Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014

Su	bject	Code: 172106 Date: 31-05-2014	4
Ti	•	Name: Advance Ferrous Metallurgy 2:30 pm - 05:00 pm Total Marks: 70	0
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	List the factors affecting reduction rate of iron ore and explain any two in detail. What are the alternative routes of iron production? Explain Mini blast furnace	07 07
Q.2	(a) (b)	What are the problems of Indian steel plant? Explain How humidifications of blast improve performance of blast furnace? OR	07 07
	(b)	With labeled diagram of blast furnace explain the reactions occurring in blast furnace.	07
Q.3	(a)	Pulverized coal injection technique helps to improve the performance of blast furnace. Explain it.	07
	(b)	Discuss the process of reduction smelting. OR	07
Q.3	(a) (b)	Discuss refractory lining and temperature profile in blast furnace with neat sketch Discuss different charging mechanisms in blast furnace?	07 07
Q.4	(a)	How the high temperature and oxygen enrichment of blast Improves the performance of blast furnace?	07
	(b)	Explain electro slag refining process and role of synthetic slag OR	07
Q.4	(a) (b)	What are different ferroalloys used? Discuss Ferrochrome production What are the sources of sulfur and phosphorous and what is the effect of it on quality of steel.	07 07
Q.5	(a) (b)	Draw neat sketch of EAF and explain EAF route of steel production. Explain sponge iron production process.	07 07
Q.5	(a)	OR Compare AOD and VOD process.	07
Ų.S	(a) (b)	Explain continuous casting process with neat sketch	07
