

21 DEC 2022

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Question Paper Code	11503
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022
Seventh Semester
Mechanical Engineering
ME8097 - NON DESTRUCTIVE TESTING AND EVALUATION
(Regulations 2017)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. What is non-destructive testing method? | 2,K1,CO1 |
| 2. List out the applications of non-destructive testing methods. | 2,K2,CO1 |
| 3. State the principle of liquid penetrant testing method. | 2,K1,CO2 |
| 4. State the principle of magnetic particle testing method. | 2,K1,CO2 |
| 5. What are the advantages of eddy current testing method? | 2,K2,CO3 |
| 6. What are the properties of eddy current? | 2,K2,CO3 |
| 7. State the principle of ultrasonic testing method. | 2,K1,CO4 |
| 8. What are the advantages of acoustic emission technique? | 2,K2,CO4 |
| 9. Define Fluoroscopy. | 2,K1,CO5 |
| 10. What are the applications of computed tomography? | 2,K2,CO6 |

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Discuss various NDT methods and list out the relative merits and demerits. 13,K2,CO1
- OR**
- b) Explain with neat sketch of destructive testing methods and its applications. 13,K1,CO1
12. a) Discuss liquid penetrant testing method with neat sketch and also list out the advantages and limitations. 13,K1,CO2
- OR**
- b) Explain with neat sketch of magnetic particle testing method and also list out the advantages and limitations. 13,K1,CO2

13. a) Discuss with neat sketch of thermography testing method and also list out its advantages, limitations and applications. 13,K1,CO3

OR

b) Explain with neat sketch of infrared radiation technique and also list out its advantages, limitations and applications. 13,K2,CO3

14. a) Discuss the working principle, process parameters, applications and its advantages, limitations of ultrasonic testing method. 13,K1,CO4

OR

b) Discuss with neat sketch of Acoustic emission techniques and list out the advantages, limitations and applications. 13,K2,CO4

15. a) Explain about Computed Radiography with suitable sketch. 13,K2,CO5

OR

b) Discuss X-ray radiography testing method and list out the application, advantages and limitations. 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Summarize the inspection of micro structure of weld by AE testing with suitable sketch. 15,K1,CO6

OR

b) Discuss the NDT method used for testing of pressure vessels. 15,K2,CO6