

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER- IV EXAMINATION – SUMMER - 2015

Subject Code: 141702**Date: 08/06/2015****Subject Name: Transducers****Time: 10.30am-01.00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw the block diagram of an Instrument System and explain the functions of different functional elements. **07**
- (b) List out different static characteristics of an instrument and explain each in brief. **07**
- Q.2** (a) Draw and explain capacitance level measurement technique. Also give it's merits and demerits. **07**
- (b) List out various quantity flow meters. Explain any one of them with its construction, operation, principle and application. **07**
- OR**
- (b) List out various type of transmitters. Explain any one in detail. **07**
- Q.3** (a) Define Vacuum pressure and explain any one method to measure vacuum pressure. **07**
- (b) Define the term PH. Explain the working principle of pH measurement. Also give the application, advantages and disadvantages for pH meters. **07**
- OR**
- Q.3** (a) Explain Bourdon tube Pressure gauge in detail. **07**
- (b) Explain A.C. tachometer with diagram. **07**
- Q.4** (a) Explain optical pyrometer in detail **07**
- (b) Explain Strip Chart Recorder. **07**
- OR**
- Q.4** (a) Give the comparison of RTD, Thermistor and Thermocouple temperature measurement devices. **07**
- (b) Explain the working of density meter with its construction and limitation. **07**
- Q.5** (a) Draw and explain construction and working of Rotameter with its advantages. **07**
- (b) Draw and describe Laser based thickness measurement technique. **07**
- OR**
- Q.5** (a) Draw and explain construction and working LVDT **07**
- (b) List out the various factors to be considered during selecting a transducer for a specific application and Explain it with suitable example. **07**
