



BE /B.Tech(Full Time) DEGREE END SEMESTER EXAMINATION – May 2012

MANUFACTURING ENGINEERING BRANCH

THIRD SEMESTER - (REGULATION 2008)

ME 9252 – ENGINEERING MATERIALS AND METALLURGY

Time: 3 hr

Max. Marks: 100

Answer ALL Questions

PART – A (10 x 2 = 20 Marks)

1. What do you mean by equilibrium diagram?
2. What are peritectic and peritectoid reaction?
3. What is spheroidized annealing?
4. Compare austempering and martempering.
5. What are the influences of Silicon in steel?
6. Classify the different types of Copper alloys.
7. What are PEEK and PMMA.
8. State few examples for commodity polymers.
9. What is slip system?
10. Define endurance limit.

PART – B (16 x 5 = 80 Marks)

11. Describe Iron –Iron Carbide diagram in detail (16)
12. a) Explain the steps involved in the construction of TTT diagram. (16)  
(Or)  
b) Explain Flame and induction hardening with neat sketch. (16)
13. a) Discuss the different types of Cast Iron and its properties. (16)  
(Or)  
b) Discuss the properties and application of Aluminum and its alloys. (16)
14. a) Describe the properties and application of engineering ceramics. (16)  
(Or)  
b) Explain the different types of composite materials. (16)
15. a) Explain the mechanism of plastic deformation in detail. (16)  
(Or)  
b) Briefly explain Fatigue and Creep test. (16)