

MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL
DEPARTMENT OF CHEMISTRY

Assignment 2: CHY 110 (Environmental Science)

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B. Tech (First Year, Section G): Autumn Semester (2024-2025)

Deadline: Ten Days

1. “Ozone is beneficial while present in stratosphere, but acts as a pollutant while generated in the troposphere”: Share your views with proper chemical reactions.
2. “Polynuclear aromatic hydrocarbon molecules can penetrate our respiratory systems, but it is difficult for large soot particles to penetrate. Still soot is highly active pollutant.” Elucidate with appropriate reasoning.
3. You are provided two air samples, A and B. A contains 30% CO₂, 23% O₂ and 47% N₂. B contains 5% CO, 23% O₂ and 72% N₂. Which sample is more dangerous for a human and why?
4. Suppose there is no CO₂ in the air. What will be its impact on atmosphere, lithosphere (soil) and biosphere?
5. Why the proportion of molecular H₂ is very low in troposphere, even though it is largely present in several compounds, namely, water, acids and hydrocarbons?
6. How the burning of pyrite (FeS₂) containing coal is associated with stone leprosy in Taj Mahal? Explain with appropriate chemical reaction(s).