## **Lesson Plan**

Subject: AMP (Th -4(b))

Name of faculty: <u>Er.SANGRAM BISWAL</u>

Semester: 6<sup>TH</sup> Class allotted: 4p/week

Branch: Mechanical

Session: <u>2025(S)</u>

Discipline	Semester	From date: To date:	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical –Topics/Lesson	Teaching / He
Week	Date/Period		White Board
1	04/02/2025 TO 08/02/2025	I. Modern Machining Processes Introduction – comparison with traditional machining. Ultrasonic Machining: principle, Ultrasonic Machining: principle,	Marker Smart board
2	10/02/2025 TO 15/02/2025	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.	Marker Smart board
3	17/02/2025 TO 22/02/2025	Abrasive Jet Machining: principle, description of equipment, Material removal rate, application. Laser Beam Machining: principle, description of equipment, Material removal rate, application.	White Board Marker Smart board
4	24/02/2025 TO 01/03/2025	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.	Marker Smart board
. 5	03/03/2025 TO 08/03/2025	Electron Beam Machining - principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.	White Board Marker Smart board
6	10/03/2025 TO 15/03/2025	2.Plastic Processing Processing of plastics. Moulding processes: Injection moulding, Compression moulding,	White Board Marker Smart board
7	17/03/2025 TO 22/03/2025	Transfer moulding. Extruding; Casting; Calendering. Fabrication methods-Sheet forming, Blow moulding	Marker

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24/03/2025	Laminating plastics (sheets, rods & tubes),	White Board
TO 29/03/2025	Reinforcing.  Applications of Plastics.  3.Additive Manufacturing Process	Marker Smart board
31/03/2025 TO 05/04/2025	Fundamentals of Additive Manufacturing, AM Process Chain Advantages and Limitations of AM, Commonly used Terms	White Board Marker Smart board
07/04/2025 TO 12/04/2025	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.	White Board Marker Smart board
14/04/2025 TO 19/04/2025	RP Medical and Bioengineering Applications. Web Based Rapid Prototyping Systems. Concept of Flexible manufacturing process, concurrent engineering, production tools like capstan	White Board Marker Smart board
21/04/2025 TO 26/04/2025	Turret lathes, rapid prototyping processes.  4-Special Purpose Machines  Concept, General elements of SPM,	Marker White Board Smart board
28/04/2025 TO 03/05/2025	Productivity improvement by SPM, Principles of SPM design.	White Board Marker Smart board
05/05/2025 TO 10/05/2025	Repair cycle analysis,	White Board Marker Smart board
12/05/2025 TO 17/05/2025	(TPM)	White Board Marker Smart board
	29/03/2025  31/03/2025  TO 05/04/2025  07/04/2025  TO 12/04/2025  TO 19/04/2025  TO 19/04/2025  TO 26/04/2025  TO 26/04/2025  TO 03/05/2025  TO 10/05/2025  TO	3.Additive Manufacturing Process Introduction, Need for Additive Manufacturing Fundamentals of Additive Manufacturing, AM Process Chain Advantages and Limitations of AM, Commonly used Terms INTERNAL ASSESMENT TEST  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 Turret lathes, rapid prototyping processes.  4-Special Purpose Machines  Concept, 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).

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