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

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**End Semester Examination – Nov/Dec – 2018**

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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. |  | Define Error in measurement. Outline how errors are classified? | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | What are the various care to be taken on instruments? | CO1 | 12 |
| b. | Differentiate ‘Line standard’ and ‘End standard. | CO1 | 8 |
|  |  |  |  |  |
| 3. |  | State the principle of micrometer. Explain briefly the construction and use of micrometer with neat sketches. | CO2 | 20 |
| (OR) | | | | |
| 4. |  | State the classifications of sine bar.Sketch and explain the procedure for measuring the angle of a taper plug gauge using Sine bar. | CO2 | 20 |
|  |  |  |  |  |
| 5. | a. | Explain the various element of surface texture with a neat sketch. | CO3 | 12 |
| b. | Describe any one method of straightness measurement. | CO3 | 8 |
| (OR) | | | | |
| 6. |  | Explain the procedure to be followed for measuring the effective diameter of a screw thread. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Explain flow measurement using Venturimeter and Pitot tube with neat sketches. | CO4 | 20 |
| (OR) | | | | |
| 8. |  | Explain the construction and working principle of Michelson interferometer with neat diagram and state their advantages over optical flats. | CO6 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | What is CMM? Explain the working principle and applications of CMM. | CO5 | 20 |