



Reg. No. :

Name :

Fifth Semester B.Tech. Degree Examination, September 2014
(Special Supplementary) (Elective – I)
08.506.13 : NON DESTRUCTIVE TESTING (MP)

Time : 3 Hours

Max. Marks : 100

Instruction : Answer **all** questions from Part – A and **any one** from **each** Module of Part – B.

PART – A (4 marks each)

1. What are the factors to be considered in selecting NDT ?
2. Explain the applications of visual testing.
3. What is the function of a developer in LPT ? Name different developer materials.
4. Explain the properties of X rays and Gamma rays.
5. What are the applications of UST ?
6. Explain the term 'radiographic sensitivity'.
7. Explain the limitations of radiography.
8. Explain magnetic hysteresis.
9. Explain the principle of thermography.
10. Explain the applications of electrical methods. **(4×10=40 Marks)**



PART – B

Module – I

11. a) Compare destructive and non destructive testing methods giving their relative advantages and disadvantages. 10
- b) Explain the three principal methods of LPT. What are the advantages, limitations and applications ? 10
12. a) Explain in detail the optical aids for visual testing. 10
- b) Differentiate between dye penetrant and fluorescent penetrant tests. 10

**Module – II**

13. a) Explain in detail how X-rays may be employed as a means of flaw detection. Describe the process radiographic imaging. 10
- b) Differentiate between X-ray radiography and X-ray fluoroscopy. 10
14. a) Explain the general characteristics of ultrasonic waves and their generation. 10
- b) What are the different ultrasonic inspection methods ? Explain with sketches. 10

Module – III

15. a) Explain the acoustic emission technique for leak detection with neat sketches of the instrumentation system. 10
- b) Explain the advantages, limitations and applications of magnetography. 10
16. a) Explain the principle of eddy current testing. What are the factors affecting eddy current ? 10
- b) Describe the different magnetization methods and procedure of MPT with neat sketches. 10

