Seat No.: Enrolment N

Subject Code: 152101

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V- EXAMINATION - SUMMER 2016

Date: 19/05/2016

	•	Name: Iron Making 2:30 PM to 05:00 PM	Total Marks: 70
	ructio		
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain terms ore, slag and flux. List raw materials for Iron making and give their composition and locations in India.	04+03
	(b)	What is the role of coke and limestone in iron making? Explain	07
Q.2	(a)	Explain difference between Pig iron , Sponge iron and Hot Briquetted Iron	07
	(b)	Why properties of the raw materials being used in iron making process is evaluated? List down various properties of raw materials using in IM	_
		OR	
	(b)	Explain importance of burden distribution in relation to the Productivity of blast furnace	07
Q.3	(a)	Discuss the objective and mechanism of sintering of iron ore fines	07
	(b)	What is pelletization? Explain theory of bonding and mechanism ball formation in pelletization.	of 04+03
		OR	
Q.3	(a)	Write note on Blast furnace gas, properties, cleaning and utilization	
	(b)	What are different refractories used in blast furnace? Discuss then	n 07
Q.4	(a)	List the factors affecting charge distribution in blast furnace. Discu any two.	ss 07
	(b)	Write Short Notes of the following:	03+
		(1) Bell less charging system (2) RAFT (3) Pulverized coal	02+
		injection	02
		OR	
Q.4	(a)	Discuss blast furnace reactions in- Stack, Tuyere, Bosh and Hearth	
			07
	(b)	Discuss the conditions of effective De-siliconization and De- Phosphorisation in Blast furnace	07
Q.5	(a)	Explain effects and advantages of high top pressure in blast furnace Iron making.	• 07
	(b)	What is humidification of blast in iron making? Discuss its advantages	07
		OR	
Q.5	(a)	What are different alternative iron making processes? Explain Midrex process.	07
	(b)	Explain 1.Pillaring and Scaffolding	04 +03
		2. Difference between Direct Reduction & In direct Reduction	
