Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI • EXAMINATION – SUMMER • 2015

•		code: 162102 Date: 04/05/2015 Name: STEEL MAKING	
Time	e: 10	0.30am-01.00pm Total Marks: 70 tions:	
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	(i) Explain Dephospurization in steel making.(ii) Name various Integrated and Mini Steel Plants in India.	04 03
	(b)	(i) What are the Importance and Mechanism of Decarburization Reaction in steel making?(ii) Briefly explain reaction at Slag Metal interface.	04
Q.2	(a)	Explain the Oxygen Lance Construction & advantages and disadvantages of single & multi nozzle lance.	07
	(b)		07
	(b)	OR Pood the following statements constylly and comment on the validity of	
	(b)	Read the following statements carefully and comment on the validity of the statements: (i) Oxygen Steel making does not consume any energy.	04
		(ii) There are no gases in killed steel.	03
Q.3	(a)	(i) What do you mean by good quality of steel.(ii) Explain the effect of Sulphur, Phosphorus, and Gases in Steel.	02
	(b)	(ii) Explain necessary conditions for Desulphurization &	05 02
		Dephosphorization in steel making. OR	05
Q.3	(a)	Explain Laddle Refining process & its uses.	07
	(b)	(i) What are the benefits of Secondary Steel Making processes.(ii) Give few examples of steels subjected to Secondary Steel Making	03
		processes.	04
Q.4	(a)		02
	<i>z</i> = ·	(i) Ladle Injection Metallurgy. (ii) R-H degasers.	03 04
	(b)	Explain ESR Process & explain improvement in quality by ESR process. OR	07

Q.4	(a)	Explain Continuous casting machines with its various units & products.	07
			07
	(b)	Explain the difference in structure by Ingot Casting & Continuous Casting method.	07
Q.5	(a)	(i)Compare LD process & LD-AC process.	03
		(ii)Briefly explain the lining used in BOF.	04
	(b)	What are HP & UHP arc Furnaces.	04
		Mention advantages of UHP arc furnace.	03
		OR	
Q.5			
-	(a)	(i) What is the origin of inclusion & explain the types of inclusions	04
	, ,	present in steel?	03
		(ii) What is the role of Sulphur in free cutting steel?	
	(b)		
	()	(i) Hot shortness & cold shortness in steel	03
		(ii) Alumina Streaks on Coil surface.	02
		(iii) Breakout in Caster.	02
