

Code: 9A10601

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

**ANALYTICAL INSTRUMENTATION**  
(Electronics & Instrumentation Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Draw the block diagram of Sodium analyzer and explain.  
(b) Explain the dissolved hydrogen measurement by using Katharometer principle.
- 2 (a) With neat block diagram, explain the working principle of H<sub>2</sub>S analyzer  
(b) What are the different considerations to be taken in designing pH Meters.
- 3 (a) List the applications of gas chromatography.  
(b) With a neat sketch, explain gas chromatography.
- 4 (a) Can we use the paramagnetic analyzer to analyze all the gases which exhibit paramagnetic property? Justify your answer.  
(b) List the applications of silica analyzer.
- 5 (a) Describe the working of FTIR spectrometer with a necessary diagram.  
(b) What is the purpose of detectors for IR spectrometer?
- 6 (a) Write short notes on the atomic emission and absorption spectroscopy.  
(b) Explain about the constructional details of NMR spectrometer.
- 7 (a) Write the procedure for analysis of the chemical sample by using flame photometry.  
(b) Compare RF mass spectrometer with the other mass spectrometers.
- 8 (a) Explain in detail the construction and working of a GM tube.  
(b) With a neat figure, describe the gas analyzer for nitrogen.

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