Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION - WINTER 2013

Subject Code: 172106 Subject Name: Advance Ferrous Metallurgy			Date: 03-12-2013	
Ti	-	10:30 TO 01:00 Total Marks: 7 ons: Attempt all questions. Make suitable assumptions wherever necessary.	70	
Q.1	(a) (b)	What are the problems of Indian steel plant? Explain. What are the alternative routes of iron production? Explain Mini blast furnace.	07 07	
Q.2	(a) (b)	Give different reactions occurring in blast furnace in different sections. Explain the mechanisms of kinetics of iron oxide reduction in blast furnace OR	07 07	
	(b)	How humidifications of Blast improve performance of blast furnace?	07	
Q.3	(a)	How the high temperature and oxygen enrichment of blast improves the performance of blast furnace?	07	
	(b)	Discuss high temperature properties of iron bearing materials. OR	07	
Q.3	(a) (b)	Discuss in detail about pulverized coal injection. List ferroalloy materials. Discuss the production of ferrochrome.	07 07	
Q.4	(a) (b)	With neat diagram of EAF explain the production of steel Write a short note on sponge iron production. OR	07 07	
Q.4	(a) (b)	Explain electro slag refining process and role of synthetic slag Discuss the refractories of blast furnace	07 07	
Q.5	(a) (b)	Discuss in detail about AOD process of secondary steel making. Explain continuous casting process with neat sketch.	07 07	
		OR		
Q.5	(a) (b)	Discuss the process of reduction smelting. What are the sources of sulfur and phosphorous and what is the effect of it on quality of steel?	07 07	
