

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**
