



**GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR**

SESSION PLAN

6TH SEMESTER, BRANCH-MECHANICAL(GROUP 1)

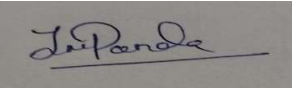
TH 4b. ADVANCE MANUFACTURING PROCESSES

Name of the Faculty – PROF. LAKSHMI NARAYANA PANDA							
Topics to be taken							
SL NO & CHAPTER	No. of Periods assigned by SCTE & VT	Details of the topics	PLANNED DATE	Details of the topics	ACTUAL DATE	Remarks	
1. Modern Machining Processes	20	1.1 Introduction – comparison with traditional machining. 1.2 Ultrasonic Machining: principle, Description of equipment, applications. 1.3 Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications. 1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications. 1.5 Abrasive Jet Machining: principle, description of equipment, Material removal rate, application. 1.5 Laser Beam Machining: principle, description of equipment, Material removal rate, application. 1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application. 1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications. 1.8 Electron Beam Machining - principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.	14/02/2023 TO 17/03/2023	1.1 Introduction – comparison with traditional machining. 1.2 Ultrasonic Machining: principle, Description of equipment, applications. 1.3 Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, Output characteristics, applications. 1.4 Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.	14.02.2023 15.02.2023 17.02.2023 21.02.2023 22.02.2023 24.02.2023		
				1.5 Abrasive Jet Machining: principle, description of equipment, Material removal rate, application. 1.5 Laser Beam Machining: principle, description of equipment, Material removal rate, application. 1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application.	25.02.2023 28.02.2023	1.03.2023 3.03.2023	
				1.6 Electro Chemical Machining: principle, description of equipment, Material removal rate, application. 1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.	4.03.2023 10.03.2023	11.03.2023 14.03.2023	
				1.7 Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications. 1.8 Electron Beam Machining - principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.	15.03.2023 17.03.2023		

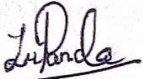
2. Plastic Processing	10	<p>2.1 Processing of plastics.</p> <p>2.2 Moulding processes: Injection moulding, Compression moulding, Transfer moulding.</p> <p>2.3 Extruding; Casting; Calendering.</p> <p>2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.</p> <p>2.5 Applications of Plastics</p>	<p>18/03/2023 TO 31/03/2023</p>	<p>2.1 Processing of plastics.</p> <p>2.2 Moulding processes: Injection moulding, Compression moulding, Transfer moulding.</p> <p>2.3 Extruding; Casting; Calendering.</p> <p>2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing.</p> <p>2.5 Applications of Plastics</p>	<p>18.03.2023 21.03.2023 22.03.2023</p> <p>24.03.2023</p> <p>25.03.2023 28.03.2023 29.03.2023</p> <p>31.03.2023</p>	
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<p style="text-align: center;">3. Additive Manufacturing Process</p>	<p style="text-align: center;">15</p>	<p>3.1 Introduction, Need for Additive Manufacturing 3.2 Fundamentals of Additive Manufacturing, AM Process Chain 3.3 Advantages and Limitations of AM, Commonly used Terms 3.4 Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies. 3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications. 3.6 Web Based Rapid Prototyping Systems. 3.7 Concept of Flexible manufacturing process, concurrent engineering, production tools like capstan and turret lathes, rapid prototyping processes.</p>	<p style="text-align: center;">4/04/2023 TO 28/04/2023</p>	<p>3.1 Introduction, Need for Additive Manufacturing 3.2 Fundamentals of Additive Manufacturing, AM Process Chain 3.3 Advantages and Limitations of AM, Commonly used Terms 3.4 Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies. 3.5 Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications. 3.6 Web Based Rapid Prototyping Systems. 3.7 Concept of Flexible manufacturing process, concurrent engineering, production tools like capstan and turret lathes, rapid prototyping processes.</p>	<p>4.04.2023 5.04.2023 8.04.2023 11.04.2023 15.04.2023 18.04.2023 19.04.2023 21.04.2023 25.04.2023 26.04.2023 28.04.2023</p>	
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4. Special Purpose Machines (SPM)	7	4.1 Concept, General elements of SPM, Productivity improvement by SPM, Principles of SPM design.	29/04/2023 TO 9/05/2023	4.1 Concept, General elements of SPM, Productivity improvement by SPM, Principles of SPM design.	29.04.2023 2.05.2023 3.05.2023 6.05.2023 9.05.2023	
5. Maintenance of Machine Tools	8	5.1 Types of maintenance, Repair cycle analysis, Repair complexity, Maintenance manual, Maintenance records, Housekeeping. Introduction to Total Productive Maintenance (TPM)	10/05/2023 TO 23/05/2023	5.1 Types of maintenance, Repair cycle analysis, Repair complexity, Maintenance manual, Maintenance records, Housekeeping. Introduction to Total Productive Maintenance (TPM)	10.05.2023 12.05.2023 13.05.2023 16.05.2023 17.05.2023 20.05.2023 23.05.2023	



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**GANDHI SCHOOL OF ENGINEERING
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SESSION PLAN

6TH SEMESTER, BRANCH-MECHANICAL(GROUP 2)

TH 4b. ADVANCE MANUFACTURING PROCESSES

Name of the Faculty – ER. MANASI BHOI & ER. BEDA PRAKASH NAYAK						
Topics to be taken						
SL NO & CHAPTER	No. of Periods assigned by SCTE & VT	Details of the topics	PLANNED DATE	Details of the topics	ACTUAL DATE	Remarks
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2. Plastic Processing	10	<p>2.1 Processing of plastics. 2.2 Moulding processes: Injection moulding, Compression moulding, Transfer moulding. 2.3 Extruding; Casting; Calendering. 2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing. 2.5 Applications of Plastics</p>	<p>16/03/2023 TO 29/03/2023</p>	<p>2.1 Processing of plastics. 2.2 Moulding processes: Injection moulding, Compression moulding, Transfer moulding. 2.3 Extruding; Casting; Calendering. 2.4 Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods & tubes), Reinforcing. 2.5 Applications of Plastics</p>	<p>16.03.2023 17.03.2023 21.03.2023 22.03.2023 23.03.2023 24.03.2023 28.03.2023 29.03.2023</p>	
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4. Special Purpose Machines (SPM)	7	4.1 Concept, General elements of SPM, Productivity improvement by SPM, Principles of SPM design.	25/04/2023 TO 2/05/2023	4.1 Concept, General elements of SPM, Productivity improvement by SPM, Principles of SPM design.	25.04.2023 26.04.2023 27.04.2023 28.04.2023 2.05.2023	
5. Maintenance of Machine Tools	8	5.1 Types of maintenance, Repair cycle analysis, Repair complexity, Maintenance manual, Maintenance records, Housekeeping. Introduction to Total Productive Maintenance (TPM)	3/05/2023 TO 23/05/2023	5.1 Types of maintenance, Repair cycle analysis, Repair complexity, Maintenance manual, Maintenance records, Housekeeping. Introduction to Total Productive Maintenance (TPM) Revision-	3.05.2023 4.05.2023 9.05.2023 10.05.2023 11.05.2023 12.05.2023 16.05.2023 17.05.2023 18.05.2023 23.05.2023	

Manasi Bhoi

Bela Prakash Nayak

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