

(3 Hrs)

Mark : 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) Give properties and applications of Nitinol alloy 5
 (c) Write short note Heat treatment cycle for stainless steel 5
 (d) Write the composition, properties and applications of high temperature alloy 5
- 2 (a) Describe important characteristics & applications of free cutting steel. Give typical composition of a free cutting steel 10
 (b) Explain conducting polymer in detail? 10
- 3 (a) Define semiconductor. Discuss the working of semiconductor ceramic materials 10
 (b) Explain Silicon nitride processing of ceramics? 10
- 4 (a) Explain reinforcement types in detail? 10
 (b) Explain carbon composite fabrication in detail? 10
- 5 (a) Explain different causes of failure in stainless steel 10
 (b) Discuss the mechanical behavior and properties of metal composites 10
- 6 (a) Write short note on nanoshell and nanosensor 10
 (b) Explain various types of thermal spraying methods used for thin film coating 10
