

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (E-I 2011 Onwards) (Sem.-6)

NON DESTRUCTIVE TESTING

Subject Code : DE/ME-2.4

Paper ID : [A2415]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

- a) Classify the techniques of material testing.
- b) What are the advantages of non-destructive testing methods?
- c) What are penetrameters in radiographic testing? Mention uses.
- d) What is the effect of radiation on the film in radiographic NDT method?
- e) List various magnaflux methods.
- f) What do you mean by demagnetization in Magnetic particle testing?
- g) Mention the different types of ultrasonic waves.
- h) What are the limitations of eddy current testing?
- i) Write the applications of plane polarization.
- j) What is Acoustic emission?

SECTION-B

2. With the increasing competition, the role and importance of Non-destructive testing methods is increasing in manufacturing sector. Discuss the statement with suitable examples.
3. Explain the principle of radiation testing with the help of neat sketches.
4. Write a note on magnetic analysis of steel bars.
5. Explain fluorescent penetration testing method in detail.
6. Explain applications and advantages of eddy current testing.

SECTION-C

7.
 - a) Describe all the factors that affect the radiographic image features.
 - b) Compare and contrast X - Ray and Gamma Rays in radiographic inspection.
8. Explain in detail the procedure of magnetic particle testing. Also discuss the different magnetizing techniques used in this method.
9. Write brief notes on the following :
 - a) Concrete test hammer
 - b) Measurement of thickness and hardness