Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (OLD) - EXAMINATION - SUMMER 2017

Subject Code: 162102
Subject Name: Steel Making
Time: 10:30 AM to 01:00 PM
Instructions:

1. Attempt all questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

O 1 (a) What is an integrated steel plant? Name the plants and products of these plants in 07.

Ų.I	(a)	India	07
	(b)	Compare LD process and LD-AC process with Neat diagram	07
Q.2	(a) (b)	Explain: Reaction at slag metal interface. List Design Improvements in modern EAF practice. Discuss briefly about UHP arc furnaces.	07 07
		OR	
	(b)	With the help of schematic show various latest routes of steelmaking and explain raw materials and their importance in steel making.	07
Q.3	(a)	Explain Laddle Refining process & its uses.	07
	(b)	(i) What do you mean by good quality of steel?(ii) Explain the effect of Sulphur, Phosphorus, and Gases in Steel. OR	07
Q.3	(a)	Explain the difference in structure by Ingot Casting & Continuous Casting method	07
V.	(b)	Explain Continuous casting machines with its various units & products.	07
Q.4	(a)	Compare AOD and VOD processes of Steel Making	07
	(b)	Define "inclusions". Explain what is the effect of inclusions on mechanical Properties of steel.	07
		OR	
Q.4	(a)	List the defects in Con-cast products. How they can be controlled	07
	(b)	Discuss the advantages and disadvantages of top and bottom blown processes	07
Q.5	(a)	Explain with neat schematic Ladle Injection Metallurgy	07
	(b)	What are the sources of oxygen, nitrogen and hydrogen in steel? How are they harmful? What measures are taken to control their contents?	07
		OR	
Q.5	(a)	What is a basic and oxidizing slag? Explain is its role in steel making	07
	(b)	Give comparison between the following in terms of process capabilities.	07
		(i) Induction furnace & Electric Arc furnace	
		(ii) Bessemer Process & LD Process	
