

**GUJARAT TECHNOLOGICAL UNIVERSITY**
BE - SEMESTER VI (OLD) – • EXAMINATION – WINTER 2017**Subject Code:161705****Date: 08-11-2017****Subject Name: Industrial Measurement II****Time: 02:30 pm to 05:00 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)** Give explanation about following terms. **07**
(i) Density (ii) Viscosity (iii) Strain (iv) Shear thickening
(v) chromatography (vi) Bingham Plastic (vii) Ion-selective electrodes
- (b)** Explain DP transmitter with bubble tube for density measurement **07**
- Q.2 (a)** What is Chromatography? Explain basic Principle, working of **07**
Gas Chromatograph with necessary diagram.
- (b)** Explain X-ray spectroscopy. **07**
- OR**
- (b)** Explain the principle, construction and working of IR spectroscopy. **07**
- Q.3 (a)** Give two differences between bonded and unbounded strain gauge. Explain **07**
semiconductor gauge in detail.
- (b)** Explain measurement of density using a hydrostatic head with two examples. **07**
- OR**
- Q.3 (a)** Explain any two vibration measurement application. **07**
- (b)** Explain various techniques of electronic length measurement. **07**
- Q.4 (a)** Explain force balance method for force measurement **07**
- (b)** Describe paramagnetic oxygen analyzer. **07**
- OR**
- Q.4 (a)** Explain any two solid moisture measurement techniques. **07**
- (b)** What is load cell? Explain its construction, working and application. **07**
- Q.5 (a)** Write a short note on applications of conductivity meter. **07**
- (b)** Explain the concept of PH in detail. **07**
- OR**
- Q.5 (a)** Explain Flame Photometric Detector. **07**
- (b)** Explain in detail Newtonian and non Newtonian liquids with examples. **07**
