

(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
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- 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
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- 2 (a) Explain conducting polymer in detail? 10
 - (b) Describe properties and application of Ni-Ti alloy as an important biomaterial 10
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- 3 (a) Explain Silicon nitride processing of ceramics? 10
 - (b) Define magnetism. Discuss the working of magnetic ceramic materials 10
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- 4 (a) Explain reinforcement types in detail? 10
 - (b) Explain carbon composite fabrication in detail? 10
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- 5 (a) Discuss the mechanical behavior and properties of metal composites 10
 - (b) Explain different causes of failure in stainless steel. 10
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- 6 (a) Write short note on nanoshell and nanosensor 10
 - (b) Explain chemical vapour deposition method for synthesis of carbon nanotubes 10
