



Orissa School of Mining Engineering Keonjhar

Department of Mechanical Engineering

Subject: Advance Manufacturing Process

Discipline: Mechanical Engineering		Name of the Faculty: Er.Geetanjali Mardi	
Course Code:	Th4(b)	Semester:	6th
Total Periods:	4P/W	Examination:	2024 SUMMER
Theory Periods:	4P/W	Class Test:	20
Maximum Marks:	100	End Semester Examination:	80

Lesson Plan w.e.f 16.01.2024 TO 26.04.2024

Month	Week	Availability of classes	Class Day	Theory Topics
JANUARY	1 st	03	16/01/2024	CHAPTER- 1. Modern Machining Processes(Non conventional machining process) 1.1 Introduction- What is Non-conventional machining process? Comparison with Traditional machining processes, Types of non-conventional machining.
			17/01/2024	1.2 -Ultrasonic Machining: principle, Description of equipment, applications
			18/01/2024	1.3- Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications.
	2 nd	03	22/01/24	1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications
			24/01/2024	1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.
			25/02/2024	1.5 Abrasive Jet Machining: principle, description of equipment, Material removal rate, application.
3 rd	04	29/01/2024	1.5 Laser Beam Machining: principle, description of equipment, Material removal rate, application	
		30/01/2024	1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.	
		31/01/2024	1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.	
FEBRUARY			01/02/24	1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications
	4 th	04	5/02/2024	1.8 Electron Beam Machining - principle, description of equipment, Material removal rate, Process parameters, performance

		6/02/2024	Revision , Question Answer discussion,
		7/02/2024	CHAPTER-2 Plastic Processing
		8/02/2024	2.1 Introduction, Processing of plastics and its types
			2.2 Moulding processes: Injection moulding
5 th	03	12/02/2024	2.2 Compression moulding, Transfer moulding
		13/02/2024	2.3 Extruding; Casting; Calendering.
		15/02/2024	2.4 . Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing
6 th	04	19/02/2024	2.5 Applications of Plastics
		20/02/2024	Topic end, Question answer discussion, Assignment
		21/02/2024	Question answer discussion, Assignment
		22/02/2024	Class test-1
7 th	04	26/02/2024	CHAPTER-3 Additive Manufacturing Process
			3.1 Introduction ,Need for Additive Manufacturing
		27/02/2024	3.2 Fundamentals of Additive Manufacturing, AM Process Chain
		28/02/2024	3.3 Advantages and Limitations of AM, Commonly used Terms
		29/03/2024	3.4 Classification of AM process, Fundamental Automated Processes
8 th	02	4/03/2024	3.4 Distinction between AM and CNC, Other related technologies
		6/03/2024	3.5 Application –Application in Design, Aerospace Industry, Automotive Industry Jewellery Industry, Arts and Architecture. RP Medical and Bioengineering Applications,
		7/03/24	3.5 Application: Jewellery Industry, Arts and Architecture. RP Medical and Bioengineering Applications,
9 th	04	11/03/2024	3.6 Web Based Rapid Prototyping Systems
		12/03/2024	3.7 Concept of Flexible manufacturing process Concurrent engineering
		13/03/2024	3.7 production tools like capstan and turret lathes
		14/03/2024	3.7 Rapid prototyping processes
10 th	04	18/03/2024	3.7 Rapid prototyping processes
		19/03/2024	Topic end, Question answer discussion, assignment-2
		20/03/2024	CHAPTER-4.Special Purpose Machines (SPM): Introduction of SPM
		21/03/2024	4.1 Concept, General elements of SPM
11 th	02	27/03/2024	4.1 Productivity improvement by SPM,
		28/03/2024	INTERNAL ASSESMENT
		30/03/2024	INTERNAL ASSESMENT
12 th	04	02/04/2024	INTERNAL ASSESMENT
		03/04/2024	4.1 Productivity improvement by SPM, Principles of SPM design
		04/04/2024	REVISION, Question Answer discussion (FA)
		05-04-2024	FA
13 th	03	8/04/2024	CLASS TEST-2
		9/04/2024	CHAPTER -5.Maintenance of Machine Tools
			5.1 Introduction to Maintenance of machine ,Types of maintenance
		10/04/2024	5.1 Types of maintenance, Repair cycle analysis
14 th	03	15/04/2024	5.1 Repair complexity , Maintenance manual
		16/04/2024	5.1 Maintenance records, Housekeeping
		18/04/2024	5.1 Introduction to Total Productive Maintenance (TPM).
15 th	04	22/04/2023	5.1 Introduction to Total Productive Maintenance (TPM).

MARCH

APRIL

		23/04/2023	Topic end, , Previous year Question Answer discussion Assignment3
		24/04/2023	VST
		25/04/2023	VST
		EXTRA CLASS	
		EXTRA CLASS	
		EXTRA CLASS	Revision.

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16-01-2024