

# BIYANI GIRLS COLLEGE

**Model Paper - 2015**  
M.Sc. (Final) Chemistry  
Third Paper (Environmental Ch

**Time – Three Hours**

**Marks - 50**

## Unit – I

- Q.1 (a) Discuss the structure of Atmosphere in the light its various spheres?  
(b) Write Chemistry of Photo Chemical Smog Formation giving Chemical Equations?
- Q.2 Write brief notes on the following –  
(i) Temperature Inversion  
(ii) Bio-geo Chemical Cycle of Carbon

## Unit – II

- Q.3 (a) Write source of SO<sub>x</sub> and NO<sub>x</sub> Pollution?  
(b) How can CO be monitored? Write the method?
- Q.4 What is Ozone Depletion? Explain the Chemistry of Ozone Depletion giving Chemical Equations?

## Unit-III

- Q.5 Discuss in various steps involved in treatment of waste water?
- Q.6 (a) what is Chemical Oxygen Demand (COD)? Write its determination and significance?  
(b) Discuss Carbonate – bicarbonate Equilibria in water?

## Unit IV

- Q.7 Describe the sources, speciation and toxic effects of Hg (Mercury) and Cd (Cadmium)?
- Q.8 Write short notes on the following –  
(a) Eutrophication  
(b) Sources of Water Pollution

## Unit-V

- Q.9 Discuss any two of the following -  
(a) Bhopal Gas Tragedy  
(b) Minamata Disease  
(c) London Smog
- Q.10 Discuss the general composition of Soil and write the major micro and macro nutrients present in the Soil?

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## Unit – I

Q.1 Define the Heat Radiation Budget of the Earth and calculation of Global Mean Temperature

Q.2 Explain the following –

- (i) Carbon Cycle
- (ii) Sulphur Cycle

## Unit – II

Q.3 (a) Define Air pollutants and discuss their classification.

(b) Discuss the size, distribution and effect of aerosols on visibility and climate.

Q.4 Define the mechanism of Ozone formation and effect of ozone depletion?

## Unit-III

Q.5 Discuss the following –

- (i) Redox chemistry in natural water
- (ii) Aerobic and anaerobic reactions of organic and nitrogen compounds in water.

Q.6 Write notes on –

- (a) Eutrophication
- (b) Sources of water pollution
- (c) Sources and toxic effect of fluoride in water

## Unit IV

Q.7 Define the classification of Pesticides, how pesticides are dangerous in our life?

Q.8 Describe the biochemical effect and toxicology of Mercury?

## Unit-V

Q.9 Discuss the following –

- (a) Bhopal Gas Tragedy
- (b) Minamata Disease
- (c) London Smog

Q.10 Write short notes on –

- (i) Micro and macro nutrients in present soil
- (ii) Methyl Iso Cyanides (MIC)

