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Name.....

Reg. No.....



**SEVENTH SEMESTER B.Tech. (ENGINEERING) DEGREE EXAMINATION
NOVEMBER 2013**

Mechanical Engineering

ME/PTME 09 703—METROLOGY AND INSTRUMENTATION

(2009 Scheme)

Time : Three Hours

Maximum : 70 Marks

Part A (Answer all questions)

1. Define precision.
2. Define sensitivity of an instrument?
3. What is a sensor?
4. What are the requirements of a conductive material to be used in resistance thermometer?
5. What is wringing?

(5x2m=10marks)

Part B (Answer any four questions)

6. What are the three basic sources of static errors?
7. Differentiate systematic and random error.
8. A McLeod gauge is available which has a volume V_b of 150cm^3 and a capillary diameter of 1.5mm. Calculate the gauge reading for a pressure of 40micrometer oh Hg.
9. What are the features of resistance wire thermometers?
10. What are the features of a resistance wire thermometer?
11. What is the principle of hot wire Anemometer?

(4x5m=20marks)

Part C

12. Briefly explain the method of high gain feedback for reducing the effects of spurious inputs.

OR

13. How uncertainty be obtained by Kline & McIntock approach..

14. Write a short note on characteristics of LVDT.

OR

15. Briefly explain the working principle of any two common thermal conductivity gauges.

16. Briefly explain the principle, advantages and disadvantages of electromagnetic flow meters.

OR

17. Write a short note on (a) Liquid in glass thermometer and (b) Linear Quartz thermometer.

18. Write a short note on two wire and three wire method.

OR

19. Briefly explain the principle of Vernier Clinometer and Micrometer Clinometer.

(4x10m=40marks)