

## GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN

Discipline : Metallurgy ENGG.		Semester: 6th Sem		Name of the Teaching Faculty : ARABINDA NAYAK	
Subject : MM		No. of Days / per week class allotted : 04		Semester From date : 14.02.2023	To Date : 23.05.2023
MONTH	Week	Day	Unit	Topics	
FEBRUARY	3rd	2nd	UNIT-1	<b>Introduction to Mechanical Metallurgy</b>	
		1st		Dislocation, types, its basic behavior & role in deformation.	
	4th	2nd		Dislocation in various crystals.Source of dislocation	
		1st		Twinning & deformation.Slip & Deformation.	
		4th	UNIT-2	<b>Deformation of metals:</b>	
		1st		Explain the elastic & plastic behavior of metals.	
	5th	2nd		Explain yielding criteria	
		1st		Derive critically resolved shear stress	
		4th		Explain deformation of polycrystalline aggregates.	
		1st		Explain deformation of polycrystalline aggregates.	
				<b>DOLO PURNIMA</b>	
MARCH	2nd	1st	UNIT-3	<b>Strengthening mechanism:</b>	
	3rd	2nd		Explain strengthening mechanism	
		1st		Describe the role of grain boundary in strengthening	
		4th		Define Hall Petch equation	
		1st		Describe yield point phenomenon.	
	4th	2nd		Explain strain-aging	
		1st		Explain solid solution strengthening from fine particles	
		4th		Describe fiber strengthening	
		1st		Describe martensitic strengthening	

	5th	2nd	UNIT-4	Explain strain hardening
		1st		Describe Bauschinger's effect.
APRIL	6th	4th		<b>Fundamentals of Metal working:</b>
				<b>RAMA NAVAMI</b>
		1st		Classify different metal working process.
		2nd		Explain hot working and cold working of metals and alloys
		1st		State the advantages and disadvantages of hot and cold working
	1st	4th	UNIT-5	<b>Recovery, recrystallization and grain growth</b>
				<b>GOOD FRIDAY</b>
		1st		Explain the following phenomena, (a) Recovery (b) Recrystallization (c) Grain growth
	2nd	2nd	UNIT-6	<b>Rolling:</b>
		4th		Explain principles of rolling
		1st		<b>CLASS TEST-1</b>
				Compare between hot rolling and cold rolling.
	3rd	2nd		Explain the types of roll pass-open pass and box pass.
		1st		Explain the types of roll pass-open pass and box pass.
		4th		State different types of rolling defects and their control
		1st		State different types of rolling defects and their control
	4th		UNIT-7	<b>MOHABISUBA SANKRANTI</b>
		2nd		<b>Forging:</b>
		1st		Explain types of forging process
		4th		Describe the properties of forged products
	5th	1st	UNIT-8	Describe the properties of forged products
		2nd		Explain the defects of forged products and their control
		1st		Explain the defects of forged products and their control
		4TH		<b>Extrusion:</b>
	1st	1st		<b>INTERNAL -1</b>
				<b>EID-UL-FITAR</b>
		2nd		Explain the elementary principle of extrusion
		2nd		Classify the defects in extruded product

MAY	1st	1st	UNIT-9	Explain the manufacturing of seamless pipes
	2nd	4th		<b>BUDDHA PURNIMA</b>
		1st		Explain the manufacturing of seamless pipes
		2nd		<b>Wire drawing:</b>
		1st		Explain the elementary principle of wire drawing
	3rd	2nd	UNIT-10	Classify the defects of wire drawing
		1st		<b>CLASS TEST-2</b>
		4th		Classify the defects of wire drawing
		1st		<b>Forming methods</b>
		2nd		Describe the elementary concept of deep drawing
	4th	2nd		Explain different sheet metal forming - bending shearing aid blanking
		1st		Revision
		4th		Revision
		1st		Previous year question answer discussion
		1st		<b>SABITRI AMABASYA</b>
				Previous year question answer discussion