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Question Paper Code : 50848

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Eighth Semester

Mechanical Engineering

ME 6019 : NON DESTRUCTIVE TESTING AND MATERIALS

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. Name the defects that can be detected by visual inspection.
2. What do you mean by non destructive testing ?
3. What is liquid penetrant testing ?
4. Why should the material be demagnetized after it is subjected to MPT ?
5. What is Eddy current ?
6. What is ultrasonic testing ?
7. What are the applications of Acoustic Emission Testing ?
8. What is the Basic principle of Thermography ?
9. What are the uses of screens ?
10. What is a Penetrameter ?

PART – B

(5×16=80 Marks)

11. a) Describe the various optical aids that can be used for visual inspection.

(OR)

- b) Explain material characterization.

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12. a) Explain the procedure for penetrant testing with neat sketches.

(OR)

b) What are the various Magnetization techniques that can be used for magnetizing a material? Explain with diagrams.

13. a) Explain the various techniques used in Eddy current testing. Write down their applications.

(OR)

b) Discuss the principle of Thermography and the various parameters involved in the process.

14. a) Describe the experimental setup of Acoustic Emission Testing.

(OR)

b) What are the basic properties of Ultrasonic waves? Describe the two main ultrasonic Techniques.

15. a) Describe i) Computed radiography ii) Computed tomography.

(OR)

b) What is the basic principle of Radiography? Explain the techniques used in Radiography.
