

R7

Code: R7 210306

B.Tech II Year I Semester (R07) Supplementary Examinations, May 2012

METALLURGY AND MATERIAL SCIENCE**(Mechanical Engineering)**

Time: 3 hours

Max Marks: 80

Answer any FIVE questions

All questions carry equal marks

- 1 Explain various methods used for determination of grain size.
- 2 Explain Hume Rothery rules in detail. What are the uses of these rules?
- 3 With a neat sketch explain Fe-Fe₃ C equilibrium diagram.
- 4 Classify cast irons. Explain the structure and properties of various types of cast irons.
- 5 What are TTT diagrams? Explain how they are constructed and what are their uses.
- 6 Explain the structure and properties of some aluminium alloys.
- 7 Define a nano material. Explain various applications of nano materials.
- 8 Explain various methods of manufacturing used for composites.
