Seat No.:	Enrolment No
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Subject Code: 162102

**Subject Name: Steel Making** 

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **BE - SEMESTER-VI- EXAMINATION - SUMMER 2016**

Date: 21/05/2016

		: 10:30 AM to 01:00 PM	<b>70</b>
I	nstru	<ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>	
Q.1	(a)	Give names of the processes in which oxygen, oxygen + lime and Oxygen + hydro carbon are used.	07
	<b>(b)</b>	Name various Integrated and Mini Steel Plants in India.	07
Q.2	(a) (b)	Compare LD process and LD-AC process with Neat diagram Discuss briefly various sequence of operation of Basic Oxygen Furnace (BOF) and List various chemicals reactions occur during process of refining.  OR	07 07
	<b>(b)</b>	Discuss the advantages and disadvantages of top and bottom blown processes	07
Q.3	(a)	Explain the Oxygen Lance Construction & advantages and disadvantages of single & multi nozzle lance	07
	<b>(b)</b>	Explain: Reaction at slag metal interface	07
Q.3	(a)	OR Explain in brief, (with neat sketch) construction & working of KALDO furnace. Also state the merits & demerits of this process.	07
	<b>(b)</b>		07
Q.4	(a)	List the benefits of Secondary Steel Making Process and Give few examples of steels subjected to Secondary Steel Making processes	07
	<b>(b)</b>	How the nitrogen problem in stainless steel making is dealt with?  OR	07
Q.4	(a) (b)	Compare AOD and VOD processes of Steel Making Discuss the main requirements of "Deoxidizer" in steel making. Explain the purpose and mechanism of its working	07 07
Q.5	(a) (b)	Explain the difference in structure by Ingot Casting & Continuous Casting method Define "inclusions". Explain what is the effect of inclusions on mechanical Properties of steel	07 07
	, .	OR	
Q.5	(a)	Explain the following with neat diagram.  (i) Ladle Injection Metallurgy	04
		(ii) R-H degassers	03
	<b>(b)</b>	List the defects in Con-cast products. How they can be controlled	07

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