



- N.B. :** (1) Question No. 1 is compulsory.  
(2) Attempt any **three** questions out of remaining **five** questions.  
(3) **Figures to right** indicate **full marks**.  
(4) Assume suitable **data** if **necessary**.

- Q.1. Write short note on any **four** of following: - (20)
- (a) Pattern allowances.
  - (b) Thermit welding process
  - (c) Blow moulding process.
  - (d) Rolling defects.
  - (e) Important properties of moulding sand.
- Q.2. (a) Explain the process of production of seamless tubes by rolling process. (6)
- (b) What is weldability? Discuss various welding defects with their remedies. (8)
  - (c) With a neat sketch explain the principle of electro slag welding process. (6)
- Q.3. (a) Name various methods of powder manufacture techniques in powder metallurgy and explain any one in detail. (8)
- (b) Compare TIG and MIG welding process. (8)
  - (c) Write short note on application of plastics in industries. (4)
- Q.4. (a) what is NDT. Explain any two NDT methods in detail. (8)
- (a) With a neat sketch explain the working principle of plastic injection moulding process. (6)
  - (c) List important applications of powder metallurgy technique. (6)
- Q.5. (a) with neat sketches explain briefly on "friction welding". (6)
- (b) A casting of 50cm × 40cm × 10 cm size solidifies in 20 minutes. Find the solidification time for 40 cm × 30 cm × 5 cm casing under similar conditions. (8)
  - (c) Differentiate between "soldering" and "brazing" operation. (6)
- Q.6. (a) With the help of a neat sketch explain the complete gating system in casting process. (8)
- (b) Define the terms "Spread", "Elongation", and "Draft" w.r.t. Rolling process. (6)
  - (c) Explain vacuum forming process of polymers. (6)