

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV(New) EXAMINATION – SUMMER 2016

Subject Code:2142107**Date:08/06/2016****Subject Name:Iron Making****Time:10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	Short Questions	14
	1 Gives Ores of Iron	
	2 Give full form of RAFT	
	3 _____ tall, approximately, is a blast furnace?	
	4 Give two advantages of putting sinter into the furnace.	
	5 What is the reducing agent in the blast furnace?	
	6 What are the three raw materials used in making iron?	
	7 What are PCI stands for?	
	8 Which company is the world's largest producer of iron ore?	
	9 Last year [2015] world crude steel production was _____	
	10 Explain Terms Flux.	
	11 Explain Terms Slag.	
	12 Explain Terms Ore.	
	13 Explain what is Blast furnace?	
	14 What are two uses of slag?	
Q.2	(a) Write short notes on Pig Casting Machine.	03
	(b) What is humidification of blast in iron making?	04
	(c) What is the role of coke and limestone in iron making? Explain	07
	OR	
	(c) Draw neat sketch of blast furnace and label it properly.	07
Q.3	(a) List the factors affecting charge distribution in blast furnace.	03
	(b) Explain "Dwight-Lloyed" Sintering Machine..	04
	(c) Describe the melting and softening test.	07
	OR	
Q.3	(a) What is sintering?	03
	(b) Briefly discuss sintering process	04
	(c) Discuss the conditions of effective De-siliconization and DePhosphorisation in Blast furnace	07
Q.4	(a) Classify various testing methods of Raw materials	03
	(b) Explain Evaluation of Iron Ore.	04
	(c) What are different refractories used in blast furnace? Discuss them	07
	OR	
Q.4	(a) What is pelletization?	03
	(b) Discuss importance of maintaining basicity in Iron making.	04
	(c) Discuss blast furnace reactions in- Stack, Tuyere, Bosh and Hearth	07
Q.5	(a) What is basicity?	03
	(b) Write Short Notes Bell less charging system	04

- (c) Explain effects and advantages of high top pressure in blast furnace Iron making. **07**

OR

- Q.5** (a) What are different alternative iron making processes? **03**
(b) Explain Midrex process. **04**
(c) What are irregularities in blast furnace operations? Briefly discuss them with suggestive remedies. **07**
