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BE /B.Tech(Full Time) DEGREE END SEMESTER EXAMINATION – Nov 2011

17

MANUFACTURING ENGINEERING BRANCH

THIRD SEMESTER - (REGULATION 2008)

MF 9252 – ENGINEERING MATERIALS AND METALLURGY

Time: 3 hrs

Max. Marks: 100

Answer ALL Questions

PART – A (10 x 2 = 20 Marks)

1. Compare metal and alloy cooling curve.
2. What are the factors that affect the formation of solid solution?
3. What are the objectives of normalizing of steel?
4. How the various factors affect the TTT diagram?
5. What are the influences of Manganese in steel?
6. Classify the different types of aluminum alloys.
7. Name any four thermoset plastics.
8. State few applications of thermoplastics.
9. What is slip system?
10. Define toughness, endurance limit.

PART – B (16 x 5 = 80 Marks)

11. What is TTT diagram? Explain the cooling curve superimposed TTT diagram with sketch.
12. a) Describe the Phase diagram of two metals completely soluble in both liquid and solid state.
(Or)
b) Describe Iron –Iron Carbide diagram in detail.
13. a) Discuss the different types of alloy steels and their properties.
(Or)
b) Discuss the properties and application of-copper and its alloys.
14. a) Describe the properties and application of engineering-ceramics.
(Or)
b) Discuss the different types of composite materials.
15. a) Explain the mechanism of plastic deformation.
(Or)
b) Explain any two types of hardness testing procedure.