MODULE 1

Syllabus : Introduction to Air Pollution : Definition, Air pollutants and its classification and sources of generation. Emission Inventory. Indoor air pollution. Measurement of air pollution. Air pollution in India and other countries. Air Quality Index. Numerical on conversion of units of pollutants.

MODULE 2

Syllabus : Environmental Effects of Air Pollution : Effects of air pollutants on human beings, plants, animals, properties and visibility. Exposure to air pollution. Numerical problems based on COH, CoHb.

MODULE 3

Syllabus : Measurement and Control technology of Air Pollutants: methods to measure ambient air pollution and stack emissions, high volume sampler, wind rose diagram.

Control Technology : Control Devices Principles, operations and types, simple hoods and ducts. Settling chambers, cyclones, electrostatic precipitators (ESP), Filters, scrubbers, absorption towers and incinerators. Collection efficiencies for laminar and turbulent flows for settling chambers, particle cut size for cyclone, ESP Concept of frictional and overall efficiencies. Design criteria for filters, scrubbers, absorption towers and incinerators

MODULE 4

Syllabus : Meteorological process and air quality monitoring: Large scale wind circulation geotropic wind, gradient wind, cyclone, anticyclone, planetary boundary layer. Lapse rate, stability conditions, wind velocity profile, maximum mixing depth, topographic effects. Plum patterns, plum dispersion, Gaussian model for predicting concentration, downwind from a single source, diffusion coefficients, Turner's stability categories and graphs for dispersion estimates. Maximum ground level concentration, inversion effects, distance touching ground modification of Gaussian model to predict particulate dispersion, plume rise, modified Holland equation for small source.

❑❑❑