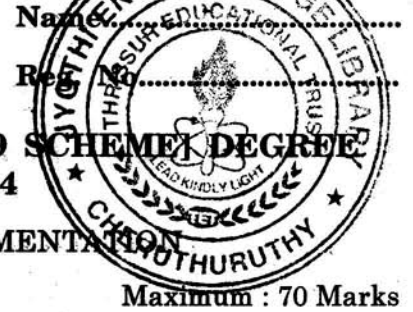


**D 70215**

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**SEVENTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE  
EXAMINATION, NOVEMBER 2014**

**ME/PTME 09 703—METROLOGY AND INSTRUMENTATION**

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.  
Each question carries 2 marks.*

1. What is sensitivity ?
2. Specify the advantage of Hall effect sensor.
3. Describe zero order instrument.
4. Define drag-force.
5. What is the difference between Linear and Angular measurement ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.  
Each question carries 5 marks.*

6. Explain the working principle of Talysurf instrument.
7. Describe the factors to be considered for sensor selection.
8. Describe about the first order instrument.
9. Discuss about the hotwire anemometer.
10. State the working principle of auto collimator with neat sketch.
11. Explain the application of machine vision system.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.  
Each question carries 10 marks.*

12. (a) Discuss about the different sources of static errors in detail.

*Or*

- (b) Explain the following terms : repeatability, accuracy, precision and discuss the relationship between accuracy and cost.

Turn over

13. (a) Explain the function of LVDT with neat sketch.

*Or*

(b) Explain the working principle of strain gauge along with its calibration approach.

14. (a) Describe the construction and operation of thermistors.

*Or*

(b) Discuss about magnetic flow meter with neat sketch.

15. (a) Explain in detail about the angle dekkor with neat sketch.

*Or*

(b) Discuss about the Parkinson's gear tester with neat sketch.

(4 × 10 = 40 marks)