

23/11/13

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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013

MANUFACTURING ENGINEERING

Seventh Semester

MF 9022 Non Destructive Testing

(Regulation 2009)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the most important characteristics of penetrant?
2. Differentiate between color contrast and fluorescent particles in MPT
3. What is radiography sensitivity ?
4. Define half life period
5. What are the most commonly used probe in Eddy current testing
6. What meant by skin depth ?
7. List the few application of ultrasonic testing
8. What is meant by lamp wave?
9. Define attenuation
10. List the few name of recent technique in Non destructive testing

Part – B (5 x 16 = 80 marks)

11. Explain with block diagram of ultrasonic instruments for flaw detection
12. a) i) Explain with neat sketch of water removable technique and when this process used? (10)
ii) Write the advantage and limitation of lipophilic process (6)

(OR)

- b) i) Describe the steps of penetrant testing and write their major merits and limitations (8)
ii) Explain any two process of magnetic field generation with suitable sketch (8)
13. a) Briefly explain with neat sketch of Radiation characteristics

(OR)

- b) i) Briefly explain with neat sketch of Radiation characteristics (8)

ii) write short notes on (8)
Filament current
Saturation current
Space charge and space charge effects

14. a) i) Describe the process of eddy current generation (8)
ii) Explain the equipments needed for eddy current examination (8)

(OR)

b) Explain the inspection of material thickness, crack detection and coating thickness measurement in eddy current testing

15. a) Explain the principle of acoustic emission testing suitable sketch and states its applications

(OR)

- b) i) What is holographic? How it can be used as Non destructive testing (8)
ii) Explain any two instrumentations for Non destructive testing (8)