Code No: NR411802 **NR**

IV B.Tech I Semester Supplementary Examinations, November 2005
STEEL MAKING
(Metallurgy & Material Technology)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Write short notes on: [4x4=16]
   (a) crucible steel making
   (b) productivity of converters
   (c) slag-steel reactions
   (d) role of oxygen in steelmaking
2. Describe, in detail, the chemistry of steelmaking with respect to:
   (a) sulphur control [10]
   (b) silicon control [6]
3. (a) Describe, in detail, the concept and practice of heat recovery system as used in open hearth furnaces.
   (b) Describe, in detail, the charging sequence as well as the raw materials used in open hearth furnaces. [8+8]
4. Describe in detail, the construction and operation of electric Arc furnaces. [16]
5. Describe in detail, the principle and typical procedure of ladle metallurgy/ LF operations. [16]
6. Discuss in detail, the role played by vacuum and inert gases in ladle metallurgy. [16]
7. Compare the following pairs: [4x4=16]
   (a) Ingot casting and continuous casting
   (b) AOD and VOD
   (c) Duplex and Triplex processes
   (d) Killed and semi-killed steels.
8. Describe briefly the following : [4x4=16]
   (a) Integrated steel plant
   (b) Hot strip mill
   (c) Superheat in continuous casting
   (d) Reheating furnace

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