Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITYBE - SEMESTER-VIII • EXAMINATION – SUMMER 2013

Subject Code: 182102 Date: 13/05. Subject Name: Selection of Materials and Failure Analysis			2013
Tim	Fime: 10:30 am TO 01:00 pm Total Marks		
111501	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Explain the role of material engineer for selection of materials in Design synthesis.	07
	(b)	· · · · · · · · · · · · · · · · · · ·	07
Q.2	(a) (b)		07 07
	(b)		07
Q.3	(a) (b)	Short note on Bearing materials Short note on materials for high strength to weight ratio. OR	07 07
Q.3	(a) (b)	Discuss briefly on Material selection for wear resistance. Discuss about gear materials.	07 07
Q.4	(a) (b)	*	07 07
Q.4	(a)	Short note on Brittle failure.	07
Q.4	(b)	Explain the mechanism of stress corrosion cracking in alloys. Mention the most prominent combination of metals and environments which can lead to stress corrosion cracking.	07
Q.5	(a) (b)	How material Engineers can do procedure for failed component Explain three stages of fatigue failure. Differentiate between strations and beach marks.	07 07
Q.5	(a)	OR Short note on corrosion fatigue and contact fatigue.	07
Ų.S	(a) (b)	Discuss briefly about in process failure.	07
