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Max. Marks: 70

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

(Electrical and Electronics Engineering)

Time: 3 hours

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PART – A

(Compulsory Question)

- 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.
 - 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.

(b)

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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