

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE SEM-IV Examination-Nov/Dec-2011

Subject code: 141702

Date: 02/12/2011

Subject Name: Transducers

Time: 02.30 pm -5.00 pm

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) Explain working principle of thermocouple, its types and advantages. 07
(b) Enumerate vibrational methods of density measurement and explain any one method. 07

- Q.2** (a) Explain following terms with one example 06
i) Drift ii) Reproducibility iii) Sensitivity
(b) Explain working principle of strain gauge along with gauge factor and its types. 08

OR

- (b) Draw and explain construction and working LVDT. 08

- Q.3** (a) Explain construction, working and advantages of Load Cell 07
(b) Explain bubbler tube method for level measurement. 07

OR

- Q.3** (a) Explain bellows with diagram, advantages and disadvantages. 07
(b) Draw and explain construction and working of Rotameters with its advantages. 07

- Q.4** (a) Explain magnetic flow meter. 07
(b) Explain Ultrasonic level measurement technique. 07

OR

- Q.4** (a) Explain McLeod Gauge. 07
(b) Explain construction and working of glass electrode for pH measurement. 07

- Q.5** (a) Explain pressure switch. 07
(b) Explain radiation pyrometer 07

OR

- Q.5** (a) Explain optical pyrometer 07
(b) Enumerate different types of transmitter and explain any one method. 07
