

7. Explain the use of international standards in metal forming process solution and system design in detail. (20)

8. Explain the following (20)

(a) Flow Curve

(b) Forming defects products and their critical effects.

Roll No.

23052

M.Tech. 1st Semester (Mech. Engg.) (Manufacturing and Automation) Examination- December, 2016

METAL FORMING ANALYSIS

Paper : 831

Time : 3 hours

Max. Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note: Attempt any **five** questions. All questions carry equal marks.

1. (a) What is the work hardening and anisotropy in yielding? (10)

- (b) Discuss the criteria for ductile metal. (10)
2. (a) What is the effect of friction and lubrication in cold working? (10)
- (b) Discuss the technology and analysis of wire drawing process. (10)
3. (a) Explain the stress-strain relation in elastic deformation. (10)
- (b) What is slip line theory? (10)
4. Explain in the following (20)
- (a) Application of theory of plasticity for solving metal forming problem using slab method.

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(b) Effect of friction and lubrication is Hot Working.

5. (a) Discuss the shape function, stiffness matrices and their assembly. (10)

(b) Steady state solution for drawing, forging. (10)

6. (a) Explain the Lagrangian vs Eulerian scheme. (10)

(b) Discuss the material integration scheme. (10)

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