

Code : R7411003

R07**IV B.Tech I Semester (R07) Supplementary Examinations, May 2012****ANALYTICAL INSTRUMENTATION****(Electronics & Instrumentation Engineering)****Time: 3 hours****Max Marks: 80****Answer any FIVE questions****All questions carry equal marks**

1. Write short notes on:
 - (a) Hydrogen analyzer.
 - (b) Sodium analyzer.
2. (a) Explain fundamental laws of photometry. Derive Lambert Beer's law.
(b) Write short notes on NO_x analyzer.
3. What are the basic parts of gas chromatography? Explain in detail each part.
4. (a) With the help of a neat schematic, explain the Beckman paramagnetic type oxygen analyzer.
(b) Explain the magnetic wind type oxygen analyzer.
5. Explain various sources and detectors for IR spectrophotometers.
6. (a) Draw the block diagram of absorption spectroscopy and explain how transmittance and absorption measurements are made.
(b) Distinguish between atomic and emission spectroscopy.
7. (a) Describe the construction of NMR spectrophotometer and explain its working principle with a neat diagram.
(b) Explain a single focusing mass spectrometer with neat diagram.
8. Write short notes on:
 - (i) Proportional counter.
 - (ii) GM counter.
