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10AU761

Seventh Semester B.E. Degree Examination, June/July 2018

Non-Destructive Testing

Time: 3 hrs.

Max. Marks: 100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. What is Non-Destructive Testing? Compare and contrast Non-Destructive and Destructive Tests. (10 Marks)
b. Explain with a neat diagram steps involved in liquid Penetrant testing. (10 Marks)
 - 2 a. Briefly explain the principle and procedure involved in magnetic particle inspection with figure. (08 Marks)
b. List the advantages and disadvantages of magnetic particle inspection. (06 Marks)
c. With neat sketch, explain how the below components are inspected using magnetic particle inspection: (i) Casting and Forgings (ii) Hollow cylinders. (06 Marks)
 - 3 a. Explain different types of operating variables affecting performance in Eddy current inspection. (10 Marks)
b. Differentiate between absolute coil arrangement and differential coil arrangement. (10 Marks)
 - 4 a. Discuss advantages, disadvantages and application of microwave holography. (10 Marks)
b. Explain the reflection technique of microwave holography. (10 Marks)
- PART - B**
- 5 a. Explain with neat sketches A-scan and B-scan systems. (10 Marks)
b. Explain the operational variables in ultrasonic inspection. (10 Marks)
 - 6 a. Explain the general characteristics of ultrasonic inspection. (10 Marks)
b. Explain operational variables in ultrasonic inspection. (10 Marks)
 - 7 a. Explain basic principle of radiographic inspection and also discuss its merits and demerits. (10 Marks)
b. With neat sketches, explain (i) Inspection of flat plates (ii) Inspection of Weldments. (10 Marks)
 - 8 a. Explain with neat sketches holographic recording and holographic re-construction. (10 Marks)
b. What is Acoustic Holography? Explain briefly holographic components. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal lines from the top-left corner to the bottom-right corner of the answer sheet. 2. Questions written in the margin will be treated as malpractice.