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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech IV Year I Semester Supplementary Examinations August-2021**METAL FORMING PROCESS**

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- a Explain theory of Plasticity. 6M
- 1 b Outline the elastic and plastic deformation behavior of metals. 6M

OR

- a Compare the differences between hot working and cold working processes. 6M
- b Explain the concept of strain hardening. 6M

UNIT-II

- 3 Define forging. Explain smith forging and roll forging processes with the necessary sketches. 12M

OR

- 4 Explain various types of Rolling defects that occur in rolling operation in detail 12M

UNIT-III

- 5 a Summarize the characteristics of drawing process 6M
- b Construct the sketch for measuring the degree of drawing with expressions 6M

OR

- 6 Outline the working principle of forward and backward extrusion process with the proper sketches. 12M

UNIT-IV

- 7 Explain the following sheet metal working shearing operations performed in a workshop with neat sketch. 12M

- i) Blanking
ii) Piercing
iii) Nibbling
iv) Notching

OR

- 8 Classify the different types of bending operations and explain them in detail with suitable sketches. 12M

UNIT-V

- 9 Explain the injection moulding process in detail with suitable sketch. Mention its applications and limitations. 12M

OR

- 10 Explain the working principle of thermoforming process with neat sketch. 12M

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