

Code N0: 57025

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year I Semester Examinations, February/March - 2016****INSTRUMENTATION AND CONTROL SYSTEMS****(Common to ME, AME)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

1. Discuss in detail about the dynamic performance characteristics of measuring instruments. [15]
2. Explain the principle of working of thermocouples. How sets of thermocouples can be used for measuring average temperature and low temperatures of a room? [15]
3. What are bellows? Describe and explain the working of various types of bellows. [15]
4. What is the principle of working of ultrasonic flow meter? What are its advantages over other type of flow meter? [15]
5. Explain the construction, working and applications of accelerometer. [15]
6. Explain the use of electrical strain gauges for compressive strains. [15]
7. Give the classification of load cells. Explain how load cells can be used to measure the forces acting in different directions in a machine tool. [15]
- 8.a) What are the advantages of closed loop control?
b) Give the properties of block diagrams. [7+8]

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