

Code No: 57025

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November - 2015

INSTRUMENTATION AND CONTROL SYSTEMS

(Common to ME, AME)

Time: 3 Hours

Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks

- 1.a) What are the functional elements of measuring system? Explain with the suitable examples.
- b) Briefly explain about dynamic performance characteristics. [8+7]
- 2.a) Write the construction and principles of a piezo electric transducer.
- b) What is a pyrometer? Explain its working principle of optical pyrometer. [7+8]
- 3.a) Discuss about diaphragm gauges for pressure measurement.
- b) Describe the working principle of pirani gauge. [8+7]
- 4.a) Describe the measurement of liquid level using magnetic level Indicator.
- b) Explain flow measurement with the help of a Hot-wire anemometer. [8+7]
- 5.a) Explain the working of a stroboscope.
- b) Explain the principles of seismic instruments for measuring acceleration. [7+8]
6. What are electrical strain gauges? Discuss the method of their usage for measurement of tensile strains and for measurement of torque. [15]
- 7.a) Discuss about measurement of humidity using sling psychrometer.
- b) What is dynamometer? Explain different types of dynamometer. [8+7]
- 8.a) What are the basic elements of control system? Classify different control systems.
- b) Explain the servomechanisms. [8+7]

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