

Code No: 158CE

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year II Semester Examinations, July/August - 2022

PRACTICAL NON-DESTRUCTIVE TESTING

(Aeronautical Engineering)

Time: 3 Hours

Max.Marks:75

**Answer any five questions
All questions carry equal marks**

- 1.a) What are the tools used for visual inspection technique?
- b) How many stages are there in visual inspection in NDT? Explain them. [7+8]
- 2.a) Compare and contrast between non-destructive testing and mechanical testing.
- b) How do the visual inspection of a weld is conducted? Explain. [8+7]
- 3.a) What is liquid penetrant testing? Explain the principle of the method, types and properties of liquid penetrants.
- b) Why magnetization is essential in MPI method? How it is done? [8+7]
- 4.a) What is eddy current testing? Discuss about the probes used in the test.
- b) What are infrared detectors made of? Where are infrared sensors used? [7+8]
- 5.a) Explain the types of arrangement used, advantages, limitations and applications of eddy current testing.
- b) What can be inferred by thermography test? Explain the advantages and limitations of this test. [8+7]
- 6.a) Explain the principle of Ultrasonic testing.
- b) Explain the basic functions of a Pulse-Echo flaw detector.
- c) Explain the characteristics of Pulse-Echo flaw detectors and probes. [5+5+5]
- 7.a) Discuss about interaction of X-rays with matter.
- b) Differentiate between computed tomography and computed radiography. [7+8]
- 8.a) What is radiographic equivalence? Explain.
- b) Discuss about types and uses of filters. [7+8]

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