

No. of Printed Pages : 03

Roll No.

F204

B.Tech. EXAMINATION, May 2019

(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.

(3-13/18)M-F204

P.T.O.

Unit I

1. What are factors which influencing the reliability of non-destructive evaluation ? Discuss in detail the manufacturing processes and defects in materials. **15**
2. Explain the visual inspection techniques used in non-destructive testing. Explain the industrial applications of non-destructive evaluation. **15**

Unit II

3. Explain ultrasonic testing through transmission, A-scan, B-scan, C-scan. **15**
4. Explain the sources of acoustic emission in composites. Explain rise time during events. **15**

Unit III

5. What do you mean by X-ray radiology ? What is the industrial applications of X-ray Radiology ? Discuss the properties of X-ray and Gamma ray with the help of electromagnetic spectrum chart. **15**

6. Discuss the magnetic particle testing with a neat sketch used in X-ray Radiology. **15**

Unit IV

7. Discuss the environment limitation of X-ray Radiology and types of defects that can be detailed. **15**
8. Explain the theory and basic principles along with advantages and disadvantages of the X-ray Radiography and ultrasonic testing used in non-destructive evaluation. **15**