

UNIT - I

Chapter 1 : Mechanics of Sheet Metal Forming 1-1 to 1-30

Syllabus : Theory of plasticity, yield criteria, work of plastic deformation, sheet metal forming, formability studies-conventional processes, effect of friction in forming operation, experimental techniques of evaluation of friction in metal forming, deep drawing, analysis (Numerical), surface defects identification and remedies, introduction to forming simulation, challenges in Forming.

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UNIT - II

Chapter 2 : Special Forming Processes 2-1 to 2-43

Syllabus : HVF, HERF (Explosive Forming) techniques- super plastic forming techniques-Hydro forming-Stretch forming, Laser beam forming-principles and process parameters Advantages, limitations and applications of different forming processes. Orbital forging-Isothermal Hot and cold isostatic pressing-High speed extrusion, Water hammer forming, Incremental Sheet forming, Magnetic Pulse forming, Metal Spinning, Electro Hydraulic Forming, Micro forming

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UNIT - III

Chapter 3 : Weld Metallurgy

3-1 to 3-28

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4-1 to 4-22

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UNIT - VI

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