

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

- Q.1. Write short note on any **four** of following: - (20)
- Pattern allowances.
 - Thermit welding process
 - Blow moulding process.
 - Rolling defects.
 - Important properties of moulding sand.
- Q.2. (a) Explain the process of production of seamless tubes by rolling process. (6)
- What is weldability? Discuss various welding defects with their remedies. (8)
 - 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)
- Compare TIG and MIG welding process. (8)
 - Write short note on application of plastics in industries. (4)
- Q.4. (a) what is NDT. Explain any two NDT methods in detail. (8)
- With a neat sketch explain the working principle of plastic injection moulding process. (6)
 - List important applications of powder metallurgy technique. (6)
- Q.5. (a) with neat sketches explain briefly on "friction welding". (6)
- A casting of $50\text{cm} \times 40\text{cm} \times 10\text{cm}$ size solidifies in 20 minutes. Find the solidification time for $40\text{cm} \times 30\text{cm} \times 5\text{cm}$ casting under similar conditions. (8)
 - 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)
- Define the terms "Spread", "Elongation", and "Draft" w.r.t. Rolling process. (6)
 - Explain vacuum forming process of polymers. (6)
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