

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER 2013

Subject Code: 172102**Date: 05-12-2013****Subject Name: Non Destructive Testing****Time: 10:30 TO 01:00****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) With necessary sketch discuss dye penetrant testing in detail. **07**
(b) What is the principle of ultrasonic testing? Discuss different methods of ultrasonic testing. **07**
- Q.2** (a) With neat sketch discuss the causes of defects in casting and welding. **07**
(b) What are the different NDT methods? State its advantages and limitations. **07**
- OR**
- (b) What are different material testings? Differentiate between them. **07**
- Q.3** (a) What is co-plant in ultrasonic testing, gives its role? Give advantages and limitations of ultrasonic testing. **07**
(b) Write note on Visual examination and list different Visual examination methods explain any one. **07**
- OR**
- Q.3** (a) Explain different transducers in ultrasonic testing with neat sketch. **07**
(b) Explain leak testing principle and helium leak detection technique. **07**
- Q.4** (a) Discuss principle of radiographic testing and give its application and limitation. **07**
(b) Write note on Acoustic Emission Testing. **07**
- OR**
- Q.4** (a) Discuss magnetic particle testing principle, advantages and limitations. **07**
(b) Discuss eddy current testing principle, advantages and limitations. **07**
- Q.5** (a) Discuss briefly about selection of different NDT techniques for detection of defects. **07**
(b) Explain basic principles of Thermography. **07**
- OR**
- Q.5** (a) Write short note on geometric unsharpness. **07**
(b) Write short note on piezoelectricity. **07**
