Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – WINTER • 2014

Subject Code: 172102 **Date: 02-12-2014**

Subject Name: Non Destructive Testing

Time: 10:30 am - 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.**

Q.1	**(a)**	Define and differentiate between Destructive and Non –Destructive Testing.	**07**
	(b)	With neat sketch discuss the causes of defects in casting and welding.	**07**
Q.2	**(a)**	Explain principle of Radiographic Testing and give its application and limitations.	**07**
	(b)	Explain the Interpretation of Radiograph and State safety precaution in Industrial radiography.	**07**
		OR	
	(b)	Write a short note on Eddy current testing.	**07**
Q.3	**(a)**	Discuss briefly about selection procedure of different NDT techniques for detection of defects.	**07**
	(b)	Explain Magnetic Partical Testing (MPT)	**07**
		OR	
Q.3	**(a)**	Briefly Explain Method of Dye Penetrant Testing.	**07**
	(b)	Which method is best for insitu inspection of a Pipe line of a refinery? Why?	**07**
Q.4	**(a)**	With line diagram explain ultrasonic flaw detection equipment.	**07**
	(b)	Explain different transducers in ultrasonic testing with neat sketch.	**07**
		OR	
Q.4	**(a)**	What is coplant in ultrasonic testing? What is its role? State its advantages and disadvantages.	**07**
	(b)	What is an immersion testing technique in Ultrasonic testing? Explain with advantages and disadvantages.	**07**
Q.5	**(a)**	Explain basic principles of Thermography.	**07**
	(b)	What is visual examination? Explain visual examination method using boroscope.	**07**
		OR	
Q.5	**(a)**	Explain principle and techniques of Acoustic Emission Testing.	**07**
	(b)	Name various defects found in welding. What are causes of it's?	**07**

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