

No. of Printed Pages : 03

Roll No.

F-204

B. Tech. EXAMINATION, May 2018

(Sixth Semester)

(B. Scheme) (Main & Re-appear)

(AER)

AER308B

NON-DESTRUCTIVE EVALUATION

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-63/17)M-F-204

P.T.O.

Unit I

1. Distinguish between NDT and NDE. How NDT help in quality assurance ? How eddy current technique is used to locate the crack or damage in the material. **15**
2. (a) Write a short note on visual inspection techniques. **5**
(b) Explain coin tapping technique. How this techniques is used to impact composite structures and adhesive bonds. **10**

Unit II

3. Explain the working principle of Pulse echo. technique. Also explain A-scan, B-scan and C-scan techniques. **6,9**
4. Describe the acoustic emission techniques. How acoustic emission techniques help in the inspection of composites ? **15**

M-F-204

2

Unit III

5. Write notes on the following : **7,8**
(a) Die penetration techniques
(b) Magnetic particle testing.
6. Explain the working principle of X-ray radiography. How X-ray is used for detection of voids ? **15**

Unit IV

7. List the advantages, disadvantages and applications of the following techniques : **8,7**
(a) Ultrasonic testing
(b) X-ray radiography.
8. Which types of defects can be detected by the following techniques and what are their limitations ? **5×3**
(a) Magnetic particle testing
(b) Eddy current technique
(c) Coin tapping technique.

(3-63/18)M-F-204

3

60