

Code No: **R41026**

R10

Set No. 1

IV B.Tech I Semester Supplementary Examinations, March/April - 2016

INSTRUMENTATION

(Open Elective)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions

All Questions carry equal marks

- 1 a) Define the following static characteristics of measuring instruments.
i) Resolution ii) Precision iii) Linearity iv) Repeatability [8]
b) Briefly explain the statistical analysis of random errors. [7]
- 2 a) Explain frequency modulation technique with necessary equations. [8]
b) Describe the complex form representation of periodic signals. [7]
- 3 a) Discuss the advantages of electrical transducers. [7]
b) With neat sketches explain the working principle of piezoelectric transducers. [8]
- 4 a) Explain the working principle of dual slope integration type DVM with the help of a neat block diagram. [8]
b) Compare and contrast ramp type DVM and dual slope integration type DVM. [7]
- 5 a) Draw the block diagram sampling oscilloscope and explain its operation. [8]
b) Explain about time base generator in CRO. [7]
- 6 a) What is a wave analyzer? Explain the operation of frequency selective wave analyzer. [8]
b) Draw the sketches and explain the principle and operation of RMS voltmeter. [7]
- 7 a) Explain the principle and operation of piezoelectric accelerometer. [7]
b) What is gauge sensitivity and explain with necessary equations? [8]
- 8 Write short notes on the following.
a) Ultrasonic flow meter. [8]
b) Pirani gauge. [7]