

(3 Hrs)

Marks : 80

- N. B. 1 Question No. 1 is compulsory  
 2 Attempt any three questions from remaining five questions  
 3 Assume suitable data if necessary  
 4 Diagram at appropriate places carries marks
- 1 (a) Write short note on polyamides 5  
 (b) Write properties and applications of Nitinol alloy 5  
 (c) Write short note Heat treatment cycle for stainless steel 5  
 (d) Write advantages of metal composite over metal 5
- 2 (a) Explain conducting polymer in detail? 10  
 (b) Describe properties and application of Ni-Ti alloy as an important biomaterial 10
- 3 (a) Explain Silicon nitride processing of ceramics? 10  
 (b) Define magnetism. Discuss the working of magnetic ceramic materials 10
- 4 (a) Explain reinforcement types in detail? 10  
 (b) Explain carbon composite fabrication in detail? 10
- 5 (a) Discuss the mechanical behavior and properties of metal composites 10  
 (b) Explain different causes of failure in stainless steel. 10
- 6 (a) Write short note on nanoshell and nanosensor 10  
 (b) Explain chemical vapour deposition method for synthesis of carbon nanotubes 10

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