

(03Hours)

[Total Marks: 80]

- N.B. 1) Question No 1 is **Compulsory**  
2) Attempt any **three** out of the remaining **five** questions  
3) Figures to the **right** indicate full marks  
4) Draw neat **sketches** wherever necessary



1. Attempt **any four** of the following [20]  
a) Mechanism of sintering  
b) Thread rolling  
c) Centrifugal Casting  
d) Carbon Arc Welding  
e) Blow Moulding
2. a) Explain any two non-destructive techniques with sketch. [10]  
b) Explain rotary swaging with its sketch? [10]
3. a) Explain - (i) Principle of gating (ii) Principle of risering. [10]  
b) What is weldability? Discuss various welding defects. [10]
4. a) Explain vacuum forming process of polymers. [5]  
b) Differentiate Welding, soldering and brazing. [5]  
c) Write short note on Pattern materials [5]  
d) Differentiate between open and closed die forging. [5]
5. a) Compare TIG and MIG welding. [10]  
b) What is powder metallurgy? Why gears are manufactured by powder metallurgy? List the advantages of powder metallurgy. [10]
6. Attempt the following [20]  
a) Discuss types of flames in gas welding.  
b) Write short note on application of plastics in industries.  
c) Describe Ultrasonic testing process with a neat labelled sketch.  
d) What are the limitations of powder metallurgy processes over other competing processes?

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