

AMEV14 AIR AND NOISE POLLUTION CONTROL

UNIT-1 GENERAL

- 1.1 Atmosphere as a place of disposal of pollutants
- 1.2 Air Pollution- Definition- Air Pollution and Global Climate
- 1.3 Units of measurements of pollutants- Air quality criteria- emission standards
- 1.4 National ambient air quality standards- Air pollution indices-
- 1.5 Air quality management in India.

UNIT-2 SOURCES, CLASSIFICATION AND EFFECTS

- 2.1 Sources and classification of air pollutants - Man made- Natural sources
- 2.2 Type of air pollutants- Pollution due to automobiles - Analysis of air pollutants- Chemical,
- 2.3 Instrumental and biological methods.
- 2.4 Air pollution and its effects on human beings, plants and animals
- 2.5 Economic effects of air pollution- Effect of air pollution on meteorological conditions
- 2.6 Changes on the Meso scale, Micro scale and Macro scale.

UNIT-3 SAMPLING, METEOROLOGY AND AIR QUALITY MODELLING

- 3.1 Sampling and measurement of particulate and gaseous pollutants
- 3.2 Ambient air sampling Stack sampling.
- 3.3 Environmental factors- Meteorology- temperature lapse rate and stability- Adiabatic lapse rate
- 3.4 Wind Rose- Inversion- Wind velocity and turbulence- Plume behavior
- 3.5 Dispersion of air pollutants- Air Quality Modeling.

UNIT-4 AIR POLLUTION CONTROL MEASURES

- 4.1 Control- Source correction methods- Control equipments- Particulate control methods
- 4.2 Bag house filter- Settling chamber- cyclone separators- inertial devices
- 4.3 Electrostatic precipitator- scrubbers- Control of gaseous emissions
- 4.4 Absorption- Absorption equipment's- adsorption and combustion devices (Theory and working of equipments only).

UNIT-5 NOISE POLLUTION AND ITS CONTROL

- 5.1 Sources of noise- Units and Measurements of Noise-
- 5.2 Characterization of Noise from Construction, Mining,
- 5.3 Transportation and Industrial Activities,
- 5.4 Airport Noise- General Control Measures-
- 5.5 Effects of noise pollution- auditory effects, nonauditory effects.
- 5.6 Noise Menace- Prevention and Control of Noise Pollution
- 5.7 Control of noise at source, control of transmission,
- 5.8 Protection of exposed person- Control of other types of Noise Sound Absorbent

References Books:

1. Noel De Nevers, "Air pollution control engineering", McGraw Hill International Edition, McGraw Hill Inc, New Delhi, 2000.
2. Air Pollution act, India, 1-81
3. Peterson and E.Gross Jr., "Hand Book of Noise Measurement", 5th Edition, 1-63
4. Mukherjee, "Environmental Pollution and Health Hazards", causes and effects, 1-86

