

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-VI Examination-Nov/Dec-2011

Subject code: 160302**Date: 23/11/2011****Subject Name: Analytical & Optical Instrumentation****Time: 10.30 am -1.00 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 coulter counter method for blood cell counting. **07**
(b) What is flame photometry? Draw & explain the block diagram of flame photometer. **07**

- Q.2** (a) Draw & explain the block diagram of auto analyzer with its application. **07**
(b) Explain the block diagram of colorimeter with its application. **07**

OR

- (b) What is chromatography? Explain Gas chromatography in detail. **07**

- Q.3** (a) Draw & explain block diagram of spectrophotometer. **07**
(b) 1) Write a short note on Incubator. **04**
2) Write a short note on auto pipette. **03**

OR

- Q.3** (a) Explain electron microscope in detail. **07**
(b) Explain simple microscope with its constructional diagram. **07**

- Q.4** (a) Describe blood pCO₂ measurement with its electrode construction. **07**
(b) What is pH? Explain pH meter in detail. **07**

OR

- Q.4** (a) Explain liquid chromatography in detail. **07**
(b) Enlist different electrophoresis techniques. Describe any two in detail. **07**

- Q.5** (a) Explain endoscopy with its construction & types. **07**
(b) 1) Write a short note on autoclave. **04**
2) Write a short note on Hot air oven. **03**

OR

- Q.5** (a) Describe the performance parameters of pulse oxymetry. **07**
(b) Explain ELISA reader in detail. **07**
