

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- VIIth SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 172102****Date: 08/06/2012****Subject Name: Non Destructive Testing****Time: 02:30 pm – 05:00 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) What are the different NDT methods? State its advantages and limitations. **07**
(b) State the principle of leak and pressure testing and explain it in detail. **07**

- Q.2** (a) Explain the principle of ultrasonic testing. Give its applications, advantages and limitations. **07**
(b) What is the principle of eddy current testing (ECT)? What is sensitivity in ECT? **07**

OR

- (b) What is dye penetrant test? Explain cleaners, penetrants and developers. **07**

- Q.3** (a) What is Magnetic particle testing? List its limitations. **07**
(b) Explain procedure of Magnetic particle testing. **07**

OR

- Q.3** (a) Explain principle of radiographic testing and give its applications and limitations. **07**
(b) Discuss radiography in welding briefly. **07**

- Q.4** (a) Draw neat sketch of Normal, TR and Angle probes and mention their applications. **07**
(b) Write a note on piezoelectricity. **07**

OR

- Q.4** (a) Explain the principle of thermography and give its applications. **07**
(b) Discuss the steps for dye penetrant test with neat sketch. **07**

- Q.5** (a) Write a short note on Acoustic Emission Testing. **07**
(b) State how different NDT techniques are selected for defect detection. **07**

OR

- Q.5** (a) List the defects in parts manufactured by various processes. **07**
(b) Differentiate between destructive and non destructive testing. **07**
