Code: 13A03504 **R13**

B.Tech III Year I Semester (R13) Regular Examinations December 2015

**METAL FORMING PROCESSES**

(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

**PART – A**

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What is true stress?
(b) Define yield locus.
(c) Classify the roll passes.
(d) Elaborate any two forging defects.
(e) What is the principle involved in impact extrusion?
(f) What is sculling in wire drawing process?
(g) Define piercing operation.
(h) What is the formula for finding stripping force in sheet metal operation?
(i) What is the principle involved in Injection moulding process?
(j) Write the applications of rapid prototyping process.

**PART – B**

(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

2 Write the differences of Hot working and Cold working processes.

**OR**

3 Explain recovering, recrystallisation and grain growth.

**UNIT – II**

4 Explain a Rolling process with a schematic diagram.

**OR**

5 Explain the working principle of Smith forging with a neat sketch.

**UNIT – III**

6 Explain Wire drawing process in detail with a neat diagram.

**OR**

7 Describe the working principle of Hydrostatic extrusion with a sketch.

**UNIT – IV**

8 Explain Blanking and Piercing operations with a neat sketch.

**OR**

9 Define Bending and Forming. Explain the terminology involved in bending operation with a diagram.

**UNIT – V**

10 Write a note on Thermo forming process.

**OR**

11 Describe the working principle of Stereolithography with a diagram.

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