

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF  
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN  
Session-2022-2023

Discipline: Metallurgical Engg. Semester: 6<sup>th</sup>  
Name of the Teaching Faculty: Soumya Preetkash Rathi

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

Semester From Date: 14/02/2023 To Date: 23/05/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
01	01	Introduction to Mechanical Metallurgy
	02	Dislocation of Mechanical Metallurgy
	03	Types of dislocation
	04	Basic behaviour of dislocation
02	01	Role in deformation
	02	Dislocation in various crystals
	03	Source of dislocation
	04	Twinning & deformation
03	01	Slip & deformation
	02	Explain the elastic behaviour of metals
	03	Explain the plastic behaviour of metals
	04	Explain Yielding Criteria

*Suryansh Datta*  
Signature of the Faculty

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

Semester From Date: 14/02/2023 To Date: 23/05/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
04	01	Critically resolved shear stress derivation
	02	Deformation of polycrystalline aggregates
	03	Discussion of MCQs
	04	Explain Strengthening Mechanism
05	01	Describe the Role of grain boundary in Strengthening
	02	Define Hall Pitch equation
	03	Describe Yield point phenomenon
	04	Explain Strain-aging
06	01	Explain solid sol <sup>n</sup> strengthening from fine particles
	02	Describe fiber strengthening
	03	Describe martensitic strengthening
	04	Explain Strain hardening.

  
Signature of the Faculty

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

Semester From Date: 14/02/2023 To Date: 23/05/2023 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
07	01	Describe Bauschinger's effect
	02	Fundamental of metal working
	03	Classification of diff. metal working processes.
	04	Explain hot working & cold working of metal.
08	01	Advantages of Alloys
	02	State the advantages & disadvantage of hot & cold working
	03	Discussion of mcds
	04	Explain Recovery
09	01	Recrystallization
	02	Grain Growth
	03	Explain principles of Rolling
	04	Comparison bet <sup>n</sup> hot rolling & cold rolling

*Singh* Math  
Signature of the Faculty

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

Semester From Date: 14/02/2023 To Date: 23/05/2023 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
10	01	Explain the types of roll Pass - open pass
	02	Explain the types of box Pass
	03	State diff. types of rolling defects
	04	Control of rolling defects
11	01	Explain types of forging process
	02	Describe the properties of forged products
	03	Explain the defects of forged products
	04	Forged products control.
12	01	Discussion of MCQs & Doubt class
	02	Elementary principle of extrusion
	03	Classify the defects in extruded product
	04	Defects of extruded product

*Singh*  
Signature of the Faculty

Subject: MM No. of Days/per week class allotted 0/1

Semester From Date: 14/02/2023 To Date: 22/05/2023 No. of Weeks: 15

Week	Class Day	Theory/Practical Topics
13	01	Manufacturing of Seamless pipes
	02	Discussion of MCQs
	03	wire drawing description
	04	Explain elementary principle of wire drawing
14	01	Defects of wire drawing
	02	Discussion of MCQs & doubt class
	03	Forming metal method
	04	Elementary concept of deep drawing
15	01	Explain diff. sheet metal forming
	02	Explain bending shearing blanking
	03	Doubt Class & Discussion of MCQs
	04	Overall topic discussion with MCQs

*S. J. Math*  
Signature of the Faculty