



B.E/B.Tech (Full Time) DEGREE END SEMESTER EXAMINATION APRIL/MAY 2014

MATERIALS SCIENCE AND ENGINEERING BRANCH

FOURTH SEMESTER

ML9253 – NONFERROUS METALLURGY

REGULATIONS 2008

Time: 3 hr

Max. Marks: 100

PART – A (2 X 10 =20)

1. What is the significance and application of ETP or OFHC type of copper?
2. What is remedy for season cracking and dezincification in case of brass?
3. Which type of aluminium alloy is used for aircraft structures?
4. What does temper designation by T6?
5. What is the caution required while processing magnesium alloys?
6. What are the uses of titanium aluminides?
7. Why pure zinc cannot be work hardened?
8. What are the applications of Monel?
9. State an application of Pt-Ir and tin base babbitt alloy.
10. What are alloying elements of silver alloy to overcome limitations of low melting point and hardness?

PART – B (5 X 16 =80)

11. (i) State an engineering application of following precious metal alloys and their properties:
Coin silver, electroplated gold, platinum, palladium-silver and osmium. (2X5=10)
(ii) State the composition, properties and application of any ONE lead alloy. (6)
12. Brief on the classification, composition, properties and applications of
(a) Brass (OR) (b) Bronze
13. Brief on the specifications, strengthening mechanisms, properties and applications of
(a) Non-heat treatable alloys (OR) (b) Heat treatable alloys
14. Brief on the designation, microstructure, properties and applications of
(a) AZ92A and Magnesium-Rare Earth based alloy.
(OR)
(b) alpha, beta and alpha-beta Titanium alloys
15. State the composition, properties and application of any FOUR of given list of alloys:
(a) Inconel, Hastelloy, Constantan, Invar, Elinvar, Permalloys.
(OR)
(b) Nimonics, Waspalloy, Incoloy, Zinc Die Cast alloys