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Roll No. ....

221051

**5th Sem. / ECE, ECE )  
(For speech and Hearing Impaired)  
Subject : Instrumentation**

Time : 3 Hrs. M.M. : 60

**SECTION-A**

**Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)**

- Q.1 Systematic errors may arise due to different reasons:  
a) Instrument error    b) Environment error  
c) Both A & B    d) None of above
- Q.2 The deflection of any instrument is determined by the combined effect of the :  
a) Deflecting torque/force  
b) Control torque/force  
c) Damping torque/force  
d) All of these
- Q.3 The integral device that connects the oscilloscope to the test circuit is a :  
a) Probe    b) Test needle  
c) Table cable    d) None of these

- Q.4 Vacuum tube voltmeter can be used to measure:  
a) DC Voltage  
b) AC Voltage  
c) AC as well as DC voltage  
d) None of these
- Q.5 The source of emission of electrons in a CRT is :  
a) PN Junction diode  
b) A barium and strontium oxide coated cathode  
c) Accelerating anode  
d) Pre-accelerating anode
- Q.6 LEDs emit light  
a) Only is red color    b) Only in yellow colour  
c) Only is green colour    d) All of these

**SECTION-B**

**Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)**

- Q.7 What do you mean by the term "Measurement".
- Q.8 Define transducers.
- Q.9 Write the principle of Piezoelectric Transducers.

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Q.10 Define Pressure.

Q.11 What is flow measurement?

Q.12 Define temperature.

### SECTION-C

**Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)**

Q.13 What is humidity? What are its different types?

Q.14 Define the term Instrumentation System.

Q.15 Write a short note on force.

Q.16 What is the importance of measurement?

Q.17 What are the three major components of general measurement system?

Q.18 What are different types of pressure? Explain its types.

Q.19 Explain bimetallic thermometer in detail.

Q.20 How dew is formed?

Q.21 Describe the important elements of a measurement system.

Q.22 What are the different methods of measurement?

### SECTION-D

**Note: Long answer questions. Attempt any two question out of three Questions. (2x8=16)**

Q.23 Compare the direct and indirect method of measurements.

Q.24 How transducers are classified?

Q25 Explain the Piezoelectric Phenomenon and suggest the materials that exhibit this phenomenon.