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Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VI EXAMINATION - WINTER 2015

•		Code:162102 Date:17 /12/ 2 Name: Steel Making	2015
Time	Fime: 2:30pm to 5:00pm Total Marks:		70
	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Define steel. Classify the types of steels. Discuss briefly integrated and mini steel plants in India	04+03
Q.2	(b) (a)	What is a basic and oxidizing slag? Explain is its role in steel making What are the Importance and Mechanism of Decarburization Reaction in steel making?	04+03 07
	(b)	Give comparison between the following in terms of process capabilities. (i) Induction furnace & Electric Arc furnace (ii) Bessemer Process & LD Process	07
		OR	
	(b)	Mention major parts of Electric Arc Furnaces. Explain EAF Operations in brief	03+04
Q.3	(a)	Discuss various conditions for removal of Phosphorous during steel making	07
	(b)	Why process control is critical in "BOF" process? Discuss how it is done?	07
		OR	
Q.3	(a)	Discuss the advantages and disadvantages of top and bottom blown processes.	07
	(b)	Explain advantages and drawbacks of "OBM" process of steel making	07
Q.4	(a) (b)	Explain: Reaction at slag metal interface in Steel Making Process. What are the sources of oxygen, nitrogen and hydrogen in steel? How are they harmful? What measures are taken to control their contents? OR	07 03+04
Q.4	(a)	Compare AOD and VOD processes of Steel Making.	07
Q.5	(b) (a)	Draw and explain- Ladle Furnace Operation Explain the following with neat diagram.	07
		(i) ESR Process	04
	(b)	(ii) R-H degassers. Explain with neat schematic Ladle Injection Metallurgy OR	03 07
Q.5	(a)		03+04
	(b)	List the defects in Con-cast products. How they can be controlled	03+04