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



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

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| **Code :** | **14EI2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INDUSTRIAL INSTRUMENTATION** | **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. | | Explain, with a neat sketch, the construction and working of a McLeod Gauge. | CO1 | 10 |
|  | b. | | Illustrate the working of any one elastic pressure measuring device in detail. | CO1 | 10 |
| **(OR)** | | | | | |
| 2. |  | | List out the different types of manometers. Describe the working of various types in detail with necessary diagrams. | CO1 | 20 |
|  | | | | | |
| 3. | a. | Describe the working principle of Turbine Flowmeter and give any two advantages and disadvantages. | | CO2 | 12 |
| b. | Describe with neat sketch, the construction and working of a Rotameter. | | CO2 | 8 |
| **(OR)** | | | | | |
| 4. |  | Elaborate the working of the following devices: | |  |  |
| a. | Any one positive displacement flowmeter. | | CO2 | 10 |
| b. | Ultrasonic flowmeter. | | CO2 | 10 |
|  |  |  | |  |  |
| 5. |  | Classify the various types of pyrometers. Explain the working of all the types in detail with suitable diagrams. Also list the applications of the pyrometers. | | CO2 | 20 |
| **(OR)** | | | | | |
| 6. | a. | Discuss the working of any two types of electrical thermometers. | | CO2 | 12 |
| b. | Briefly explain the working of Bimetallic thermometers. | | CO2 | 8 |
|  |  |  | |  |  |
| 7. | a. | With a neat sketch, explain the displacer level detector. | | CO2 | 10 |
| b. | Classify the basic level measuring devices and describe their working in detail, with necessary diagrams. | | CO1 | 10 |
| **(OR)** | | | | | |
| 8. | a. | Define density. Illustrate the working of any two densitometers in detail. | | CO3 | 14 |
| b. | Write short notes on the working of any one viscometer. | | CO3 | 6 |
|  | |  | |  |  |
|  | | **Compulsory**: | |  |  |
| 9. | a. | Justify the importance of instrument calibration and protection. | | CO3 | 10 |
| b. | Explain about the Industrial Safety Standards. | | CO3 | 10 |