

Code: ME6T1

III B.Tech - II Semester – Regular Examinations – May 2015

**MECHANICAL MEASUREMENTS
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Define the following terms: 8 M
 - i) Accuracy ii) Precision
 - iii) Calibration iv) Hysteresis.

- b) With a suitable example, explain the generalized measurement system. 6 M

2. a) Explain the construction and working of bimetallic strip and thermocouple. 8 M

- b) Describe the principle of operation of a piezo-electric transducer. 6 M

3. Explain with the neat sketches, the differences between a bellows gauge and diaphragm gauge for pressure measurement. 14 M

4. a) Explain Capacitance measurement flow measurement. 7 M
- b) What are different Liquid level measurement techniques?
Explain any one of them. 7 M
5. a) How to measure rotational speed using a stroboscope. 7 M
- b) Explain two noncontact type of speed measuring devices. 7 M
6. a) Name different types of strain gauges for different Applications. 6 M
- b) Explain the construction and bonding techniques for an electrical resistance strain gauge. 8 M
7. a) How is humidity measured using sling psychrometer? 7 M
- b) Explain the construction and working of Prony Brake Dynamometer. 7 M
8. Explain Different Types of Air Pollutants in detail. 14 M