Roll No. ....

ME–503

B. E. (Fifth Semester) EXAMINATION, Dec., 2011

(Mechanical Engg. Branch)

MECHANICAL MEASUREMENT AND CONTROL

(ME – 503)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt *five* questions in all taking *one* from each Unit. All questions carry equal marks.

Unit—I

1. (a) What do you understand by Direct and Indirect methods of measurements ?   10

   (b) Differentiate between primary, secondary and tertiary types of measurements.   10

Or

2. (a) Explain the terms generated noise, conducted noise and radiated noise.   10

   (b) Define the Range, Accuracy and Precision.   10

Unit—II

3. (a) Name standard statistical distributions related to measurement and give their applications.   10

   (b) Write a short note on normal distribution curve.   10

P. T. O.

Or

4. What is regression analysis ? Discuss least squares regression analysis method.   20

Unit—III

5. Explain the working of a bimetallic thermometer with the help of a neat diagrams.   20

Or

6. Explain the principle of metallic electric resistance thermometers. Describe their construction and working. 20

Unit—IV

7. Discuss a null type and reflection type Wheatstone bridge circuit used for strain measurement.   20

Or

8. Discuss the construction and working of a potentiometer used for displacement measurement.   20

Unit—V

9. What do you understand by control system ? Give classification and explain it.   20

Or

10. (a) Give the comparison between open-loop and closed-loop system.   10

    (b) Describe the transfer function of linear system.   10