

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2011 Onwards) (Sem.-5)
MEASUREMENTS AND INSTRUMENTATION

Subject Code :BTAE-505

Paper ID : [A2065]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1 Write briefly :**

- a) What do you mean by variance?
- b) Mention the significance of measurements.
- c) What are the advantages of digital instruments over analog instruments?
- d) What do you mean by resolution?
- e) Draw the block diagram of digital data acquisition system.
- f) What is a strain gauge and for what purpose it is used?
- g) For what purpose seismic device is used?
- h) What do you understand by separation of force components?
- i) Name different types of monometer.
- j) What is bimetallic thermometer?

SECTION-B

2. Draw and explain the general block diagram of measurement system.
3. Discuss in brief :
 - a) Hysteresis and dead zone and
 - b) Sensitivity and linearity.
4. Briefly describe the construction and working of Opto Electrical transducer and piezo electric transducer.
5. Write short notes on :
 - a) Photo conductive transducer
 - b) Elastic force devices
6. Explain in brief various absolute motion measuring device.

SECTION-C

7. What is the selection criterion for the transducer? Explain the working principle of LVDT with neat sketch. Give advantages, disadvantages and applications of LVDT.
8. Explain the construction and working of pneumatic load cell and torque transducer.
9. Explain in detail the non-electrical methods of temperature measurement.