Inductive Couple Plasma Atomic Emission Spectrometry (ICP- AES) for Pollution Monitoring

Chemical Engineering

Instructor Name: Dr J R Mudakavi
Institute: IISc Bangalore
Department: Chemical Engineering

About Instructor: Dr J R Mudakavi is a former faculty of Chemical engineering Dept, Indian Institute of Science, Bangalore. He has taught â€œModern Instrumental Methods of analysis and Pollution Controlâ€• for 36 years. He is an authority on analytical instrumentation. He is the author of 2 books on Air Pollution and Hazardous Waste management. He has published more than 100 papers in National and International Journals, conferences, Symposia etc. He is a member of several expert committees such as CSIR DST MOEF KSPCB etc. He has offered two courses on instrumentation in NPTEL. He is a popular, Science writer and lecturer and environmentalist.

Pre Requisites: : 10+2 +3 years of BE/BSC-Basic knowledge of differential calculus and integration
Core/Elective: : Elective
UG/PG: : UG
Industry Support : Chemical industries, Pollution Control

Course Intro: : Now a days Inductive couple plasma atomic spectrometry (ICP - AES) is the most preferred technique for the almost all metal ion analysis. The course material consists of : Introduction to pollution control monitoring, Atomic structure, Introduction to Atomic emission Spectroscopy, Interaction of electromagnetic radiation with matter, Instrumentation for inductively coupled plasma atomic emission spectrometry, Applications of ICP - AES for metal ion analysis, Industrial Effluents, Continuous Monitoring etc.

COURSE PLAN

SL.NO	Week	Module Name
1	1	Week 1: Introduction to pollution control monitoring and Atomic structure.
2	2	Week 2: Atomic structure and Interaction of electromagnetic radiation with matter.
3	3	Week 3: Interaction of electromagnetic radiation with matter and Instrumentation for ICP - AES.
4	4	Week 4: Instrumentation for ICP - AES and Application of ICP - AES for chemical analysis.