

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Discipline: MECH	Semester: 6th	Name of the Teaching Faculty
Subject: AMEP	No. of days per week Class Alloted:	Semester from Dt. <u>14-02-23</u> to Dt. <u>23-02-23</u> No. of Weeks: <u>15</u>
Week	Class Day	Theory / Practical Topics
1st		<u>MODERN MACHINING PROCESS</u>
	1st	Introduction - Comparison with traditional machining.
	2nd	Ultrasonic Machining.
	3rd	Principle, description of equipment and application.
	4th	Electric Discharge Machining.
2nd	1st	Principle, description of equipment
	2nd	Dielectric fluid, electrodes.
	3rd	Process parameters, output characteristics.
	4th	Wire cut EDM, Principle, description of equipment, controlling parameters applications.
	5th	
3rd	1st	Abrasive Jet machining.
	2nd	Principle, description of equipments
	3rd	Material removal rate
	4th	application.
	5th	
4th	1st	Laser Beam Machining principle.
	2nd	Description of equipments, material removal rate, application.
	3rd	Electro chemical machining:
	1st	Principle, description of equipment
	2nd	Material removal rate, application.
5th	3rd	Plasma Arc Machining:
	1st	Principle, description of equipment
	2nd	Material removal rate,

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6 TH		1 st Process parameter. 2 nd Performance characterization. 3 rd Applications. 4 th Electron Beam Machining: Principle, description of equipment 5 th Material removal rate. Process parameter. Performance characterization. Application.
7 TH		<u>PLASTIC PROCESSING.</u> 1 st Processing of plastics. 2 nd Moulding processes. Injection moulding, Compression Moulding 3 rd Transfer moulding. 4 th Extruding, Casting, Calendering. Fabrication methods. 5 th Sheet forming.
8 TH		1 st Blow moulding. Laminating plastics. 2 nd Reinforcing. 3 rd Applications of plastics.
9 TH		<u>ADDITIVE MANUFACTURING PROCESS</u> 1 st Introduction, Need for additive manufacturing. 2 nd Fundamentals of additive manufacturing 3 rd AM process chain. 4 th Advantages and Limitations of AM. Classification of AM Process

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Week	Class Day	Theory / Practical Topics
10 TH	1st	Fundamental - Automated Process.
	2nd	Differentiation bet ⁿ AM and CNC, other related technologies.
	3rd	Applications :-
11 TH	1st	Application in Design, Aerospace industry, Automotive industry.
	2nd	Arts and Architecture.
	3rd	RP medical and Bioengineering appn.
	4th	Web Based Rapid Prototyping System.
12 TH	1st	Concept of flexible manufacturing Process, Concurrent engineering.
	2nd	Production tool like Capstan and
	3rd	Turret lathes. rapid prototyping processes.
13 TH		<u>SPECIAL PURPOSE MACHINES (SPM)</u>
	1st	Concept.
	2nd	General Elements of SPM.
	3rd	Productivity improvement by SPM.
	4th	Principles SPM design.
14 TH		<u>MAINTENANCE OF M/C TOOLS</u>
	1st	Types of maintenance
	2nd	Repair cycle analysis.
	3rd	Repair Complexity, Maintenance
	4th	management.
	5th	Maintenance Records.
15 TH	1st	House Keeping.
	2nd	Introduction to Total Productive maintenance.