



Q.P. Code : 4782

(3 Hours)

[Total Marks : 80

- N.B. : (1) Questions one compulsory
 (2) Solve any **three** questions from the remaining.
 (3) Figure to the **eight** indicates full marks.

1. (a) Explain Pattern allowances. 5
 (b) Explain Rolling defects. 5
 (c) Define the following terms used in welding. 5
 (i) Welded Joint (ii) Overhead welding
 (iii) edge preparation (iv) slag (v) Flux.
 (d) How is a rod made by extrusion? 5
2. (a) Differentiate the following: 10
 (i) Patterns and core boxes.
 (ii) Wing core and Hanging type of cores.
 (b) Write short notes on: 10
 (i) Pattern allowances
 (ii) Types of cores
3. (a) Explain planetary and cluster rolling mills with neat sketches. 5
 (b) Explain rotary swaging with its sketch? 10
 (c) Write short note on: Metal Extrusion. 5
4. (a) Compare TIG and MIG welding Processes? 10
 (b) Discuss laser beam welding along with its advantages and disadvantages. 10
5. (a) How are porous bearings Manufactured? List the advantages and applications of such bearings 10
 (b) Explain advantages and disadvantages powder Metallurgy. 5
 (c) Write the explanatory note on: sintering process in Powder Metallurgy? 5
6. (a) List the different NDT methods? Explain ultrasonic process Method of inspection? 8
 (b) Explain with neat sketch. "Radiographic Non-Destructive test:" 5
 (c) What are the important properties of plastics from engineering point of view? 7