**R19**

## II B.Tech. I Semester Regular Examinations, March - 2021
### PRODUCTION TECHNOLOGY
### Mechanical Engineering

**Time: 3 Hours**                                                                                           **Max. Marks: 60**

**Note:** Answer **ONE** question from each unit **(5 ×12 = 60 Marks)**

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### UNIT-I

**1.** **a)** Define Casting, Explain the steps involved in making a casting.                [6M]

  **b)** Recommend the Pattern materials for casting process.                              [6M]

### (OR)

**2.** **a)** Define pattern.  Enumerate different pattern allowances with neat [6M] sketches.

  **b)** Demonstrate the Investment moulding process used for castings.                   [6M]

### UNIT-II

**3.** **a)** Enumerate any two types of roll stand arrangements with neat sketches.       [6M]

  **b)** Explain the closed die forging and open die forging processes with neat [6M] sketches.

### (OR)

**4.** **a)** Summarize the Types of extrusion processes used in manufacturing with neat [6M] sketches.

  **b)** Enumerate various forging operations with neat sketches.                         [6M]

### UNIT-III

**5.** **a)** Classify the types of sheet metal cutting operations used in practical [6M] applications.

  **b)** What is shear ?  Explain with neat sketches the effect of shear on maximum load [6M] on punch.

### (OR)

**6.** **a)** Explain spinning and coining operations in sheet metal forming with an [6M] example.

  **b)** Outline the Press tool and terminology in sheet metal forming with a neat [6M] sketch.

### UNIT-IV

**7.** **a)** Distinguish between TIG and MIG arc welding processes with respect to [6M]
  i)  Principle of operation     ii)  Power source and equipment
  iii)  Industrial applications.

**b)** Explain various types of welds and types of joints used in welding applications. [6M]

**(OR)**

**8.** **a)** Conclude the types of flames in oxy acetylene gas welding. [6M]

**b)** Enumerate the Electron beam welding with a neat sketch. [6M]

## UNIT-V

**9.** **a)** Explain briefly with neat sketches various types of compacting processes used in powder metallurgy. [6M]

**b)** Explain various Secondary operations used in powder metallurgy. [6M]

**(OR)**

**10.** **a)** Explain the principle of Electrohydraulic forming with a neat sketch. [6M]

**b)** Explain the Electromagnetic forming with neat sketch. [6M]

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