

R09**Code: 9A03704****B.Tech IV Year I Semester (R09) Supplementary Examinations June 2016****INSTRUMENTATION & CONTROL SYSTEMS****(Mechanical Engineering)**

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 What are the different sources of errors that occur while measuring? How would you eliminate them?
- 2 (a) Classify the temperature measuring instruments and indicate approximate temperature range of each category.
(b) Explain how displacement can be measured with the help of a capacitive transducer.
- 3 (a) Explain absolute, gauge and vacuum pressure.
(b) Explain with a neat sketch, the constructional features and basic working principle of mcLeod gauge used for the measurement of low pressure.
- 4 (a) Explain with a neat sketch, the working of a hot wire anemometer.
(b) Why a rotameter is called as variable flow meter?
- 5 Name the different mechanical tachometers. Explain any one.
- 6 (a) What are the requirements of materials for strain gauges?
(b) Explain the working of a resistance strain gauge.
- 7 List the different types of dynamometers. Explain the working of a prony brake dynamometer.
- 8 Classify open and closed control systems and explain with suitable diagrams.
