

Code: 13A03403

B.Tech II Year II Semester (R13) Regular &amp; Supplementary Examinations May/June 2016

**MANUFACTURING TECHNOLOGY**

(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) List the pattern allowances.
  - (b) List the various materials used to prepare moulds.
  - (c) Describe the necessity of Riser in a mould.
  - (d) Define the casting defect Misfit and Porosity.
  - (e) Define welding. Write the general classification of welding processes.
  - (f) Describe the types of flames used in Gas welding.
  - (g) Define Soldering and Brazing.
  - (h) List the various Destructive and Non-destructive tests of welding.
  - (i) Describe the requirements of Surface Treatment Processes.
  - (j) List the various Thermal or Mechanical modifications of surfaces.

**PART – B**  
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 What is a casting? Describe the various steps involved in obtaining a casting.
- OR**
- 3 Define solidification. Describe the general mechanism of solidification of a metal.

**UNIT – II**

- 4 Using neat sketch describe the process of Investment casting.
- OR**
- 5 Describe the Melting Process in a Cupola Furnace using neat sketch.

**UNIT – III**

- 6 Define Resistance welding. Describe the various methods of Resistance welding with sketches.
- OR**
- 7 Describe the process of cutting the Ferrous and Non-Ferrous metals using Oxy-Acetylene Gas.

**UNIT – IV**

- 8 Using neat sketch describe the Friction Welding process.
- OR**
- 9 List the various welding defects. What are the causes and remedies for these welding defects?

**UNIT – V**

- 10 List the characteristics and applications of surface Treatment Processes.
- OR**
- 11 Describe the Overlay Surface coating and Diffusion Surface coating.

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