

**CERTIFICATE COURSE ON  
ASSESSMENT OF ENVIRONMENTAL POLLUTION  
(FOR UG V SEM STUDENTS)**

**PREAMBLE** – Industry has a curious relationship with environment. Rapid industrialization coupled with uncontrolled exploitation of natural resources has effected environment, by ultimate changes in natural cycle, causing impact and/ or effects on air, water, land, floral, fauna, human settlement and health of people.

Industrial development, besides economic growth, brings along with it many environmental problems. Thus, the knowledge in the field of environment science to all concerned is of prime importance. Though industrialization is an integral part of India's progressive economy trained environmental professionals are scarce to find. In recent times a strong need has been felt for trained professionals who can handle the operations process including monitoring and control of various pollution aspects with professionals expertise.

**OBJECTIVE-** Candidates would be uniquely qualified to undertake major initiatives in the efficient management of natural resources and the prevention of environmental pollution. The programme equips individuals to solve problems in these fields at the source rather than through end – of – pipe interventions. This saves costs and results in long- term benefits for the organization concerned and for the society in general.

**JOB OPPORTUNITIES** – Candidates would have opportunity to get placement in : Industries (chemical, pharmaceutical, thermal power, textile, fertilizer, construction, renewable energy etc.), Pollution Control Boards, Municipal Corporations, Environment Consultancies, NGO's banks, Research and Development Laboratory, Multi-star hotels, Hospitals, Waste Management Industries.

**DURATION-** One Semester

**ELIGIBILITY-** B.Sc. V Semester

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- Pollution - classification of pollutants, primary and secondary pollutants. Water pollution- sources, types of pollutants effect and control measures.
- Air pollution – sources, natural contaminants- aerosol, dust, smoke, mist, fogs and fumes.
- Light pollution – sources and control measures.
- Solid and E- waste management
- Impact of environment pollution – global warming, green house effect,
- Environment Impact assessment (EIA) – Introduction and methodology. Application of GPS and GIS in environment management.

**PRACTICALS**

1. Measurement of alkalinity, hardness, DO<sub>2</sub>, CO<sub>2</sub>, phosphates, salinity, conductivity, and TDS in water sample.
2. Determination of Suspended particulate matter (SPM), respirable particulate matter (RSPM), PM 10 in ambient air.
3. Determination of noise level in different area with dB meter.
4. Measurement of light intensity with lux meter.
5. Use of GPS and GIS for survey of polluted environmental site.
6. Visit to Water filter plant/ sewage treatment plant / field work/ in plant training.

**REFERENCE BOOKS**

1. Fundamental of Ecology by Odum
2. Environment Protection and the Law by Dr. R K Khitoliya
3. Environmental Studies by Singh, Thakur & Chauhan
4. Ecology, Environment & Pollution - P K Gupta
5. Ecology and Environment by P D Sharma
6. Environmental science – A Practical manual – I. G Swarjya –PB- B.S Publication
7. Practical skills in Environmental science – PB – by Allen Jones
8. Water analysis – by N.K Dutta ( HB) Eastern book house
9. Handbook of water and waste water analysis – by Kanwaljeet Kaur ( HB) –Atlantic publisher
10. Manual of soil, plant & water analysis –Tahar Ali and Sumiti Naryan – Daya Publishing house
11. Manual of soil, plant and water analysis – by Dhyansingh – Westville publishing house –
12. Principles and practices of air pollution, control & analysis –J.R Mundakavi –IK P. house
13. Environmental pollution analysis - S.M Khopkar – PB- New Age publication
14. Handbook of methods in Environmental studies – water and waste water analysis –S.K Maiti – vol I and II – Oxford Book Company
15. Standard Methods For the Examination of Water and Wastewater - Lenore S. Clesceri, Andrew D. Eaton, Eugene W. Rice , Rodger B. Baird – 22 nd Ed by American Public Health Association APHA- – Published by Alpha publishing
16. Environmental Impact assessment: P.R.Trivedi