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GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-III • EXAMINATION – SUMMER 2013

	Dipi		
	•	Code: 332104 Date: 13-06-2013 Name: Fuel Furnace and Refractories	
Time: 02:30 pm - 05:00 pm Instructions: Total Marks: 70			
	1.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Define and classify fuel, furnace and refractory material with example. Write short on bomb calorimeter.	07 07
Q.2	(a) (b)	Explain water gas fuel in detail. Explain in detail the carbonization process of coal. OR	07 07
	(b)	Give the definition and uses of producer gas and blast furnace gas.	07
Q.3	(a) (b)	Write comparison of solid, liquid and gaseous fuel. Explain construction of blast furnace with neat and clean figure. OR	07 07
Q.3	(a) (b)	Give short note on coal. Explain the working process of open hearth furnace with neat and clean figure.	07 07
Q.4	(a) (b)	Write short note on muffle furnace with neat and clean figure. Give the short note on coke oven gas. OR	07 07
Q. 4	(a) (b)	Draw neat and clean figure of cupola furnace and label various section. Discuss the importance of atmospheric control in furnaces.	07 07
Q.5	(a) (b)	List test performed on refractory material and explain any one test in detail. Explain manufacturing process of silica brick with flow sheet. OR	07 07
Q.5	(a) (b)	Discuss the properties of refractory material. Explain fractional distillation of crude oil with neat figure.	07 07
