

**B.Tech. MECHANICAL ENGINEERING
(BTMEVI)**

**Term-End Examination
December, 2012**

BIMEE-011 : NON-DESTRUCTIVE TESTING

Time : 3 hours

Maximum Marks : 70

Note : Answer any ten questions. All questions carry equal marks.

1. Describe in brief the need for Non-Destructive Testing (NDT). 7
2. What Non-Destructive Testing techniques to cast iron welds ? Explain any one technique in brief. 7
3. Discuss the advantages of Non-Destructive Testing ? What are its limitations ? 7
4. Compare Non-Destructive Testing with destructive testing with the help of suitable examples. 7
5. Describe in brief the equipment used for visual inspection for NDT. 7

6. Discuss various steps involved in Non-Destructive Testing. 7
7. Describe the use of dye and wet powders for magma glow testing. 7
8. Discuss the limitations of γ -ray radiography. 7
9. Explain the use of Piezoelectricity and Magnetostriction in non-destructive testing techniques. 7
10. What is the purpose of specifying radiography for casting of valves used in process industries ? For what size of valves the casting are radiographed. 7
11. What is meant by ultrasonic waves ? What are the non-destructive testing techniques that employ ultrasonic waves ? What are its advantages as compared to other methods of non-destructive testing ? Is it applicable for non-ferrous metals ? 7
12. Describe eddy-current inspection method with the help of a neat diagram. 7