

Model Question Paper
B.TECH DEGREE EXAMINATION
Eight Semester
MECHANICAL ENGINEERING
ME010 804L05 NON – DESTRUCTIVE TESTING (Elective)

Time: 3 Hrs.

Marks :100

PART A

Answer all questions
Each question carries 3 marks

1. Define non-destructive testing.
2. Name the materials which can be tested by magnetic particle testing.
3. What is the equation for sound waves in a material?
4. What are penetrameters in radiographic testing? Mention uses.
5. What are the basic factors affecting the thermal measurements?

5*3 = 15 marks

PART B

Answer all questions
Each question carries 5 marks

6. Write a note on the importance of Eye in Visual testing.
7. Explain magnetization of a specimen using an electromagnet.
8. Explain shear waves in ultrasonic testing? What are its limitations?
9. What are the basic ways to control the radiation exposure when working with radiographic source?
10. Explain standard depth of penetration in Eddy current testing? How does it vary with frequency?

5*5 = 25 marks.

PART C

Answer all questions
Each question carries 12 marks.

11. Compare destructive and non-destructive testing.
OR
12. Explain the sequence of operation of penetrant testing.
13. What is a Holograph? How can it be used in NDT?
OR
14. Explain demagnetization in Magnetic particle testing? How do you ensure it?
15. Describe characteristic of ultrasonic beam.
OR
16. How does the ultrasonic frequency affect the penetration and resolution?
17. Explain the double wall single image technique used in Radiographic testing.
OR
18. Mention the properties of X and gamma rays.
19. Explain the principle of Eddy current testing.
OR
20. Explain thermography techniques. Mention some application in NDT.

12*5 = 60 marks