

Roll No.

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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2011 Onwards E-II) (Sem.-7,8)

NON-DESTRUCTIVE TESTING

Subject Code : DE/ME-2.4

Paper ID : [A3078]

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 have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Explain briefly :**

- a) Applications of Magnetic NDT
- b) Ultrasound
- c) Enlist basic type of transducers
- d) Demagnetization
- e) Measurement of hardness
- f) Materials for liquid penetrant testing procedure
- g) γ - ray radiographic technique
- h) Acoustic emission technique (AET)
- i) NDT methods for detection of surface weld defects
- j) Safety precaution in radiography

SECTION-B

2. Classify nondestructive methods. Discuss the role of NDT in today's manufacturing.
3. Elaborate the disadvantages of magnetic particle inspection?
4. Investigate the procedure for detection of flaws in rails and tubes.
5. Explain the procedure for determining principal stresses in a stressed material with the help of photo elasticity.
6. Write a brief note on proof tests.

SECTION-C

7. Explain in brief the underlying principle of Radiography along with the procedure of X-Ray Radiography. Also, state the advantages and applications of various Radiography techniques.
8. Investigate in detail the ultrasonic inspection technique with the help of neat and suitable sketches.
9. Write short notes on :
 - a) Photostress models
 - b) Radiograph