Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14AE2031** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INTRODUCTION TO NON DESTRUCTIVE TESTING** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Discuss the merits and demerits of non-destructive testing. | CO1 | 10 |
| b. | Describe the optical aids used for visual inspection. | CO2 | 10 |
| **(OR)** | | | | |
| 2. | a. | Discuss the materials used in Liquid penetrant testing. | CO2 | 10 |
| b. | With the help of block diagram, explain the post emulsifiable penetrant method. | CO2 | 10 |
|  |  |  |  |  |
| 3. |  | Briefly explain the various magnetizing techniques with neat sketches. | CO1 | 20 |
| **(OR)** | | | | |
| 4. | a. | Explain the instrumentation of eddy current testing. | CO2 | 15 |
| b. | Discuss the types of eddy current testing probes. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | Discuss the factors affecting distinguishable image on a radiograph. | CO2 | 5 |
| b. | Explain the characteristics of single wall single image technique and latitude technique with neat sketches. | CO2 | 15 |
| **(OR)** | | | | |
| 6. | a. | Explain various modes of display of ultrasonic testing. | CO2 | 15 |
| b. | Mention the applications and limitations of ultrasonic testing. | CO2 | 5 |
|  |  |  |  |  |
| 7. | a. | Describe the functions of each component in Acoustic emission testing with a neat sketch. | CO2 | 15 |
| b. | Interpret AE signal parameters. | CO2 | 5 |
| **(OR)** | | | | |
| 8. | a. | Differentiate between Infrared radiation and visible light. | CO1 | 5 |
| b. | Discuss about the detection system for infrared imaging. | CO2 | 15 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain how the defects are detected by angle beam inspection technique. | CO2 | 20 |