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10AU761

Seventh Semester B.E. Degree Examination, Dec.2017/Jan.2018
Non Destructive Testing

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. What is Non – destructive testing? State advantages and limitations of NDT. (08 Marks)
b. Explain with a neat sketch, liquid penetration test and mention its advantages and limitations. (12 Marks)
- 2 a. With the help of neat sketch, briefly explain following Electro – magnetization methods used in Magnetic Particle Inspection (MPI).
i) Contact current flow method (using metal prods).
ii) Electro magnetic yoke method. (10 Marks)
b. Briefly explain the general steps involved in Magnetic Particle Inspection (MPI). (10 Marks)
- 3 a. Explain the working principle of Eddy Current Inspection with a suitable sketch. (08 Marks)
b. Write a note on Applications of Eddy Current Inspection method (ECI). Mention the advantages and disadvantages. (12 Marks)
- 4 a. With a neat sketch, explain the microwave holography. (10 Marks)
b. Write detailed application of microwave holography and mention their advantages and disadvantages. (10 Marks)

PART – B

- 5 a. Write a short note on Basic Equipment used in Ultra Sonic Inspection (USI). (08 Marks)
b. Explain general characteristics of Ultra Sonic Waves. (12 Marks)
- 6 a. Explain Pulse Echo method of Ultrasonic Inspection, with neat sketch. (08 Marks)
b. Discuss the advantages , disadvantages and applications of USI (Ultra Sonic Inspection) (12 Marks)
- 7 a. Explain the principle of Radiography and mention its applications and limitations. (10 Marks)
b. Write a note on : i) Radiographic film ii) Radiographic sensitivity iii) Image Quality Indicator (Penetrameter). (10 Marks)
- 8 a. With a neat sketch, explain the working of Optical holographic recording. (10 Marks)
b. Write a note on :
i) Systems and techniques of Acoustic holography.
ii) Applications of Acoustic holography. (10 Marks)
