

Code No: RT32242

**R13****SET - 1****III B. Tech II Semester Regular/Supplementary Examinations, April - 2018**  
**INSTRUMENTATION & CONTROL SYSTEMS**

(Automobile Engineering)

Time: 3 hours

Max. Marks: 70

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**Note:** 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answering the question in **Part-A** is compulsory3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

- 1 a) What are the sources of errors [4M]
- b) Name some low pressure measuring devices? [3M]
- c) How to measure flow of liquids. [4M]
- d) What is the principle of strain gauge load cell? [4M]
- e) List out the advantages of elastic force meters. [3M]
- f) Give an example of open loop system [4M]

**PART -B**

- 2 a) Describe the process of eliminating the errors [8M]
- b) Describe the Ionization type of pressure gauges in-detail. [8M]
- 3 a) With the help of suitable diagram explain the working and of thermal conductivity gauge. [8M]
- b) Sketch and explain radiation pyrometers. [8M]
- 4 a) Describe the construction of bubbler level indicator. [8M]
- b) With a neat sketch explain an electrical stroboscope. [8M]
- 5 a) Discuss a null type wheatstone bridge circuit used for strain measurement. [8M]
- b) Define and derive gauge factor of strain gauge. [8M]
- 6 a) Explain construction and working of hydraulic load cell. [8M]
- b) Explain the working of dew point meter. [8M]
- 7 a) What do you understand by control system. Give classification and explain it. [10M]
- b) Give the comparison between open loop and closed loop system. [6M]

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