

22222

**M.Tech. 1st Semester (Mechanical Engg.) (Machine
Design) Examination, December-2017**

INSTRUMENTATION AND MEASUREMENT

Paper-M-803-A

Time allowed : 3 hours] [Maximum marks : 100

*Note : Attempt any five questions. All questions carry
equal marks.*

1. (a) What are the major elements of a measurement system ? Discuss. 10
(b) Write about importance of sensors in measuring system. 10
2. (a) Explain Digital signal processing. 10
(b) Explain Sampling theorem and its applications. 10
3. (a) Explain Linear Variable differential transformer. 10
(b) Discuss in detail about angular velocity measurement. 10
4. Write in brief about :
(a) Piezoelectric force transducer 10
(b) Torque reaction method. 10

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5. (a) Explain bimetal type thermometer. 10
- (b) Explain Radiation thermometer. 10
6. (a) Explain Pressure transducer. 10
- (b) Explain Bourdon tube pressure guage. 10
7. (a) Explain pitot tube. 10
- (b) Explain ultrasonic flowmeter. 10
8. Write short note on :
 - (a) Boiler power plant instrumentation. 10
 - (b) Industrial Robotics system. 10

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