

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017  
**AIR POLLUTION & QUALITY CONTROL**  
 (Civil Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**  
 (Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) List out merits and demerits of electrostatic precipitator.
  - (b) List the air pollutants affecting plants.
  - (c) Write short notes on smog.
  - (d) List out the various sources of atmospheric dust.
  - (e) Distinguish between stationary and mobile sources of air pollutants.
  - (f) List out any five major disasters all over the world.
  - (g) Explain the effect of carbon monoxide on humans.
  - (h) List out various forms of damage to leaves.
  - (i) What do you mean by mixing height?
  - (j) What are the meteorological parameters that influence air pollution?

**PART – B**  
 (Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 (a) Explain briefly the various methods adopted for determining the health effects of air pollutants on people.  
 (b) What are the harmful effects of the following on human beings:  
 (i) Sulphurdioxide. (ii) Carbon monoxide. (iii) Hydrocarbons.

OR

- 3 Write a short note on the following:
- (a) Ozone holes.
  - (b) Heat islands.

**UNIT – II**

- 4 (a) Explain the role of metrological elements in the dispersion of air pollutants in the atmosphere.  
 (b) Explain the terms briefly: (i) Wind rose. (ii) Atmospheric dispersion.

OR

- 5 Describe various types of plume behavior with neat sketches.

**UNIT – III**

- 6 List out any two control equipment and briefly describe their working principles with neat sketches.

OR

- 7 Write short notes on the following:
- (a) Lapse rates.
  - (b) Gaussian model for plume dispersion.

**UNIT – IV**

- 8 Describe briefly the dry methods of removal of gaseous pollutant particles.

OR

- 9 When do you recommend absorption as a control method for gaseous contaminants? List out the absorbants commonly used for SO<sub>2</sub> and NO<sub>x</sub>.

**UNIT – V**

- 10 List out various methods of sampling and describe any one in detail.

- 11 (a) Explain what do you understand by stack sampling.  
 (b) Describe the functioning of High Volume Air Sampler with a neat sketch.

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