

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VI Examination-Nov/Dec-2011

Subject code: 162102

Date: 23/11/2011

Subject Name: Steel Making

Time: 10.30 am -1.00 pm

Total marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Define steel. Classify the types of steels. Discuss steel making routes briefly. **07**

(b) With neat sketch explain steel production by Kaldo process. **07**

Q.2 (a) List and explain raw materials and their importance in steel making. **07**

(b) Draw Ellingham diagram and explain its importance in steel making. **07**

OR

(b) Briefly discuss about reaction at slag-metal interface. **07**

Q.3 (a) Explain briefly BOF steel making practice. **07**

(b) Discuss the advantages and disadvantages of top and bottom blown processes. **07**

OR

Q.3 (a) Draw a labeled sketch of EAF and explain functions of its various parts. **07**

(b) Discuss briefly LD converter. **07**

Q.4 (a) Explain sources, effects and control of oxygen, nitrogen and hydrogen in steel. **07**

(b) Explain briefly secondary steel making by AOD process. **07**

OR

Q.4 (a) Explain the salient points of ESR process. **07**

(b) Discuss Ladle furnace operation. **07**

Q.5 (a) What is inclusion? Explain the effects of inclusions on mechanical properties of steel. **07**

(b) List types of moulds for ingot casting and write their advantages and disadvantages. **07**

OR

Q.5 (a) What is continuous casting? Explain continuous casting process. **07**

(b) Discuss briefly desulphurization and dephosphorization. **07**
