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Code: 13A02801 **R13**

B.Tech IV Year II Semester (R13) Regular & Supplementary Examinations April 2018

INSTRUMENTATION

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) List out the errors in measurement.
(b) Define linearity and resolution.
(c) Write the differences between phase modulation and frequency modulation.
(d) Mention the applications of multiplexing.
(e) Write the principle of frequency selective analyzer.
(f) Draw the block diagram of successive approximation DVM.
(g) List the characteristics to be considered while selecting a transducer.
(h) Write the principle of thermistor.
(i) Define absolute pressure and differential pressure.
(j) Write the principle of ultra sonic flow sensor.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Describe the static characteristics in a measurement system.

OR

3 (a) Write short notes on statistical analysis of errors.
(b) Write about the standard signals and their representation.

UNIT – II

4 Describe the principle and working of pulse amplitude modulation with the help of wave forms.

OR

5 Explain the block diagram of Time division multiplexing and explain each block in it.

UNIT – III

6 Describe the principle and working of total harmonic distortion analyzer.

OR

7 (a) Explain the principle and working of true RMS voltmeter.
(b) Describe the working of ramp type DVM.

UNIT – IV

8 (a) Describe the principle and working of capacitive transducer.
(b) Write short notes on strain gauges.

OR

9 Describe the principle and working of thermocouples.

UNIT – V

10 Describe the principle and working of any one pressure sensor.

OR

11 Describe the principle and working of level sensor for measurement of liquid level.

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