining: principle, description of equipment, Material removal rate, application. 1.7 Plasma Arc Machining – principle, description of equipment
11 TH	27/03/2024	1	1.7 Material removal rate, Process parameters, performance characterization, Applications. 1.8 Electron Beam Machining Description of equipment, controlling parameters; applications 1.8 Material removal rate, Process parameters, performance characterization, Applications.
12 TH	02/03/2024	1	Revision
	03/03/2024	1	Monthly Class Test-II
	05/03/2024	1	Revision
13 TH	08/04/2024	1	Revision
	09/04/2024	1	Previous Year Questions Discussion
	10/04/2024	1	Previous Year Questions Discussion
	12/04/2024	1	Revision
14 TH	15/04/2024	1	Revision
	16/04/2024	1	Revision
	19/04/2024	1	Previous Year Questions Discussion
15 TH	22/04/2024	1	Previous Year Questions Discussion
	23/04/2024	1	Revision
	24/04/2024	1	Revision
	26/04/2024	1	Revision



15th	27.04.2024	1	Extra class (Revision)
16th	29.04.2024	1	Extra class (Revision)
	30.04.2024	1	Extra class (Revision)
17th	01.05.2024	2	Extra class (Revision)

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