Code: 9A03704 **R09**

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

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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 stain 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.

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