GUJARAT TECHNOLOGICAL UNIVERSITY

Environmental Engineering

B. E. SEMESTER: VI

Subject Code: 161302

Subject Name: **Fundamentals of Air Pollution**

Sr.No.	Course Contents	Total Hrs
1.	**Air Pollution Sources and their Effects:** Atmosphere and its structure, air Pollution, Sources of Air Pollutants & their effects on health, materials, animals and vegetation, Air pollution Episodes, Units of measurement of Air Pollution, Ambient Air Quality Standards.	10
2.	**Meteorology:** Introduction, solar radiation, wind circulation, lapse rates, stability conditions, wind velocity profile maximum mixing depth, wind rose diagram, turbulence, general characteristics of stack plumes, heat island effect, global circulation of pollutants.	10
3.	**Dispersion Of Pollutants In The Atmosphere:** Introduction: the EDDY diffusion model, Gaussian or normal distribution, the Gaussian dispersion models, evaluation of standard deviations, maximum ground level concentration in line concentration, calculations of effective stack height.	10
4.	**Noise Pollution:** Sound and Noise, Characteristics of sound, Noise Pollution, Noise Measurement Scale – Levels and the decibels, Sources of Noise, Effects of Noise on people, Indian Standards	10
5.	Odours and their Control	08

Practical

1. Measurement of Ambient Air Quality Parameters by High Volume Air Samplers.
2. Measurement of Sound Pressure Levels at different locations

Tutorials

1. Air Pollution: Sources and effects on human, vegetation, animals, and materials
2. Assignments and numerical based on Wind Rose Diagram
3. Assignments and numerical based on Maximum Mixing Depth (MMD)
4. Assignments and numerical based on dispersion of Pollutants in the atmosphere.
5. Assignments and numerical based on Noise Pollution
6. Assignments based on odour and control.

Reference Books:

1. Air Pollution – by Wark & Warner
2. Air Pollution – by M. N. Rao
3. Air Pollution – by Henry Parkins
4. Air Pollution – by Stern Vol – I