

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2172102

Date: 29/04/2017

Subject Name: Non Destructive Testing

Time: 02.30 PM to 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)** Explain importance of NDT over Destructive Testing methods. **07**
- (b)** Briefly discuss on Visual Inspection methods and different visual examination aids. **07**

- Q.2** **(a)** Write principle of Liquid Penetrant Testing. Also discuss on its application and Limitations. **07**
- (b)** Discuss on fluorescent Liquid Penetrant testing method and its sensitivity. **07**

OR

- (b)** Discuss the factors which affect visual testing method. Explain its remedies. **07**
- Q.3** **(a)** Classify Ultrasonic inspection methods. Explain through transmission technique. **07**
- (b)** Explain types of scanning methods in Ultrasonic testing. **07**

OR

- Q.3** **(a)** With neat sketch explain different probes and probe methods used in UT. **07**
- (b)** Write short note on importance of penetrometer used in Radiography testing. **07**
- Q.4** **(a)** Compare advantages and limitation of Ultrasonic and Radiography testing. **07**
- (b)** State the principle of MPT. With neat sketch explain different magnetic field generation methods for MPT. **07**

OR

- Q.4** **(a)** For MPT write sensitivity, advantages and limitation. **07**
- (b)** What is leak and leak rate? **07**
- Q.5** **(a)** Write short note on Acoustic Emission Technique. **07**

- (b)** State the laws used for Eddy current testing. Which factors are affect the Eddy current testing. **07**

OR

- Q.5 (a)** Write important steps for selection of NDT methods. **07**
- (b)** Briefly discuss on different defects observed in materials during NDT. **07**
