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



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

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| **Code :** | **17EI2008** | **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. |  | List the non-contact type of level measurement system. Explain with neat sketch the working and construction of any two of them. | CO3 | 20 |
| **(OR)** | | | | |
| 2. | a. | Define Capacitance and its application in level measurement. Discuss about any one type of capacitance probe. | CO1 | 10 |
| b. | With required diagram, elaborate the principle and working of air purge system used for pressure measurement. | CO1 | 10 |
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| 3. | a. | Illustrate the construction and working principle of electromagnetic flowmeter with neat sketch. Discuss about the advantages and disadvantages. | CO3 | 10 |
| b. | Elucidate the principle and working of Orifice and the different methods applied in orifice to measure various liquid. | CO5 | 10 |
| **(OR)** | | | | |
| 4. | a. | Give specifics on the construction and working of turbine flow meter with its advantages and disadvantages. | CO6 | 10 |
| b. | Explain with a neat diagram the principle of operation of Reciprocating piston. | CO3 | 10 |
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| 5. | a. | Design and explain on various types circuits used for cold junction compensation for thermocouples. | CO6 | 12 |
| b. | Design and develop a circuit to interface thermistor to a PC. | CO6 | 8 |
| **(OR)** | | | | |
| 6. | a. | With neat sketch, describe the construction and working principle of  fluid expansion type thermometer. | CO5 | 10 |
| b. | With neat diagram, explain the principle, construction and application of bimetallic thermometer. List the applications for the same. | CO1 | 10 |
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| 7. |  | Compare the various kinds of mamometers used in pressure measurement. | CO1 | 20 |
| **(OR)** | | | | |
| 8. | a. | Explain the instrument used to measure pressure using change in resistance. | CO6 | 10 |
| b. | Elaborate on the construction and working of dead weight pressure gauge. | CO2 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the construction and working of Capillary Viscometer. Also list the applications. | CO4 | 10 |
| b. | Elaborate on the working of pycnometric densitometer. Also give the advantages and disadvantages. | CO4 | 10 |