GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI • EXAMINATION – SUMMER 2013

Sub Sub	ject	Code: 161705 Date: 30-05-2013	5
Time: 10.30 am - 01.00 pm Total Marks: 70)
Inger	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Define Viscosity. What are the different methods of Viscosity measurement?	07
	(b)	Explain any one method with basic Principle, working & suitable application What is the Paramagnetic method exclusively used for the determination of percentage of oxygen in a mixture? Explain the working of any one type of Paramagnetic Oxygen Analyzer.	07
Q.2	(a)	Explain Basic Principle & working of Electronic Length measurement equipment. Discuss the use of Electromagnetic & Acoustic radiation type length measurement	07
	(b)	What are different Lever balance methods for Force measurement. Explain any two with basic principle & working.	07
	(b)	What are load cells? Describe Strain gauge load cell & Piezoelectric load cell with necessary diagram.	07
Q.3	(a)	Explain the basic concept of measurement of density working & application	07
	(b)	by any one Differential Pressure transmitter method. Write short note on	07
	()	1.Bonded resistance strain gauge	
		2. Measurement of Moisture	
Q.3	(a)	Define Strain Gauge Characteristics:	07
	(b)	1.Range 2. Temperature Sensitivity 3.Response Time What is Chromatography? Explain basic Principle, working of Gas Chromatograph with necessary diagram.	07
Q.4	(a)	Explain basic principle, working & application of any one type of detector	07
	(b)	Define the term pH of a solution. Explain the construction and working principle of Glass Electrode for measuring the pH of an unknown solution. OR	07
Q.4	(a)	How is the conductivity of an aqueous solution defined ?How does the	07
Q.4	(b)	Explain the basic principle, components & applications of Infrared Gas Analyser.	07
Q.5	(a) (b)	Write a short note on X ray spectroscopy Write a short note on Hydraulic Pressure Measurement OR	07 07
Q.5	(a) (b)	Write a short note on Applications of Conductivity meter Write a short note on Nuclear Magnetic Resonance Spectroscopy.	07 07