Reg. No.

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

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| **Code :** | **17ME2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **METROLOGY AND MEASUREMENT SYSTEMS** | **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. | Define Error in measurement. Outline how errors are classified. | CO1 | 15 |
| b. | What are the various care to be taken on instruments? | CO1 | 05 |
| **(OR)** | | | | |
| 2. |  | Define calibration. Explain the calibration process of a vernier caliper in detail. | CO1 | 20 |
|  |  |  |  |  |
| 3. |  | With neat sketch, explain the construction and working principle of auto collimator. | CO2 | 20 |
| **(OR)** | | | | |
| 4. | a. | State the principle of micrometer. Explain briefly the construction and use of micrometer with neat sketches. | CO2 | 15 |
|  |  |  |  |
|  | b. | Briefly explain the application of an angle dekkor. | CO2 | 05 |
|  | | | | |
| 5. |  | Define Surface. Explain various elements of Surface texture. | CO2 | 20 |
|  |  | **(OR)** |  |  |
| 6. |  | Explain the construction and working of Tool maker’s microscope in detail. | CO2 | 20 |
|  | | | | |
| 7. |  | Explain the flow measurement using rotameter with neat sketch. | CO2 | 20 |
| **(OR)** | | | | |
| 8. |  | Explain measurement of temperature using electrical resistance thermometer. State the advantage and disadvantage of electrical resistance thermometer. | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain the construction and working of Coordinate Measuring Machines. State its advantages over conventional machines. | CO3 | 20 |