

Code :R5322206

R5

III B.Tech II Semester(R05) Supplementary Examinations, April/May 2011

ANALYTICAL INSTRUMENTATION
(Instrumentation & Control Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. (a) Define pH. Explain the principle of operation of pH meter with a neat sketch.
(b) With neat sketch explain the construction and working principle of Silica analyzer.
2. Briefly discuss
 - (a) Relative Thermal Conductivity of different gases.
 - (b) IR Gas Analyzer FOR Hydrocarbon detection.
3. (a) List out the characteristics of the ideal detector for gas Chromatography.
(b) Explain Thermal Conductivity Detector for Gas Chromatography.
4. Name different techniques for Oxygen analysis. Explain.
5. Write short notes on:
 - (a) Prism monochromators
 - (b) Grating monochromators.
6. Explain in detail about the atomic emission and absorption spectroscopy and where they are using.
7. Discuss briefly about the radio frequency transmitter used in NMR with suitable diagram.
8. Discuss the construction and working principle of the counting equipment used with a proportional counter.
