

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2024-2025

Semester: 6th Discipline: Mechanical Engg.

Subject: Advance Manufacturing Processes

Name of the Teaching Faculty: Dr. Bharat Bhushan Satapathy

Subject: AMP No. of Days/per week class allotted : 04

Semester From Date : 4.2.2025 To Date: 17.5.2025 No. of Weeks : 15

Week	Class Day	Theory / Practical Topics
01	1.	Fundamentals of Machining Processes.
	2.	Traditional & Non-Traditional Machining Process.
	3.	Introduction of Non-Traditional machining processes.
	4.	Machining Processes.
	5.	Diff. b/w Conventional & Non-Conventional Process (Machining)
	6.	Principle of Abrasive Jet Machining
	7.	Uses of Abrasive Particles (grain)
	8.	Effect of MRR with various parameters.
	9.	like Abrasive grain size, velocity, SED.
	10.	Application of AJM.
	11.	Description of USM.
	12.	Principle of Piezoelectric effect.

Bharat Bhuvan Satapathy
Signature of the Faculty

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Week	Class Day	Theory / Practical Topics
	13	Types of equipments used in USM.
	14	Application of USM, Graphs.
	15	Class Test & Interactive Class.
	16	Principle of Electro Discharge M/c
	17	Neat Sketch of EDM & Description
	18	Principle of PLASMA ARC ^{MACHINING} WELDING.
	19	Description of (PAM), Test of 20 MCQ
	20	Principle of Electrochemical Machining
	21	Metal Removal Rate (MRR) Vs Parameters
	22	LASER, Principle, Description
	23	Important equipments of LASER
	24	LASER BEAM MACHINING.

Blasat Bhushan Salgotra
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Week	Class Day	Theory /Practical Topics
	25	Diagram of Electron beam Machining
	26	MRR, Effect of Diff. Parameters
	27.	Applications.
	28	Class Test of syllabus completed topics.
	29	Discussion of Important Questions with Previous year Q.P.
	30	Electro Chemical Machining
	31	Description / APP Uses / Applications.
	32	Idea about Plasticity & Elasticity
	33	Plastic processing
	34	Plastic moulding Processes like
	35	Injection moulding / compression moulding
	36	Transfer moulding with Diagram.

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Week	Class Day	Theory / Practical Topics
	37	Extrusion moulding (Plastic)
	38	Plastic casting / Calendering.
	39	Sheet Forming / Blow moulding
	40	Plastic Laminating (Sheet/Tubes)
	41	Applications of Reinforcing.
	42	Additive manufacturing processes.
	43	Fundamentals of Additive Manufacturing
	44	Advantages & dis-advantages of AM.
	45	Applications of Additive Manufacturing
	46	Application of AM → Design / Aerospace
	47	Industry / Jewellery Industry / Automotive etc
	48	Rapid Prototypes

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Week	Class Day	Theory / Practical Topics
	49	Capstan Lathe, Turret Lathe Principle
	50	Concurrent Engineering
	51	Class Test - VST (2hrs)
	52	Flexible Manufacturing Process.
	53	Special Purpose Machines (SPM)
	54	Concept, Productivity Improvement by SPM.
	55	Principle of Special Purpose Machines.
	56	Types of Maintenance / Maintenance Manual
	57	House Keeping / Intl. to TPM (Total Productive Maintenance)
	58	Repair Cycle Analysis.
	59	VST (Very Similar Test) Question Pattern.
	60	Discussion Class.

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