

B.Tech III Year II Semester (R15) Supplementary Examinations December/January 2018/19

**METAL FORMING PROCESS**

(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) Draw the stress strain curve.
  - (b) What is meant by yield locus?
  - (c) Give the limitations of rolling.
  - (d) Give a short note on rotary forging.
  - (e) Define hot and cold extrusion process.
  - (f) Give mechanism of wire drawing.
  - (g) Write about blanking process.
  - (h) List the requirements in sheet metal operation.
  - (i) List the methods of rapid manufacturing.
  - (j) Classify rapid prototyping.

**PART – B**

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

**UNIT – I**

- 2 Describe the theory of plasticity with its merits and demerits.
- OR**
- 3 Explain the process of recrystallization growth in hot working process.

**UNIT – II**

- 4 Classify the types rolling process and explain any three types with the necessary sketches.
- OR**
- 5 Explain any drop forging and roll forging process with the necessary sketches.

**UNIT – III**

- 6 Explain impact extrusion a hydrostatic extrusion process with the proper sketches.
- OR**
- 7 Elaborate the process mechanics and characteristics of wire drawing process.

**UNIT – IV**

- 8 Explain bending and forming process with the proper sketches.
- OR**
- 9 Describe coining, hot and cold spinning process with the proper sketches.

**UNIT – V**

- 10 Explain the selective laser sintering (SLS) process with a neat sketch.
- OR**
- 11 Illustrate injection moulding process with the proper sketch.

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