

Estimation of Gaseous Pollutants at Kalyanpur, Dhaka City

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Abstract : Ambient (outdoor) air pollution is now recognized as an important problem, both nationally and worldwide. The concentrations of gaseous pollutants (SO_x, NO_x, CO and O₃) have been determined from samples collected at Kalyanpur along Shamoli corridor in Dhaka city. Pollutants were determined in a sample collected at ground level and a roof of a 7-storied building. These pollutants are emitted largely from stationary sources like fossil fuel fired power plants, industrial plants, and manufacturing facilities as well as mobile sources. The incomplete combustion of fuel, wood and the Sulphur containing fuel used in the vehicles are one of the main causes of CO and SO_x respectively in our natural environment. When the temperature of combustion is high enough and some of that nitrogen reacts with oxygen in the air, various nitrogen oxides (NO_x) are then formed. The VOCs react with NO_x in the presence of sunlight to form O₃. UV Visible spectrophotometric method has been used for the determination of SO_x, NO_x and O₃. The sensor type device was used for the estimation of CO. It was found that the air pollutants (CO, SO_x, NO_x and O₃) of a sample collected at the roof of a building were lower compared to the ground level; it indicated that ground level people are mostly affected by the gaseous pollutants.

Keywords : gaseous pollutants, UV-visible spectrophotometry, ambient air quality, Dhaka city

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