Seat No.:	Enrolment No.
Jour 110.:	Lindinont ivo

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEMESTER-7th EXAMINATION - SUMMER 2015

Subject code: 172101 D Subject Name: Physical Metallurgy II			Pate:01/05/2015	
	-	30PM-05.00PM Total Marks:	70	
Ins	2.]	Ons: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Describe the mechanism of formation of austenite on heating eutectoid steel.	07	
	(b)	Explain TTT diagram.	07	
Q.2	(a)	Describe the mechanism of formation of upper and lower bainite.	07	
	(b)	Draw Fe-Fe3c diagram and mention each phase. What is limitations of this diagram.	07	
	(b)	OR Short note on Sub zero treatment	07	
Q.3	(a)	What is Hardenability? Explain about Jominy end quench test.	07	
	(b)	Explain heat treatment of En:31 steel.	07	
Q.3	(a)	OR What are different Quenchants used in Heat treatment? Explain about Synthetic Quenchants.	07	
	(b)	Explain heat treatment of En:24 steel.	07	
Q.4	(a)	What are different heat treatment processes for steel? Explain any one.	07	
	(b)	Explain Aus tempering treatment OR	07	
Q.4	(a)	Explain why Martensite is hard? Discuss Bain Distortion Model.	07	
	(b)	Short Note on CCT diagram.	07	
Q.5	(a) (b)	Discuss briefly Hull Mehl model of pearlitic transformation Short Note on Mar tempering treatment. OR	07 07	
Q.5	(a)	Which are different defects occur after heat treatment? Expalin any one defect cause with its remedies.	07	
	(b)	Short note on thermo mechanical treatment.	07	
