

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 unbonded 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**
