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

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**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **17ME3020** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED 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 |  | Using a block diagram explain different measurement standards. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Describe Accuracy and Precision by plotting the measurements in a graph. | CO1 | 20 |
| 3. |  | Discuss two methods used in gear tooth thickness drawing suitable sketches. | CO1 | 20 |
| (OR) | | | | |
| 4. |  | What do you mean by ‘calibration of measuring instruments’? What are the general guidelines for calibrating the instruments? | CO1 | 20 |
|  |  |  |  |  |
| 5. | a. | Explain the working principle of laser interferometer with a neat sketch. | CO1 | 15 |
|  | b. | State the applications of laser interferometer. | CO1 | 5 |
| (OR) | | | | |
| 6. |  | Discuss on Transmission Electron Microscope (TEM) with a neat sketch. Explain its how it’s different from Scanning Electron Microscope. | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | What do you mean by ‘calibration of measuring instruments’? What are the general guidelines for calibrating the instruments? | CO3 | 20 |
| (OR) | | | | |
| 8. | a. | What do you understand by geometric tolerances? | CO2 | 5 |
|  | b. | Discuss unilateral and bilateral system of writing tolerances with suitable example. | CO2 | 15 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Describe how Ball Bar is used for testing the accuracy of machine tool with neat sketch. | CO3 | 20 |

ALL THE BEST