UEIXXX: ENVIRONMENTAL INSTRUMENTATION

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3   0   0   3.0

Course Objectives: To understand the concepts of pollution monitoring, to enable select, design and configure pollution monitoring instruments

Air Pollution: Impact of man of the environment: An overview, Air pollution sources and effects, Metrological aspect of air pollutant dispersion, Air pollution sampling and measurement, Air pollution control methods and equipment, Air sampling techniques, soil pollution and its effects, Gas analyzer, Gas chromatography, Control of specific gaseous pollutants, Measurement of automobile pollution, Smoke level meter, CO/HC analyzer.

Water pollution: Sources And classification of water pollution, Waste water sampling and analysis, Waste water sampling techniques and analyzers: Gravimetric, Volumetric, Calometric, Potentiometric, Flame photometry, Atomic absorption spectroscopy, Ion chromatography, Instruments used in waste water treatment and control, Latest methods of waste water treatment plants.

Pollution Management: Management of radioactive pollutants, Noise level measurement techniques, Noise pollution and its effects, Solid waste management techniques, social and political involvement in the pollution management system

Course Learning Outcomes (CLO):
After the successful completion of the course the students will be able to:
1. explain sources and effects of air and water pollutants
2. explain air pollution sampling and measurement techniques
3. explain water sampling and analysis techniques
4. explain solid waste management and noise level measurement techniques

Text Books:
1. *Bhatia, H.S., A Text Book in Environmental Pollution and control, Galgotia Publication (1998).*
2. *Dhameja, S.K., Environmental Engineering and Management, S.K Kataria (2000).*
3. *Rao, M.N. and Rao, H.V., Air Pollution, Tata McGraw Hill (2004).*
4. *Rao. C.S., Environmental Pollution Control, New Age International (P) Limited, Publishers (2006) 2nd ed.*

Evaluation Scheme:

S.NO.	Evaluation Elements	Weightage(%)
1	MST	30
2	EST	50
3	Sessional (May include Assignments//Quizzes/Lab Evaluations)	20