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Reg. No. : .....

Name : .....

**Fifth Semester B.Tech. Degree Examination, November 2014**  
**(Elective – I)**  
**08.506.13 : NON DESTRUCTIVE TESTING (MPU)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

1. What are the classifications of penetrants based on emulsifiers ?
2. What do you mean by In-situ-metallography ?
3. What are the differences between destructive testing and non destructive testing ?
4. What are the advantages and disadvantages of penetrant testing ?
5. Mention the areas of applications of NDT.
6. What are the characteristics of ultrasonic waves ?
7. What are the advantages and disadvantages of MPI ?
8. Explain the significance of radiation safety.
9. Write short note on image quality indicators.
10. Write short note on Thermal Inspection method.

PART – B

Answer **any one** question from **each** Module.

**Module – I**

11. a) Explain the various steps in penetrant testing.  
b) Write short note on Holography.

OR

12. a) What are the different types of developers ? Mention the desirable properties of developers.  
b) Write short note on different types of mechanical and optical devices for visual inspection.

P.T.O.

**Module – II**

13. a) Explain the process of ultrasonic testing. Mention the applications UT.  
b) What is real time radiography ?

OR

14. a) With a neat sketch explain the working of an X-ray tube.  
b) What is industrial radiography ? Mention the various radiation techniques.

**Module – III**

15. a) Explain the magnetic particle inspection method.  
b) Which are the different types of equipments used for MPI ?

OR

16. a) Explain the working principle of eddy current testing.  
b) Explain the process of acoustic emission testing.
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