

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – WINTER 2013****Subject Code: 160302****Date: 29-11-2013****Subject Name: Analytical and Optical Instrumentation****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) Explain gas chromatography in detail. **07**
(b) Give the classification of Auto analyzer. Explain any one in detail. **07**
- Q.2** (a) Draw and explain block diagram of flame photometer. **07**
(b) Explain spectrophotometer with its types and application. **07**
- OR**
- (b) What is endoscopy? Explain generalized apparatus of endoscope. **07**
- Q.3** (a) Draw and explain block diagram of colorimeter. **07**
(b) (i) Write a short note on balances. **04**
(ii) Write a short note on Hot air oven. **03**
- OR**
- Q.3** (a) Enlist types of microscope. Explain anyone with its schematic. **07**
(b) Explain pH meter in detail. **07**
- Q.4** (a) Explain coulter counter method of blood cell counting. **07**
(b) Explain autoclave in detail. **07**
- OR**
- Q.4** (a) Explain measurement of blood pCo₂. **07**
(b) Explain centrifuge in detail. **07**
- Q.5** (a) Explain the working principle of electrophoresis. **07**
(b) Explain pulse oximeter with its block diagram and applications. **07**
- OR**
- Q.5** (a) Write a note on capnography. **07**
(b) Explain ELISA reader in detail. **07**
