

**GUJARAT UNIVERSITY  
SYLLABUS FOR --- B.COM.**

**SEMESTER IV**

**Course Code: FC 202 B**

**NAME OF THE COURSE: POLLUTION CONTROL & ITS IMPACT**

**Unit I**

Impact of industrialization and modernization - pollution and pollutants..

Air pollution and its effects - air pollution - sources - pollutants – organic and inorganic pollutants - gaseous pollutants– nitrogen oxides - particulate pollutants - effect of pollutants on plants – animals and human beings - photochemical oxidants - photochemical smog – acid

Rain - Green house effect - ozone depletion - global warming -Environmental pollution techniques for air pollution - monitoring and Control measures of air pollution - dust control equipments - Electrostatic precipitators and scrubbers.

**Unit II**

Water pollution and its effects structure - water pollution - sources -Pollutants - industrial effluents - domestic wastes - agrochemicals -Heavy metals - effect of pollutants on plants - animals and human beings Bod - eutrophication - waste water treatment - indicator organisms -Oxidation pond - water pollution analysis and monitoring – drinking Water standards.

Soil pollution and its effects - soil pollution - sources - solid waste Disposal and their effects - pesticides - types and effect of pollutants on Plants - animals and human beings - biomagnification - fertilizers and its Effect of pollutants on plants - animals and human beings - soil pollution Control measures - soil microbes and function - biofertilizer.

Noise pollution and its effects - noise pollution - sources – noise Exposure level and standards - impacts - noise control and abatement Measures.

**Unit III**

Marine pollution - sources and control of marine pollution – criteria Employed for disposal of pollutants in marine system – coastal Management.

Radio active pollution and its impacts - radioactive - sources - effect of Pollutants of plants - animals and human beings - prevention and control Measures of radioactive pollution.

**Unit IV**

Assessment and control of pollution - environmental standards - Assessment of pollution effects due to air - water - soil and radioactive Pollution - biotechnology in pollution control - microbial role in Pollution control - biomonitoring and bioremediation - pollution control Legislations for air - water - land etc.

Biotechnology in pollution control - bioremediation (organic and Inorganic pollutants) - bioleaching and biomineralization.

## **Reference**

1. Environmental Pollution Analysis : Khopkar.
2. Environmental Science – A study of Inter relationships, E. D. Enger, B. E. Smith, 5<sup>th</sup> ed., W C B publication.
3. Environmental Pollution Control Engineering: C. S. Rao
4. Bruce Rittman, Perry L. McCarty. Environmental Biotechnology: Principles and Applications, 2nd Edition, McGraw-Hill, 2000.
5. J.N.B. Bell (2002) Air Pollution and Plant Life, 2nd Edition, John Wiley and Sons, New Delhi.