

B. M. S. College of Engineering, Bengaluru - 560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Branch: Mechanical Engineering

Course Code: 20ME7DENDT

Course: Non-Destructive Testing

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1. a) Describe the scope and advantages and compare NDT with DT. **10**
- b) Explain the working of Flexible fiber optic Borescope with an application. **10**

OR

2. a) Explain the working of Eddy Current testing and mention their advantages. **10**
- b) Discuss about the various probes used in Eddy Current based NDT technique and its typical applications. **10**

UNIT - II

3. a) Explain with neat sketch the principle and working of liquid penetration testing. **10**
- b) Discuss about the hazards of Liquid penetration tests and mention its advantages and disadvantages. **10**

UNIT - III

4. a) Explain the principle behind magnetic particle testing and mention the methods of generating magnetic fields. **10**
- b) Discuss the various procedures used for testing using magnetic particle testing apparatus and mention the advantages of magnetic testing. **10**

UNIT - IV

5. a) Discuss the various types of Industrial radiation sources and their applications. **10**

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

- b) Describe the various radiation testing procedure for welds. What precautions one needs to take for radiation hazards during radiography. **10**

UNIT - V

6. a) Describe with a neat sketch the working of Ultrasonic propagation. **10**
- b) Sketch and explain the various types of ultrasonic probes that is used in the industries. **10**

OR

7. a) Explain the ultrasonic testing procedures for inspection of castings and forgings. **10**
- b) Discuss the advantages and disadvantages of Ultrasonic testing. **10**
