

Lesson Plan

Subject : Mechanical Metallurgy(TH-2)

Name of faculty:

Semester: 6th

Class allotted:4p/week

Branch: Metallurgy

Session: 2025(S)

| Discipline | Semester | From date: | To date: | Teaching Aid |
|------------|--------------------------------|---|----------|--------------------------------------|
| Subject: | No. of days/ per week | Theory/ Practical –Topics/Lesson | | |
| Week | Date/Period | | | |
| 1 | 04/02/2025 TO 08/02/2025 | Introduction : Dislocation, types, its basic behavior & role in deformation. Dislocation in various crystals . | | White Board Marker Smart board |
| 2 | 10/02/2025 TO 15/02/2025 | Source of dislocation. Twinning & deformation. Slip & Deformation. | | White Board Marker Smart board |
| 3 | 17/02/2025 TO 22/02/2025 | Deformation of metals: Explain the elastic & plastic behavior of metals Explain yielding criteria. | | White Board Marker Smart board |
| 4 | 24/02/2025 TO 01/03/2025 | Derive critically resolved shear stress. Explain deformation of polycrystalline aggregates Strengthening mechanism: Explain strengthening mechanism .. Describe the role of grain boundary in strengthening | | White Board Marker Smart board |
| 5 | 03/03/2025 TO 08/03/2025 | Define Hall Petch equation . Describe yield point phenomenon. Explain strain-aging. Explain solid solution strengthening from fine particles . Describe fiber strengthening . | | White Board Marker Smart board |



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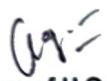
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| 6 | 10/03/2025 TO 15/03/2025 | Describe martensitic strengthening . Explain strain hardening . Describe Bauschinger's effect.. | White Board Marker Smart board |
| 7 | 17/03/2025 TO 22/03/2025 | Fundamentals of Metal working: Classify different metal working process. Explain hot working and cold working of metals and alloys. | White Board Marker Smart board |
| 8 | 24/03/2025 TO 29/03/2025 | State the advantages and disadvantages of hot and cold working . | White Board Marker Smart board |
| 9 | 31/03/2025 TO 05/04/2025 | Recovery, recrystallization and grain growth Explain the following phenomena, (a) Recovery (b) Recrystallization (c) Grain growth | White Board Marker Smart board |
| 10 | 07/04/2025 TO 12/04/2025 | Rolling: Explain principles of rolling Compare between hot rolling and cold rolling. | Marker White Board Smart board |
| 11 | 14/04/2025 TO 19/04/2025 | Explain the types of roll pass-open pass and Box pass. State different types of rolling defects and their control. | White Board Marker Smart board |
| 12 | 21/04/2025 TO 26/04/2025 | Forging: Explain types of forging process. Describe the properties of forged products Explain the manufacturing of seamless pipes | Marker White Board Smart board |
| 13 | 28/04/2025 TO 03/05/2025 | Wire drawing: Explain the elementary principle of wire drawing . Classify the defects of wire drawing. | White Board Marker Smart board |
| 14 | 05/05/2025 TO 10/05/2025 | Forming methods Describe the elementary concept of deep drawing .Explain different sheet metal forming - bending shearing aid blanking | White Board Marker Smart board |


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| 15 | 12/05/2025 TO 17/05/2025 | Revision..... | White Board Marker Smart board |
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