

Code: ME6T1

III B.Tech - II Semester – Regular/Supplementary Examinations March 2018

**MECHANICAL MEASUREMENTS
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) What are the basic Principles of measurement?
- b) Differentiate between accuracy and Precision.
- c) List electrical transducers for measurement of linear and angular displacement.
- d) Explain the term Gauge pressure.
- e) List out the advantages and Limitations of Piezometer.
- f) What is meant by Tachometer?
- g) What is the Principle of Seismic Instruments?
- h) Classify different types of electrical resistance strain gauges.
- i) What are the various types of stress and strain measurement?
- j) What are the different types of air Pollutants?
- k) Define Dew Point Temperature.

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain the static calibration procedure for measurement systems over their working range. What is the necessity for static calibration? 8 M
- b) Explain the Construction and Working of Photo Electric transducers. 8 M
3. a) Explain the working of Turbine flow meter with neat sketch. 8 M
- b) Describe the construction, working and theory of a McLeod gauge for measurement of vacuum. 8 M
4. a) Describe the functioning of a stroboscope and explain how speed of a rotating shaft can be measured by using a single pattern and multi pattern disc? 8 M
- b) With the help of suitable diagram. Explain the working and application of Vibrometer. 8 M
5. a) Explain the use of resistance Strain gauge for determining Bending Strains. 8 M

b) Draw the Sketch and explain the working of Pneumatic load cell. 8 M

6. a) Describe in detail about the equipment used to control specific gaseous pollutants. 8 M

b) How humidity is measured by using sling psychrometer? 8 M