

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Explain accuracy, repeatability, resolution sensitivity and threshold sensitivity? (2)
- b) What is Magnetic Levitation? (1)
- c) Explain ballast circuit. (1)
- d) Describe ANSI symbols and composition of Iron constantan and Chromel Constantan. (1)
- e) What is the use of dynamo meter? (1)
- f) Explain bonded and unbonded strain gauges. (1)
- g) A \_\_\_\_\_ circuit is obtained when all four elements of the bridge are strain gauges. The strain gauges are mounted in such a way that two gauges suffer \_\_\_\_\_ strains and two gauges suffer \_\_\_\_\_ strains. The arrangement provides full \_\_\_\_\_ and increases the bridge sensitivity by a factor of \_\_\_\_\_ (3)

UNIT - I

- II. What is calibration and why is it necessary? Explain. (10)
- III. A voltmeter is to measure a known voltage of 75 volts. Forty percent of the readings are within 0.8 volt of true value. Estimate the standard deviation for the meter and the probability of an error of 1.2 volt. (10)
- IV. Explain the principle and working of blood pressure measuring instrument in detail. (10)

UNIT - II

- V. Sketch a typical pyrometer. Explain its working and list its notable characteristics. (10)
- VI. State the objectives of flow visualization. Explain some of the methods commonly adopted for flow visualization in low speed flows. (10)
- VII. What are different sources of error in measurement? Explain. (10)

x-x-x