



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140858

Roll No.

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B. Tech.

**(SEM. VIII) THEORY EXAMINATION, 2014-15
NON-DESTRUCTIVE TESTING**

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all the questions. Assume missing data suitably.

Attempt any four of the following questions : **5x4=20**

- 1 (a) Differentiate between Destructive and Non Destructive testing methods.
- (b) Discuss any Six defects inspected by Non Destructive testing methods.
- (c) What do you mean by Non Destructive testing methods? Explain any one test method in brief.
- (d) Differentiate between Manual inspection and Automated inspection.
- (e) What do you mean by visual inspection and what are its types?
- (f) Describe in brief about oil and whiting inspection and Hammer Test.

Attempt any two of the following questions : **10x2=20**

- 2 (a) Explain the working principle of magnetic particle testing with a neat sketch. Also mention its scope.
- (b) Write short note on:
- (i) Leak test.
 - (ii) Zygo fluorescent penetrant test.
- (c) Discuss in brief about skin effect, Direct method of magnetization and Wet suspension inspection.

Attempt any two of the following questions : **10x2=20**

- 3 (a) What are the advantages of gamma ray radiography over X- ray radiography?
- (b) Write short note on:
- (i) Image magnification technique
 - (ii) Compton back scatters technique.
- (c) Mention recommendation followed in film handling.

Attempt any two of the following questions : **10x2=20**

- 4 (a) Explain the wave propagation modes used in ultrasonic testing.

- (b) Define Piezoelectricity with example of some piezoelectric material.
- (c) How ultrasonic testing can help in medical diagnosis and inspecting welded joints ?

Attempt any two of the following questions : **10x2=20**

- 5 (a) Explain the working principle of eddy current testing method.
- (b) Discuss the types of probes used in eddy current testing method.
- (c) Explain in brief about the rail inspection by eddy current testing method.